

STRIDING PURPOSELY

TOWARDS THE ENERGY OF THE FUTURE



On 6 February 2023 our country suffered one of the worst natural disasters in its history. Our grief is immense.

We are all profoundly sorrowed by the loss of so many lives in this catastrophe. May God have mercy on those who perished. To the survivors we offer our wishes for a speedy recovery and to our nation we extend our condolences.

Joining hands together in a spirit of unity and solidarity we will get through even these difficult times as we bind our nation's wounds.

Working in concert with our shareholder Koç Holding, we at Tüpraş will continue to marshal every possible means available to us to support and facilitate recovery efforts and to create an even better and brighter future for our country.

CONTENTS

- 14 ABOUT TÜPRAŞ
- 16 TÜPRAŞ AT A GLANCE
- 18 KEY INDICATORS

GENERAL ASSEMBLY

- 20 AGENDA
- 21 INDEPENDENT AUDITOR'S REPORT ON THE ANNUAL REPORT
- 22 MESSAGE FROM THE CHAIR OF THE BOARD
- 24 INDEPENDENT AUDITOR'S REPORT (OPINION)
- 25 CONSOLIDATED BALANCE SHEET/ CONSOLIDATED INCOME STATEMENT
- 26 BOARD OF DIRECTORS
- 30 PROFIT DISTRIBUTION POLICY
- 30 PROFIT DISTRIBUTION PROPOSAL
- 31 DIVIDEND DISTRIBUTION TABLE
- 32 AMEDMENT TO THE ARTICLES OF ASSOCIATION
- 34 2023 BOARD OF DIRECTORS CANDIDATES
- 35 REMUNERATION POLICY FOR MEMBERS OF THE BOARD OF DIRECTORS AND EXECUTIVE MANAGEMENT

TÜPRAŞ IN BRIEF

- 36 MESSAGE FROM THE GENERAL MANAGER
- 40 SENIOR MANAGEMENT
- 42 MILESTONES IN TÜPRAŞ'S HISTORY
- 48 DEVELOPMENTS IN 2021
- 52 STRATEGY
- 58 ACHIEVEMENTS AND AWARDS
- 60 INVESTOR RELATIONS
- 67 HUMAN RESOURCES

2022 PERFORMANCE

- 78 SECTOR
- 80 PRODUCTION AND SALES
- 90 İZMİT REFINERY
- 94 İZMİR REFINERY
- 96 KIRIKKALE REFINERY
- 100 BATMAN REFINERY
- 102 TUPRAS TRADING LTD
- 104 DISTRIBUTION-OPET
- 106 MARINE TRANSPORTATION-DİTAŞ
- 112 KÖRFEZ ULAŞTIRMA A.Ş.
- 114 ENTEK ELEKTRİK ÜRETİMİ A.Ş.
- 119 TÜPRAŞ ENERJİ GİRİŞİMLERİ A.Ş. TUPRAS VENTURES

SUSTAINABILITY

- 120 SUSTAINABILITY AT TÜPRAŞ
- 128 ETHICS AND COMPLIANCE
- 132 INVESTMENTS
- 136 R&D
- 142 INNOVATION
- 146 DIGITALIZATION, WORK ON FUTURE PROOFING AND THE DEVELOPMENT OF DIGITAL TALENT PROGRAMS
- 152 HEALTH AND SAFETY PRACTICES
- 158 QUALITY MANAGEMENT SYSTEMS
- 160 ENVIRONMENTAL MANAGEMENT
- 166 ENERGY EFFICIENCY
- 170 SOCIAL RESPONSIBILITY
- 178 PERFORMANCE INDICATORS
- 186 APPENDIX-1: TÜPRAŞ 2022 ANNUAL REPORT - REPORTING PRINCIPLES

CORPORATE GOVERNANCE

- 199 LEGAL DISCLOSURES
- 202 INFORMATION ABOUT CORPORATE GOVERNANCE
- 208 STRUCTURE OF BOARD OF DIRECTORS
- 209 TÜPRAŞ ORGANIZATIONAL STRUCTURE
- 210 STATEMENT OF COMPLIANCE WITH SUSTAINABILITY PRINCIPLES
- 211 RISK MANAGEMENT AND ACTIVITIES OF THE RISK MANAGEMENT COMMITTEE
- 224 ENGLISH TRANSLATION OF INDEPENDENT AUDITOR'S EARLY RISK DETECTION SYSTEM AND COMMITTEE REPORT
- 225 EVALUATION OF OPERATING PRINCIPLES AND EFFECTIVENESS OF BOARD COMMITTEES
- 230 AUDIT COMMITTEE REPORT (RELATED TO FINANCIAL STATEMENTS)
- 231 STATEMENT OF RESPONSIBILITY (RELATED TO APPROVAL OF FINANCIAL STATEMENTS)
- 232 STATEMENT OF RESPONSIBILITY (RELATED TO ANNUAL REPORT)
- 233 STATEMENT OF RESPONSIBILITY (RELATED TO APPROVAL OF ANNUAL REPORT)

FINANCIAL STATEMENTS

- 234 1 JANUARY - 31 DECEMBER 2022 CONSOLIDATED FINANCIAL STATEMENTS TOGETHER WITH THE INDEPENDENT AUDITOR'S REPORT

OTHER INFORMATION

- 331 OTHER INFORMATION
- 332 INFORMATION DOCUMENT REGARDING THE ORDINARY GENERAL ASSEMBLY MEETING OF TURKISH PETROL REFINERIES CORPORATION, TO BE HELD ON 08 MARCH 2023, FOR THE YEAR 2022 1. INVITATION TO THE ORDINARY GENERAL ASSEMBLY MEETING, TO BE HELD ON 08 MARCH 2023
- 338 DECLARATION FOR INDEPENDENCY
- 342 CORPORATE GOVERNANCE COMPLIANCE REPORT AND INFORMATION FORM
- 360 SUSTAINABILITY PRINCIPLES COMPLIANCE REPORT
- 371 LIMITED ASSURANCE REPORT TO THE BOARD OF DIRECTORS OF TÜPRAŞ TÜRKİYE PETROL RAFİNERİLERİ A.Ş.
- 376 IDENTITY



**GROWING
TOGETHER**



**TRANSITION
WITH ZERO CARBON**



**CREATING VALUE
FOR STAKEHOLDERS**

BECOMING A ZERO CARBON ENERGY COMPANY



The roots of Tüpraş go back to the Batman Refinery, which was established in 1955 to process domestic crude oil. The operations of the four refineries established in Kocaeli, İzmir, Kırıkkale and Batman have been continuing under the umbrella of Tüpraş since 1983. Tüpraş registered the design capacities of its refineries as 30 million tons in 2019 following significant capacity increases and the conversion unit investments realized in its four refineries over the years.

Today, Tüpraş, an integrated oil company with its production complexes and partnerships, and is the world's 30th largest refinery, the 7th largest in Europe and the largest in Turkey. Tüpraş is also our country's leading exporter in the chemicals category.

Tüpraş is one of the few refineries with a high complexity in the Mediterranean, with an average Nelson Complexity Index of 9.5.

As the pioneer of energy in Turkey since its inception, Tüpraş announced its "Strategic Transition Plan" aimed at leading the future of the energy sector within the scope of the carbon transformation program initiated by Koç Holding. The Company is committed to reducing the carbon emissions from its activities by 27% compared to its 2017 levels and to become carbon neutral by 2050 with the investments it will undertake in new energy sources and the contribution of energy efficiency projects. The plan is built on 4 main pillars:

Sustainable refining

Zero carbon electricity

Biofuels

Green hydrogen

In line with this plan, Tüpraş has embarked upon the process of transforming itself into a carbon neutral energy company with a balanced and diversified clean energy portfolio.



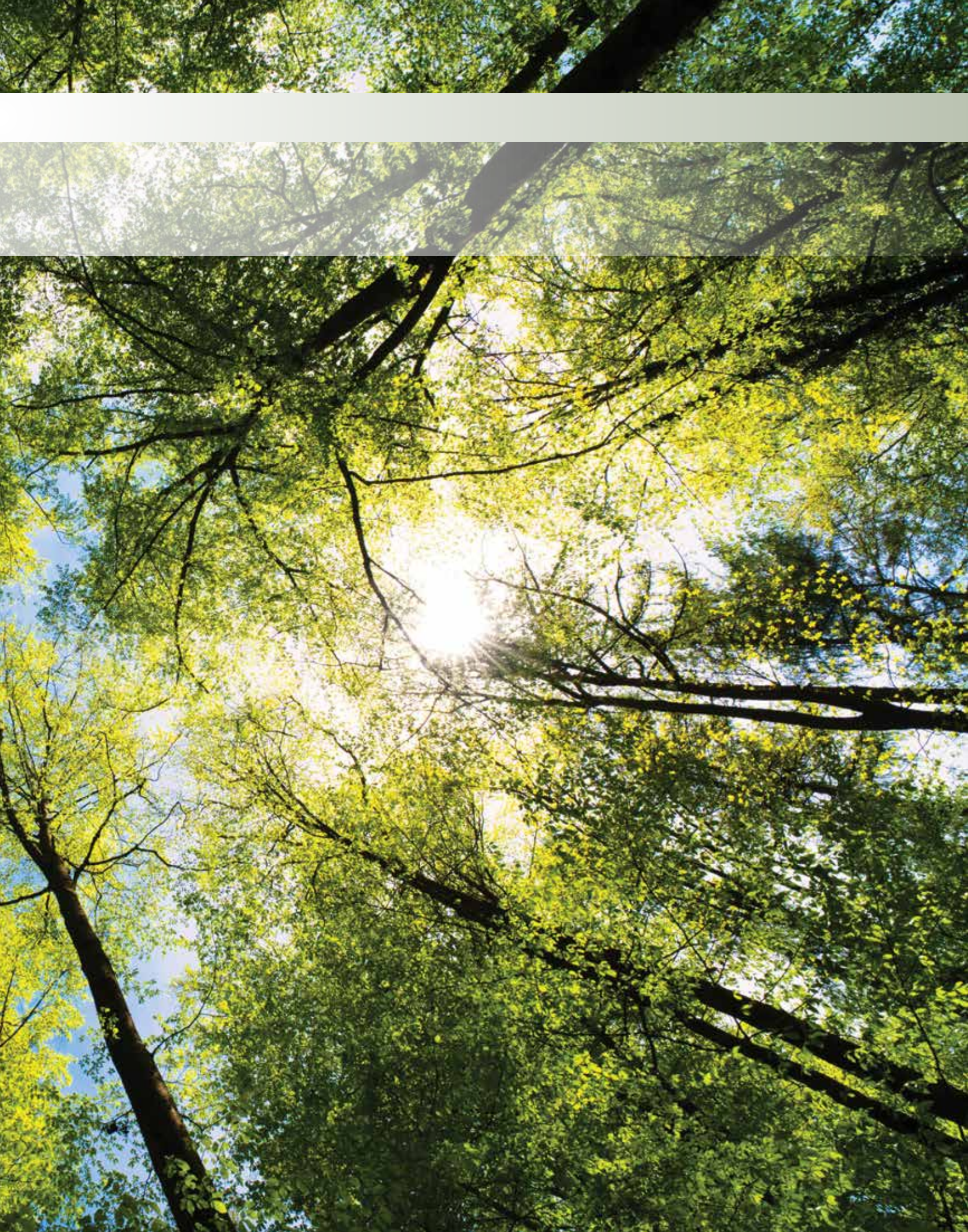
You can access Tüpraş's 2022 and previous years' annual reports from the link below:

<https://www.tupras.com.tr/en/overview>



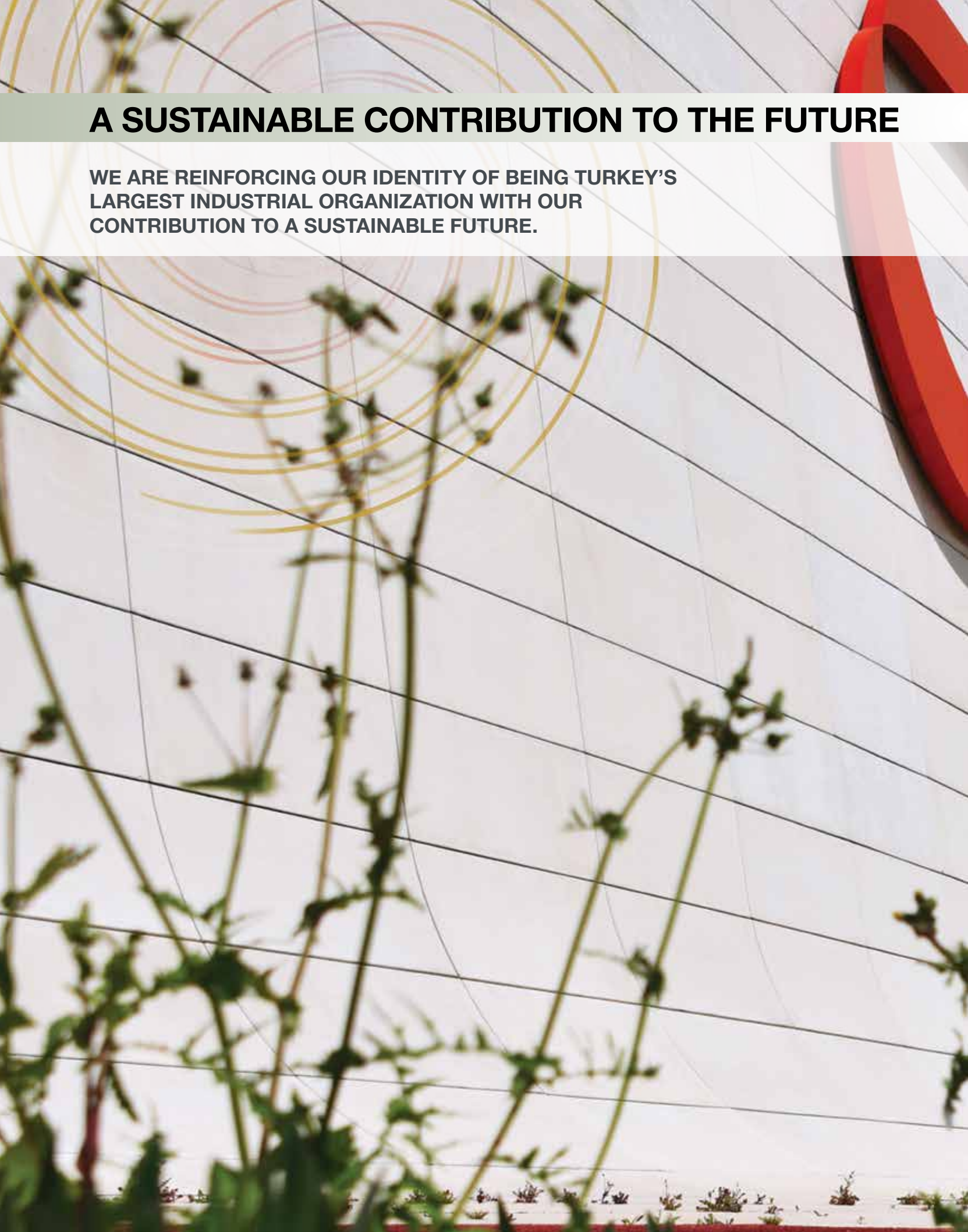
A LEADING ENERGY COMPANY OF THE FUTURE

WITH A FOCUS ON BECOMING A LEADING ENERGY COMPANY OF THE FUTURE, WE ARE RAPIDLY AND STRONGLY ADVANCING TOWARDS OUR GOAL OF BEING CARBON NEUTRAL BY 2050.



A SUSTAINABLE CONTRIBUTION TO THE FUTURE

WE ARE REINFORCING OUR IDENTITY OF BEING TURKEY'S
LARGEST INDUSTRIAL ORGANIZATION WITH OUR
CONTRIBUTION TO A SUSTAINABLE FUTURE.

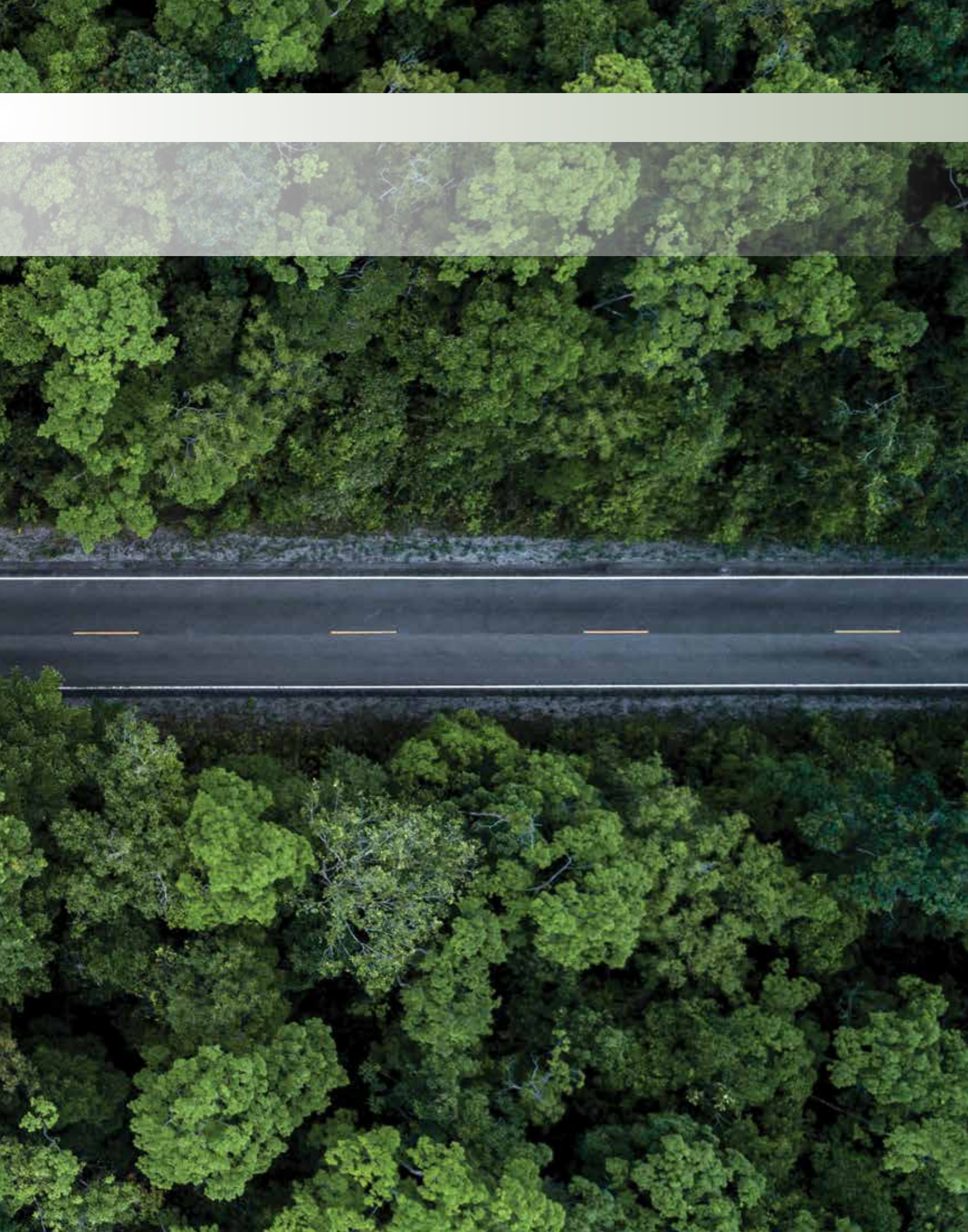




An aerial photograph of a two-lane asphalt road cutting through a dense green forest. A white car is driving on the right side of the road. In the upper left quadrant, several concentric yellow circles are overlaid on the image, resembling a target or a signal. The text is positioned in a white horizontal band at the top of the image.

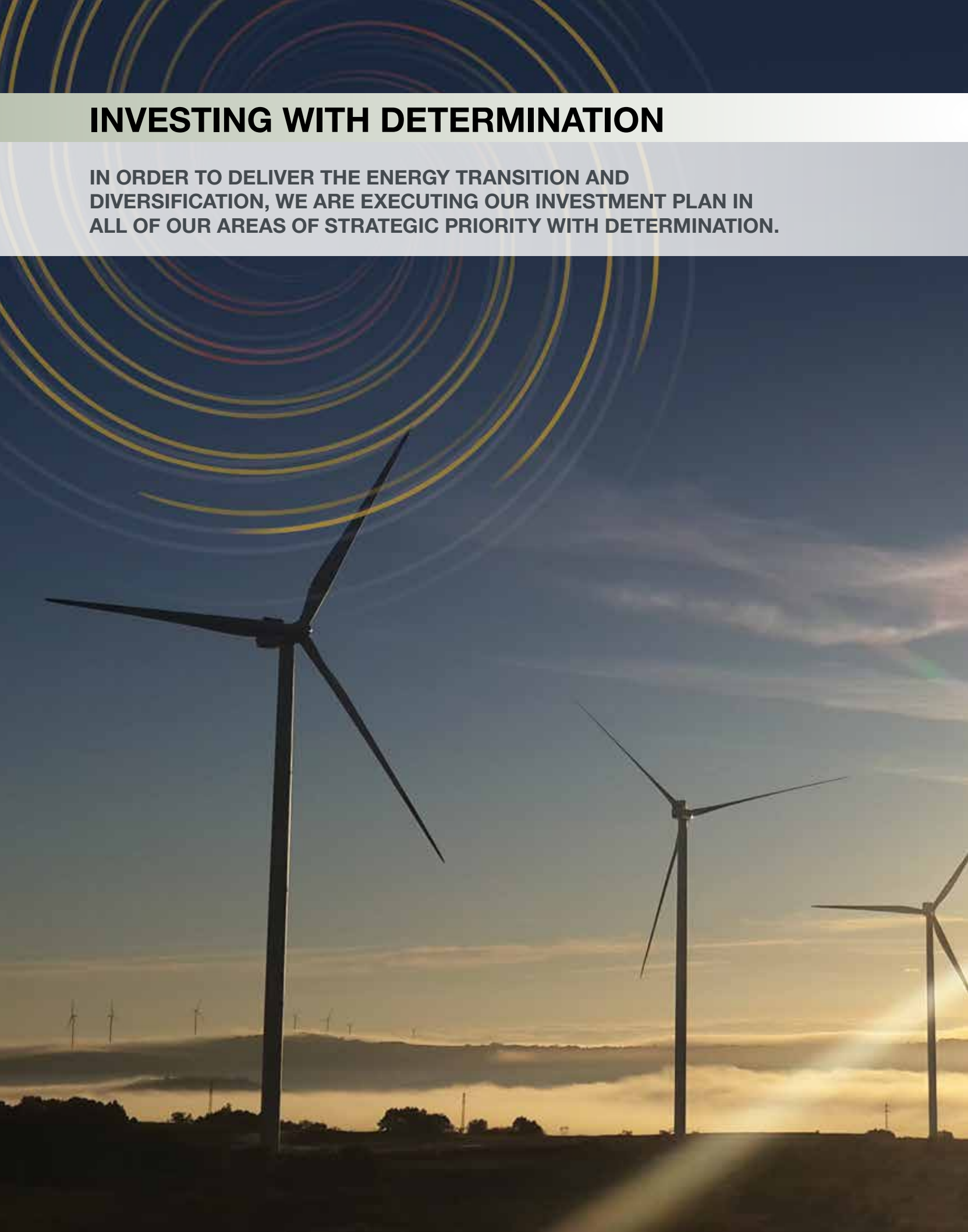
A JOURNEY OF CHANGE AND TRANSITION

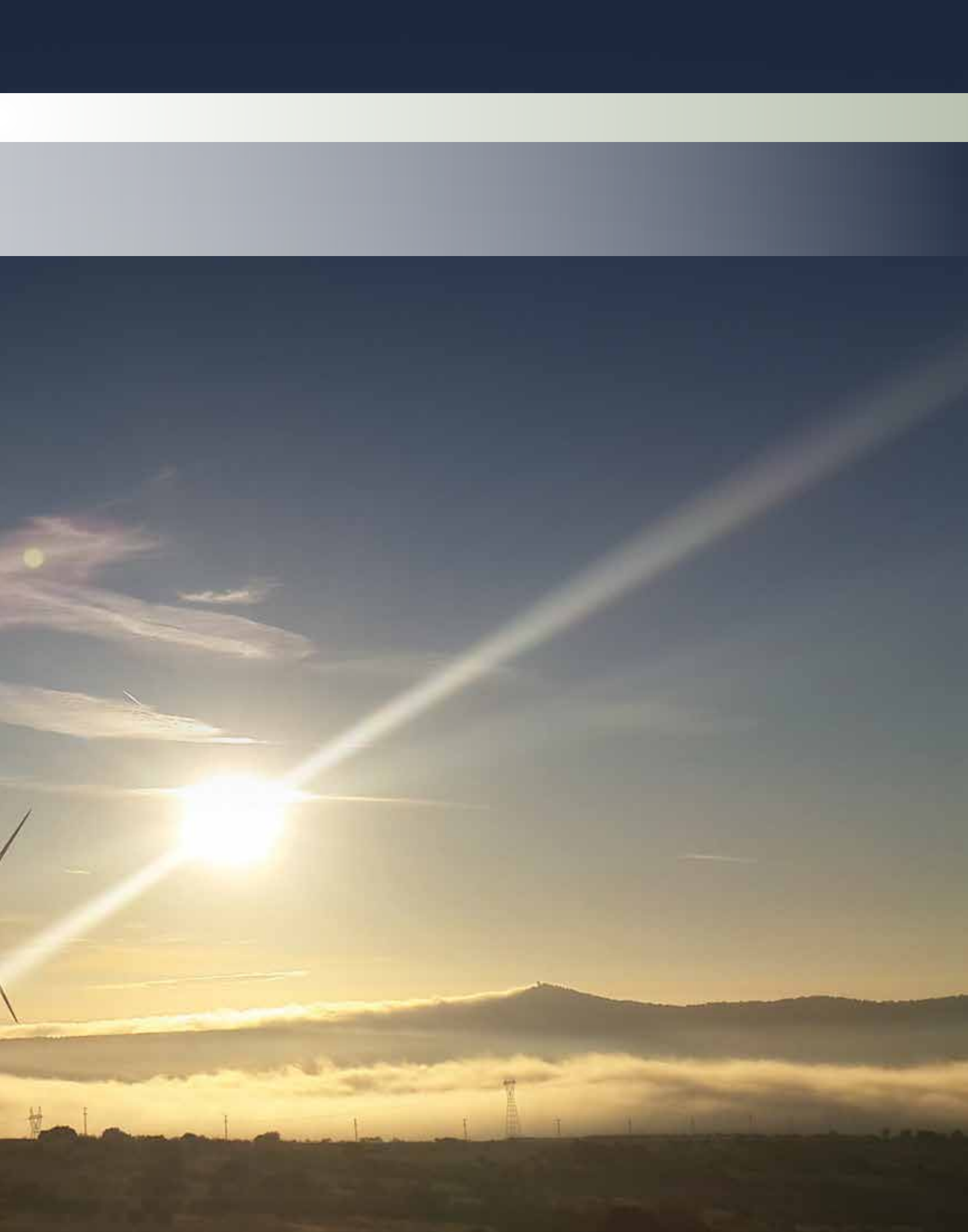
WE ARE IN A PROCESS OF CHANGE AND TRANSITION WHERE WE CONSIDER SUSTAINABILITY OUR INDISPENSABLE FOCUS AND ARE MORE SENSITIVE AND TRANSPARENT WHEN IT COMES TO THE ENVIRONMENT, WHILE OFFERING A DIVERSIFIED AND PROFITABLE ENERGY PORTFOLIO.



INVESTING WITH DETERMINATION

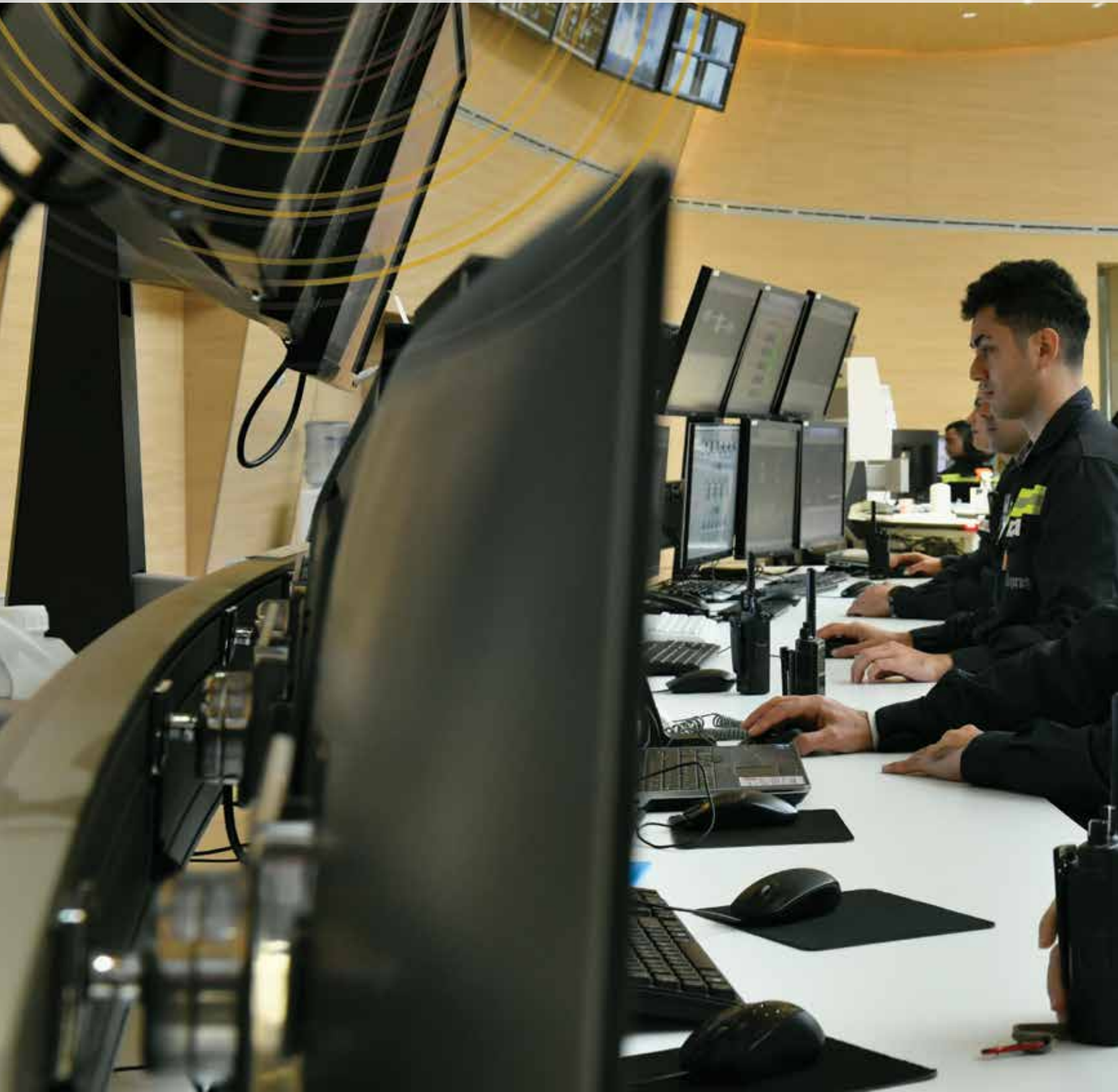
IN ORDER TO DELIVER THE ENERGY TRANSITION AND DIVERSIFICATION, WE ARE EXECUTING OUR INVESTMENT PLAN IN ALL OF OUR AREAS OF STRATEGIC PRIORITY WITH DETERMINATION.





OUR DRIVING FORCES: HUMAN RESOURCES, INNOVATION AND R&D

WE SUPPORT OUR GOAL OF BEING A LEADER IN TURKEY'S ENERGY TRANSITION WITH OUR HUMAN RESOURCES AND OUR INVESTMENTS IN TECHNOLOGY.





ABOUT TÜPRAŞ

HIGHLIGHTS



Number of projects focused on energy efficiency; 52.



Energy savings; 1,320 TJ.



Energy intensity index value in 2022; 94.9%.



The 30th largest refining company in the world

30th

LARGEST IN THE WORLD



The 7th largest refining company in Europe

7th

LARGEST IN EUROPE



Turkey's largest industrial company

1st

INDUSTRIAL COMPANY



Tüpraş has a refining capacity of 30 million tonnes.

30

MILLION TONNES REFINING CAPACITY



Tüpraş has 75% of Turkey's current refining capacity.

75%

SHARE IN REFINING



Our total share in Turkish petroleum products market is 63%

63%

MARKET SHARE

*Based on the measurements carried out in 2022.



Increase in the number of women employees; 14%.



Corporate governance rating in 2022; 9.65.



OHS training hours in 2022; 312,860.



Total investment undertaken in donations and sponsorships in 2022; TL 288 million.



Reductions in Carbon dioxide emissions; 73,199 tons of CO₂.



Total waste recycling ratio; 86.4%.



Environmental investment and operation expenditure in 2022; TL 1,158 million.



Water recovery in 2022; 15.7 million m³.



The leading exporter in the chemicals category

1st

RECORD EXPORTS



Tüpraş has four refineries in Turkey

4

REFINERIES



The average number of personnel working within the Group

6,112

EMPLOYEES



Our total share in Turkey's storage capacity is 57%.

%57

SHARE IN STORAGE



Investment of USD 7.1 billion after privatization

USD **7.2** billion

INVESTMENTS



Corporate Governance Rating

9.65

TÜPRAŞ AT A GLANCE



İZMİT REFINERY

Capacity: 11.3 million tons/year
Nelson Complexity: 14.5
Storage Capacity: 3.0 million m³



İZMİR REFINERY

Capacity: 11.9 million tons/year
Nelson Complexity: 7.66
Storage Capacity: 2.5 million m³



KIRIKKALE REFINERY

Capacity: 5.4 million tons/year
Nelson Complexity: 6.32
Storage Capacity: 1.3 million m³



BATMAN REFINERY

Capacity: 1.4 million tons/year
Nelson Complexity: 1.83
Storage Capacity: 299 thousand m³



OPET TERMINALS

Marmara Terminal 735,933 m³
Mersin Terminal 240,000 m³
Körfez Terminal 45,450 m³
Giresun Terminal 43,130 m³
Antalya Terminal 19,442 m³



DİTAŞ

2 Crude Oil Tankers*: 314,906 DWT
1 Oil/OilProduct Tanker: 166,523 DWT
4 Asphalt Tankers: 61,450 DWT
12 Tugboats,
7 Mooring Boats
3 Service Boats
1 Pilot Boat



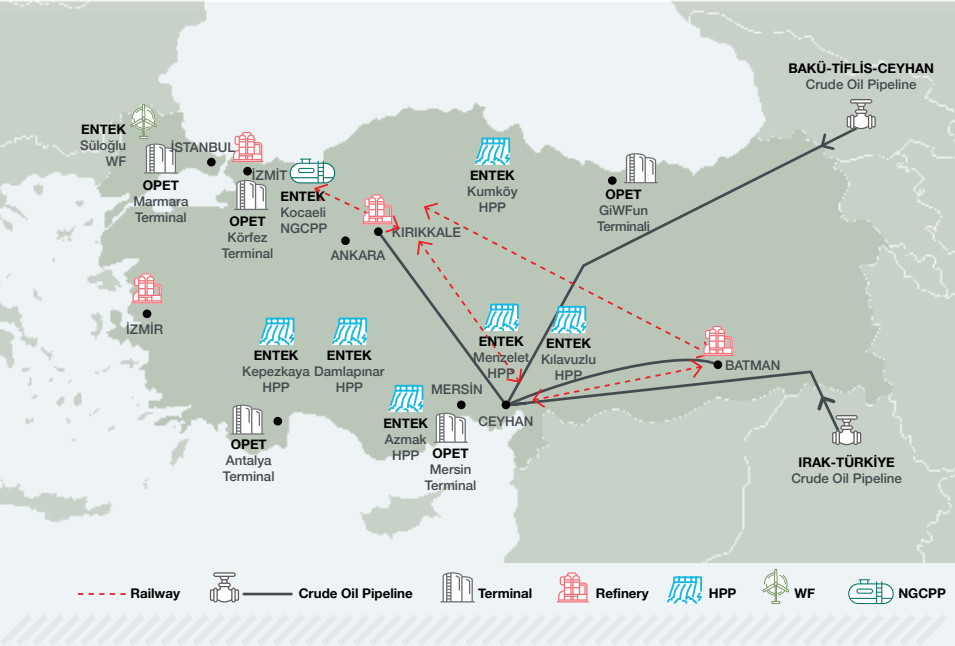
KÖRFEZ ULAŞTIRMA A.Ş.

480 Fuel Oil Wagons
35 Platform Wagons
12 Locomotives



ENTEK

8 Hydropower Plants: 264 MW
1 Wind Farm: 66 MW
1 Natural Gas Conversion Power Plant: 112 MW



Tüpraş is the largest industrial company in Turkey on the basis of added value and turnover.



OUR SUBSIDIARIES



Tüpraş holds 79.98% of Ditaş's shares.

With a total of 14 tankers and about 543 thousand DWT carriage capacity Ditaş has Turkey's largest fleet of fuel products and provides significant operational and cost advantages to Tüpraş.



Tüpraş holds 100% of Körfez Ulaştırma A.Ş.'s shares.

Körfez Ulaştırma A.Ş., whose all shares belong to Tüpraş, is the first private railway operator in Turkey.



Tüpraş holds 41.7% of Opet's shares.

With its 1,857 stations and storage capacity of 1.1 million m³, Opet operates a wide service area in Turkey with five terminals, and provides superior products and services to customers.



Tüpraş holds 100% of Tüpraş Trading Ltd's shares.

Tüpraş Trading Ltd closely follows up international market opportunities through its activities, thus supporting Tüpraş's existing foreign trade operations. It also creates additional added value from the supply and sales chain.



Tüpraş holds 99% of Entek.

Entek aims to grow in renewable energy and diversify its hydroelectric resource-intensive portfolio.

Tüpraş Ventures

Tüpraş holds 100% of Tüpraş Ventures.

Tüpraş established Tüpraş Ventures in September 2022 for direct investment in start-ups by furthering its open innovation efforts.

KEY INDICATORS



USD 173 million

Despite the rapid change in the exchange rate during the year, consolidated investments increased in the USD terms.



Increase of 216%

Net sales reached TL 482 billion, marking an increase of 216% due to the increase in sales volumes following the pandemic, the rise in product prices during the Russia-Ukraine war and the fall in the value of the TL against foreign currencies.



TL 56 billion

Thanks to the strong operational results, the Company recorded EBITDA of TL 56 billion.



TL 41 billion

The successful performance achieved in 2022 was also reflected to the bottom line, with a net profit of TL 41 billion.

FINANCIAL INDICATORS (TL million)

	2018	2019	2020	2021*	2022*
Net Sales	88,552	89,601	63,244	152,492	481,765
Operating Profit	5,736	2,230	-619	777	45,607
Profit Before Tax	3,724	-311	-3,795	2,358	39,876
Profit After Tax**	3,713	526	-2,494	3,613	41,261
EBITDA	8,908	4,039	545	14,067	55,587
Net Debt	11,967	8,424	9,420	12,017	-16,593
Return on Equity (ROE) %***	36.8	4.6	-16.4	22.0	96.0
Debt Leverage Ratio %	1.3	2.1	17.3	0.9	-0.3
Net Working Capital	7,029	-1,501	-598	-6,283	4,765
Investment Expenditures (USD million)****	165	236	153	152	173

* Readjusted following Entek's takeover.

** Net profit attributable to the equity holders of the parent

*** Based on net profit attributable to the equity holders of the parent and average capital

**** Tüpraş unconsolidated

OPERATIONAL INDICATORS - REFINING (thousand tons)

	2018	2019	2020	2021	2022
Processed Crude Oil	24,540	27,238	22,583	24,418	25,126
Production	25,695	28,112	23,389	25,086	26,048
Total Sales	29,830	29,197	24,503	27,586	29,471
Domestic Sales	25,638	22,391	19,831	21,707	23,452
International Sales	4,191	6,807	4,356	5,250	5,732
Transit Sales			316	629	287
Product Imports	6,252	2,827	2,927	2,792	5,013
Share of White Products in Production (%)	77.4	79.0	81.5	81.4	79.5
Crude Oil Capacity Utilization Rate (%)	87.3	90.8	75.3	81.4	83.8
Capacity Utilization Rate Including Semi-Finished Products (%)	95.9	97.8	81.8	87.7	91.6

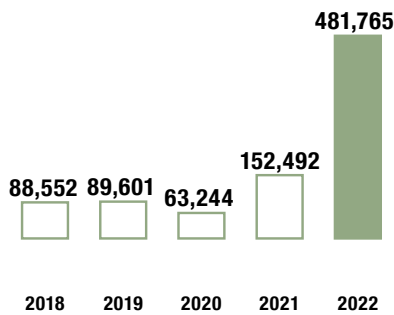


Up 216%

Net sales increased by 216% YoY to TL 482 billion due to the increase in sales volumes following the pandemic, higher product prices as a result of the Russia-Ukraine war and the depreciation of the TL against other currencies.

NET SALES

TL million

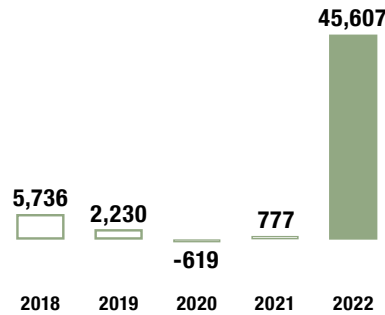


TL 46 billion

The recovery in product margins paved the way for an operating profit of TL 46 billion.

OPERATING PROFIT

TL million

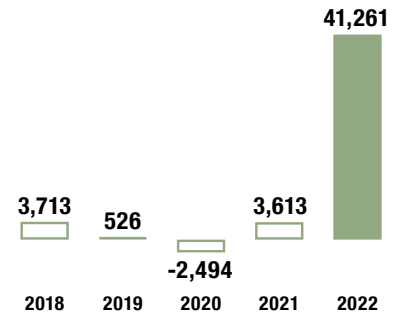


TL 41 billion

The successful performance obtained in 2022 was also reflected to the bottom line with a net profit of TL 41 billion.

PROFIT AFTER TAX

TL million

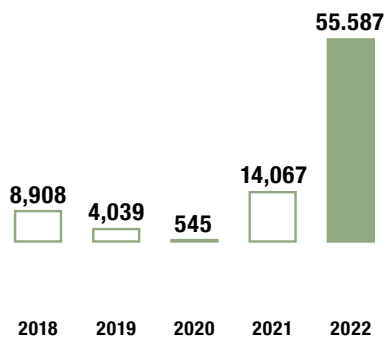


TL 56 billion

Thanks to the strong operational results, the Company recorded EBITDA of TL 56 billion.

EBITDA

TL million

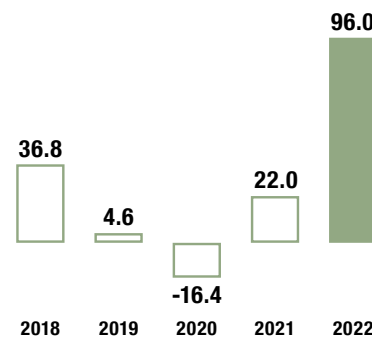


96% Return on Equity

The 96% profitability rate achieved in 2022 paved the way for a high return on equity.

RETURN ON EQUITY (ROE)

(%)

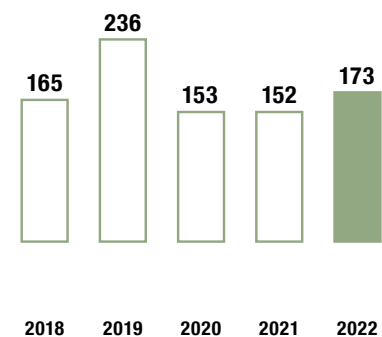


USD 173 million

Consolidated investments of USD 173 million.

INVESTMENT EXPENDITURE

USD million



AGENDA

AGENDA OF THE ORDINARY GENERAL ASSEMBLY MEETING OF TÜRKİYE PETROL RAFİNERİLERİ ANONİM ŞİRKETİ TO BE HELD ON 08 MARCH 2023

1. Opening and Election of the Chairing Committee,
2. Review, discussion and approval of the Annual Report of the Company for the fiscal year 2022 as prepared by the Board of Directors,
3. Presentation of the summary of the Independent Audit Report for the year 2022,
4. Review, discussion and approval of the 2022 Financial Statements,
5. Release of the members of the Board of Directors from liability for the affairs of the Company for the year 2022,
6. Within the framework of the Company's dividend policy; approval, amendment or disapproval of the Board of Directors' proposal on profit distribution of year 2022 and the date of dividend distribution,
7. With the condition of presence of approval of Capital Markets Board and Ministry of Commerce; approval, amendment or disapproval of the Board of Directors' proposal to amend the 6th article of Company's Articles of Association titled "Capital", to the 7th article titled "Transfer of Shares and Establishment of Usufruct Right on Shares" and to add Article 22 as "Pre-License Provisions" as in the annex
8. Determination of the number of Board Members, their term of office, election of members in accordance with the number determined and election of independent board members,
9. In accordance with the Corporate Governance Principles, presentation to shareholders and approval by the General Assembly of the "Remuneration Policy" for the members of the Board of Directors and the Senior Executives and the payments made on that basis,
10. Resolution of annual gross salaries of the Members of the Board of Directors,
11. Approval of the Independent Audit Firm as selected by the Board of Directors, in accordance with the provisions of the Turkish Commercial Code and the Capital Markets Board regulations,
12. Presentation to shareholders of the donations made by the Company in 2022 and resolution of an upper limit for donations to be made for 2023 as per the "Donation and Sponsorship Policy",
13. In accordance with the Capital Markets Board regulations, presentation to shareholders of the securities, pledges and mortgages granted in favour of the third parties in the year 2022 and of any benefits or income thereof,
14. Authorization of the shareholders with management control, the members of the Board of Directors, the senior executives and their spouses and relatives related by blood or affinity up to the second degree as per the provisions of articles 395 and 396 of the Turkish Commercial Code and presentation to shareholders, of the transactions carried out thereof in the year 2022 pursuant to the Corporate Governance Communique of the Capital Markets Board,
15. Wishes and opinions.

INDEPENDENT AUDITOR'S REPORT ON THE ANNUAL REPORT

To the General Assembly of Türkiye Petrol Rafinerileri A.Ş.

1. Opinion

We have audited the annual report of Türkiye Petrol Rafinerileri A.Ş. (the "Company") and its subsidiaries (collectively referred to as the "Group") for the 1 January - 31 December 2022 period.

In our opinion, the financial information and the analysis made by the Board of Directors by using the information included in the audited financial statements regarding the Group's position in the Board of Directors' Annual Report are consistent and presented fairly, in all material respects, with the audited full set consolidated financial statements and with the information obtained in the course of independent audit.

2. Basis for Opinion

Our independent audit was conducted in accordance with the Independent Standards on Auditing that are part of the Turkish Standards on Auditing (the "TSA") issued by the Public Oversight Accounting and Auditing Standards Authority ("POA"). Our responsibilities under those standards are further described in the Auditor's Responsibilities in the Audit of the Board of Directors' Annual Report section of our report. We hereby declare that we are independent of the Group in accordance with the Ethical Rules for Independent Auditors (including Independence Standards) (the "Ethical Rules") and the ethical requirements regarding independent audit in regulations issued by POA that are relevant to our audit of the financial statements. We have also fulfilled our other ethical responsibilities in accordance with the Ethical Rules and regulations. We believe that the audit evidence we have obtained during the independent audit provides a sufficient and appropriate basis for our opinion.

3. Our Audit Opinion on the Full Set Consolidated Financial Statements

We expressed an unqualified opinion in the auditor's report dated 8 February 2023 on the full set consolidated financial statements for the 1 January - 31 December 2022 period.

4. Board of Director's Responsibility for the Annual Report

Group management's responsibilities related to the annual report according to Articles 514 and 516 of Turkish Commercial Code ("TCC") No. 6102 and Capital Markets Board's ("CMB") Communiqué Serial II, No:14.1, "Principles of Financial Reporting in Capital Markets" (the "Communiqué") are as follows:

- a) to prepare the annual report within the first three months following the balance sheet date and present it to the general assembly;
- b) to prepare the annual report to reflect the Group's operations in that year and the financial position in a true, complete, straightforward, fair and proper manner in all respects. In this report financial position is assessed in accordance with the financial statements. Also in the report, developments and possible risks which the Group may encounter are clearly indicated. The assessments of the Board of Directors in regards to these matters are also included in the report.
- c) to include the matters below in the annual report:
 - events of particular importance that occurred in the Company after the operating year,
 - the Group's research and development activities,
 - financial benefits such as salaries, bonuses, premiums and allowances, travel, accommodation and representation expenses, benefits in cash and in kind, insurance and similar guarantees paid to members of the Board of Directors and senior management.

When preparing the annual report, the Board of Directors considers secondary legislation arrangements enacted by the Ministry of Trade and other relevant institutions.

5. Independent Auditor's Responsibility in the Audit of the Annual Report

Our aim is to express an opinion and issue a report comprising our opinion within the framework of TCC and Communiqué provisions regarding whether or not the financial information and the analysis made by the Board of Directors by using the information included in the audited financial statements in the annual report are consistent and presented fairly with the audited consolidated financial statements of the Group and with the information we obtained in the course of independent audit.

Our audit was conducted in accordance with the TSAs. These standards require that ethical requirements are complied with and that the independent audit is planned and performed in a way to obtain reasonable assurance of whether or not the financial information and the analysis made by the Board of Directors by using the information included in the audited financial statements in the annual report are consistent and presented fairly with the audited consolidated financial statements and with the information obtained in the course of audit.

PwC Bağımsız Denetim ve
Serbest Muhasebeci Mali Müşavirlik A.Ş.

Cihan Harman, SMMM
Partner

Istanbul, 14 February 2023

MESSAGE FROM THE CHAIR OF THE BOARD

In 2022, we carried out efforts in support of our country's social needs with the same sense of responsibility that we brought to our production operations.

Esteemed stakeholders,

Our entire nation has suffered greatly amid one of the worst natural disasters endured in the history of the Republic: the devastating earthquakes that struck the Kahramanmaraş region on 6 February 2023. May God have mercy on those who perished and grant patience to those who survived. I offer my deepest condolences to those who lost loved ones and my sincerest wishes for a speedy recovery to those who suffered injuries.

As a nation, all of us have come together to heal the wounds from this catastrophe. Every member of the Koç Group has mobilized its resources to achieve this goal and will continue to do so for as long as pain and suffering lingers. I am fully confident that by working shoulder-to-shoulder, in solidarity, and with oneness of heart, our country can overcome this tragedy.

Let me now share with you some of the developments that affected our 2022 operations.

With the effects of the global pandemic gradually waning, the world experienced a sense of relief last year. However, in the midst of worldwide efforts to undo the damage caused by COVID-19, Russia launched its war on Ukraine, adding new social and economic woes to those still lingering after the pandemic.

Energy supply interruptions and sanction decisions resulting from the Russia-Ukraine war impacted economic activity everywhere. Moreover, it did so just as monetary authorities were beginning to implement tight monetary policies in order to curb pandemic-related problems.

This confluence of developments has led to an atmosphere of uncertainty exacerbated by concerns about an overall weak economic growth, high inflation, and imminent recession on a global scale in 2023. In their January 2023 update, the IMF announced their projection of the 2022 growth rate as 2.9%, 0.5% points lower than the growth rate experienced globally during 2021.

The impact of economic uncertainties throughout the global economy has been visible here in our own country, too, as the deterioration in risk perceptions grew amid a landscape of high inflation and low interest rates. Brent crude prices, \$79 per barrel at the start of the year, surged and peaked at \$138 in March in reaction to the reluctance of OPEC+ countries to increase production, the invasion of Ukraine, and the ensuing imposition of sanctions on Russia.

With the International Energy Agency and the United States releasing strategic oil reserves, OPEC+ countries increasing oil production, and China keeping in place their COVID-19 restrictions that negatively impact economic activities, oil prices remained erratic for the rest of the year. The price of Brent crude closed the year at \$81 per barrel, reflecting G-7 countries' decision to impose a cap on Russian-crude purchases, a slowdown in global economic activity, and the lingering effects of the pandemic in China. That said, the twelve-month average price still ended up at \$102, 42% higher than the twelve-month average of the previous year, \$71.

In Turkey, the demand for jet fuel witnessed an increase of approximately 38% in 2022. While the demand for gasoline grew by 9%. The demand for diesel, in contrast, dropped 7% year-on-year, reflecting depressed domestic economic activity. At 328.7 tw/h, electricity consumption was also down by 1.3% compared to the previous year.

Conducting its operations with an eye on global economic developments and fluctuations in energy prices, Tüpraş achieved a total revenue of TL 482 billion and a pre-tax profit of TL 39.9 billion in 2022 by reaching 26 million tons total production volume and 29.5 million tons total sales with a 92% capacity utilization rate, thanks in part to optimization and operational improvements.

Prudently managing the risks of an increasingly uncertain global business environment, our company maintained both its working capital and a robust balance-sheet by successfully conducting its operations in the framework of sound financial policies.

In addition to solid operational and financial results, we continue to progress on our journey of transformation.

We embrace with utmost loyalty and determination the values of our soon to be 100 years old Republic, bequeathed to us by the great leader Mustafa Kemal Atatürk. In this regard, significant investments were undertaken in 2022 as the Strategic Transformation Plan first announced in 2021 has completed its first year. The takeover of Entek's shares, applications to EMRA to increase zero-carbon electricity generation capacity, the licensing agreement with Honeywell to produce sustainable aviation fuel, the membership in Europe's leading hydrogen-market stakeholder group Hydrogen Europe, and the formation of Tupras Ventures are only a few of these developments.

In addition to solid operational and financial results, we continue to progress on our journey of transformation.



Ömer M. Koç
Chair of the Board of Directors



In 2022, we carried out efforts in support of our country's social needs with the same sense of responsibility that we brought to our production operations. More steps were taken to expand our approach to inclusivity. Continuing to contribute to our country's cultural advancement, Tüpraş supported social development with its sponsorships across education, sports, and arts and culture, particularly through Arter.

In line with the Koç Group's vision of combating climate change and transitioning to a low-carbon economy, Tüpraş has joined the ranks of other global companies supporting the efforts of the Task Force on Climate Related Financial Disclosures. As Tüpraş furthers its objective of becoming carbon-neutral by 2050 under its Strategic Transformation Plan, I believe that our company is the one that must lead Turkey's clean energy transformation, while increasing its contributions to a sustainable future.

In closing, I take this opportunity to share my gratitude with our employees, suppliers, shareholders, business partners, and other stakeholders, for their loyalty and confidence in us as well as for their valuable contributions, past, present, and future, in making Tüpraş what it is and is yet to become.

INDEPENDENT AUDITOR'S REPORT (OPINION)

We have audited the accompanying consolidated financial statements of Türkiye Petrol Rafinerileri A.Ş. (the "Company") and its subsidiaries (collectively referred to as the "Group") which comprise the consolidated statement of financial position as at 31 December 2022, the consolidated statement of profit or loss and other comprehensive income, the consolidated statement of changes in equity and the consolidated statement of cash flows for the year then ended and notes to the consolidated financial statements comprising a summary of significant accounting policies.

In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Group as at 31 December 2022, and its financial performance and its cash flows for the year then ended in accordance with Turkish Financial Reporting Standards ("TFRS").

(1) For the full Independent Auditor's Report, go to page 235-238.

CONSOLIDATED BALANCE SHEET/ CONSOLIDATED INCOME STATEMENT

CONSOLIDATED BALANCE SHEET

(TL thousand)	2022	2021
Total Current Assets	119,710,705	66,515,384
Total Non-Current Assets	49,181,630	39,741,727
Total Assets	168,892,335	106,257,111
Total Short Term Liabilities	78,895,410	64,828,702
Total Long Term Liabilities	22,811,153	22,347,409
Total Liabilities	101,706,563	87,176,111
Total Equity	67,185,772	19,081,000

CONSOLIDATED INCOME STATEMENT

(TL thousand)	2022	2021
Revenues	481,764,656	152,492,019
Costs of Goods Sold	-418,987,726	-136,631,978
Gross Profit	62,776,930	15,860,041
Operating Profit	45,606,647	776,561
Profit Before Tax	39,875,557	2,358,355
Taxes	1,385,010	1,254,869
Net Profit for the Period	41,260,567	3,613,224
Equity Holders of the Parent	41,044,621	3,494,837
Earnings per Share (TL)	149,11	12,70

BOARD OF DIRECTORS



Ömer M. Koç
Chair

He received his B.A. degree from Columbia University in 1985. He worked at Kofisa Trading for one year and completed his MBA at Columbia University in 1989. After working at Ramerica International Inc., he joined the Koç Group in 1990. He held various senior positions at Koç Holding including Finance Coordinator, Vice President and President of the Energy Group. He became Member of the Board of Directors in 2004 and Vice Chair in May 2008. In February 2016, he was appointed as the Chair of the Board of Directors of Koç Holding. He serves as the Vice President of TÜSİAD High Advisory Council, Chair of Tofaş, Tüpraş and Yapı Kredi Kültür Sanat Yayıncılık Board of Directors and Member of the Board of Directors at other Koç Group companies. He is also the Chair of Turkish Educational Foundation Board of Trustees and Chair of the Board of Directors of Geyre Foundation.

Ömer M. Koç has been serving as the Chair of Tüpraş Board of Directors since 2008.



Ali Y. Koç
Vice Chair

He received his bachelor's degree from the Management Faculty of Rice University and MBA from Harvard Business School. He started his career at American Express Bank as a Management Trainee and continued as an Investment Analyst at Morgan Stanley Investment Bank. Ali Y. Koç joined Koç Holding in 1997 and held senior-level positions until 2010 including new business development and information Technologies as well as President of Corporate Communications and IT Group. After serving as Member of the Board of Directors at Koç Holding for over 8 years, he was elected as Vice Chair in February 2016. Since April 2016, Ali Y. Koç also serves as Chair of the Board of Directors of Koç Financial Services, Yapı Kredi Bank, Ford Otosan, Otokar as well as several other Koç Group companies. In addition to being Chair and Vice Chair at Turkey's largest companies and financial institutions, Ali Y. Koç also contributes to the country's social and economic development and currently is the President of Fenerbahçe Sports Club and Member of the Board of Directors of the National Competition Research Association (URAK) and Endeavor Turkey. He is also a Member of the Global Advisory Council of Harvard University, Bank of America and Council on Foreign Relations and a Member of the Panel of Senior Advisers at Chatham House. He represents Turkey at the CBI - Confederation of British Industry.

Appointed in 2008 as a member of Tüpraş Board of Directors, Ali Y. Koç has been serving as the Vice Chair of the Company since April 2016.



Rahmi M. Koç
Member

A graduate of Johns Hopkins University in Business Administration, he joined the Koç Group in 1958 at Otokoç Ankara. He became Chair of the Management Committee in 1980 and was named Chair of the Board of Directors of Koç Holding in 1984, a post he held until 2003 when he became the Honorary Chair. Apart from Koç Holding, he also serves as a Member / Chair of the Board of Directors of other Koç Group companies. In addition, Rahmi M. Koç is or has been affiliated with social and professional organizations including:

- The Metropolitan Museum of Art, New York City, Honorary Trustee
- Co-Chair of the Business Advisory Council for South East Europe (BAC SEE)
- Vice Chair of the Board of Trustees of Vehbi Koç Foundation
- Honorary Chair of the Board of Trustees of Koç University
- Founder and Chair of the Board of Directors of the Rahmi M. Koç Museum and Cultural Foundation
- Chair of the Board of Directors of the Vehbi Koç Foundation American Hospital
- Honorary Chair and Founding Member of TURMEPA, The Turkish Marine and Environment Protection Association
- Honorary Chair of the Advisory Board of the Turkish Industrial and Business Association (TÜSİAD)
- Member of the Advisory Board of the Turkish Employers Association
- Founding Chair of the Global Relations Forum
- Former President of the International Chamber of Commerce (1.1.1995-31.12.1996)
- Former President of the Turkish Greek Business Council (1992-1999)

- Former Member of the Allianz AG International Advisory Board
- Former Member of the JP Morgan International Council
- Former Member of the International Advisory Board of the US Council on Foreign Relations

Rahmi M. Koç has been awarded with the following merits and degrees:

- "Honorary Doctorate" degrees by Johns Hopkins University (Baltimore-Maryland), Eskişehir Anadolu University, Izmir Ege University, Ankara Bilkent University, Ovidius University of Constanza and Aydn Adnan Menderes University
- "Outstanding Service Award" by the President of the Turkish Republic
- German Government's "Grosses Verdienst Kreuz"
- "Order of High Merit of the Italian Republic"
- "Order of Merit of the Austrian Government"
- "(Honorary) Commander of the Most Excellent Order of the British Empire (CBE)"
- "Officier dans l'Ordre National de la Légion d'Honneur", the highest medal awarded by the French government
- "Responsible Capitalism Lifetime Achievement Award" from FIRST, a leading multidisciplinary international affairs organization
- The medal of Foreign Policy Association (FPA), globally recognized think-tank with its 100-year history
- "Hadri Award" by the World Monuments Fund to the Koç Family
- "Carnegie Medal of Philanthropy" (New York) to the Koç Family
- "BNP Paribas Philanthropy Award" (Paris) to the Koç Family
- "Iris Foundation Award" from BARD Graduate Center to the Koç Family (April 2012)

Rahmi M. Koç has been serving as a Member of the Board of Directors of Tüpraş since 2008.



Semahat S. Arsel
Member

She began her career in 1964 as a Member of the Board of Directors of Koç Holding, a position she continues to hold. In addition, she is Chair of the Board of Directors of Vehbi Koç Foundation and the Divan Group, President of the Semahat S. Arsel Nursing Education and Research Center and Founder of the Koç University School of Nursing. She also serves as Member of the Board of Directors of other Koç Group companies as well as Member of the Board of Trustees of the Educational Volunteers Foundation of Turkey (TEGV). Semahat Arsel has received an "Honorary Doctorate" degree from Istanbul University.

Semahat S. Arsel has been a member of Tüpraş Board of Directors since 2009.



Levent Çakıroğlu
Member

Levent Çakıroğlu graduated from Ankara University Faculty of Political Sciences, Business Administration Department and received his master's degree from University of Illinois. He started his career as an Assistant Auditor at the Ministry of Finance in 1988, where he worked as a Senior Auditor between 1991 and 1997. He was appointed as Assistant Manager of Financial Crimes Investigation Board between 1997 and 1998, meanwhile he taught as a Part Time Instructor at Bilkent University. Çakıroğlu joined Koç Group in 1998 as Koç Holding Financial Group Coordinator. He was the General Manager of Koçtaş between 2002 and 2007 and the CEO of Migros between 2007 and 2008. He was assigned as the CEO of Arçelik in 2008 and also became President of the Durable Goods Group of Koç Holding in April 2010. Çakıroğlu has been appointed as the CEO of Koç Holding in April 2015. He currently serves as the CEO and has also been Member of the Board of Directors of Koç Holding since April 2016. Levent Çakıroğlu is also Chair of the Board of Directors of Arçelik- LG and TürkTraktör, the Vice Chair of Yapı Kredi Bank and Otokar and Member of the Board of Directors at various Koç Holding companies.

Levent Çakıroğlu has been a member of Tüpraş Board of Directors since 30 March 2015.



Erol Memioğlu
Member

Erol Memioğlu is a graduate of the Middle East Technical University's Petroleum Engineering Department. He started his business career in 1979 as Senior Engineer at the Turkish Petroleum Corporation (TPAO) and later became Production Manager and President of the Overseas Projects Group. He was appointed Vice President at the Koç Holding A.Ş. Energy Group in 1999, later served as an Executive Board Member at Koç Holding Energy Group from 2003 to 2004; he has served as President of the same Group between May 2004 and April 2016.

Erol Memioğlu has been a member of Tüpraş Board of Directors since 2006.



Yağız Eyüboğlu
Member

Yağız Eyüboğlu graduated from Boğaziçi University with a BA degree in Economics in 1991. He went on to earn an MBA from Koç University in 1996. Mr. Eyüboğlu began his professional career as a Management Trainee at Arçelik in 1991. Starting in 1993, he worked at Koç Holding for more than 10 years, as Auditor, Senior Internal Auditor, Assistant Financial Coordinator and Financial Coordinator, respectively. Between 2004 and 2009, he served as CFO of Arçelik; CEO and Board Member of Beko Elektronik; Assistant to the President of the Foreign Trade and Tourism Group at Koç Holding; and Human Resources Director at Koç Holding. From 2009 to October 2015, he was the General Manager of Aygaz. In October 2015, he was appointed Deputy President of the Energy Group at Koç Holding and since April 2016 he has been serving as the President of Energy Group. Mr. Eyüboğlu currently serves as a Board Member both in several Koç Holding companies and non-governmental organizations. Eyüboğlu also served as World LPG Association President, TİSK Turkish Employer Unions Confederation Chair of the Board and Turkish Family Planning Foundation Chair of the Board of Trustees.

Yağız Eyüboğlu has been a member of Tüpraş Board of Directors since 4 April 2016.

BOARD OF DIRECTORS



Yunus Elitaş
Independent Member and
Privatization Administration
Representative

Yunus Elitaş graduated from Kırıkkale University, Department of Economics in 2003. After serving as a substitute teacher for a short period of time, he joined the Ministry of Finance as Assistant Tax Inspector in 2004. He was transferred to the General Directorate of Accounts as a Trainee Accounts Controller in 2007, and was appointed as Accounts Controller in 2010. Between 2013 and 2015, he served as the Deputy Head of the Administrative and Financial Affairs Department of the Ministry of Finance. Yunus Elitaş, who was in the USA between December 2015 - December-2017, received an MBA degree from the University of South Florida. He was appointed as the Group Head of Revenue Administration in February 2018, as the General Manager of Accounts in February 2019, and finally as the Deputy Minister of Finance on 15 December 2021 with the approval of the TR President. His articles on tax and public expenditure have been published in various professional journals. He also took part as a trainer in vocational training and certificate seminars on expenditure legislation.

Yunus Elitaş has been a member of Tüpraş Board of Directors since 30 March 2022.



Ayşe Canan Ediboğlu
Independent Member

After completing her high school education at Ancaster House School, she got her bachelor's degree in economics and her master's degree in financial management and control from the University of Southampton, U.K. After working as a research assistant at the same University, she continued her career as a Planning Manager at Shell in 1980. She held various positions at Shell Turkey, before being appointed as its General Manager in 2002 and Shell Turkey National Manager in 2006. She sat as a member on the Board of Directors of Shell-Turcas Petrol A.Ş. Ayşe Canan Ediboğlu served as an Independent Member of Aygaz Board of Directors between 2012-2018

Ayşe Canan Edipoğlu has been an Independent Member of Tüpraş Board of Directors since March 2018.



Muharrem Hilmi Kayhan
Independent Member

Muharrem Kayhan received education at St. Joseph French School and Robert College of İstanbul. He got his Engineering Degree in Textiles in 1976 from the University of Manchester in England. He received his MBA from Cornell University in 1978. Muharrem Kayhan is presently Vice Chair of the boards of Söktaş and its subsidiaries. He has represented the interests of the Turkish textile industry in various European Union platforms while serving on the boards of the Aegean Chamber of Industry, the Exporters' Union, and the Turkish Textile Employers' Union. He served as the Chair of TÜSİAD between 1997 and 1999, and is now an Honorary Chair. Muharrem Kayhan serves on the Board of Trustees of Robert College the İzmir Culture, Art and Education Foundation, and Bizim Okul Foundation. He has represented Spain as Honorary Consul in İzmir since 2003. He is the recipient of the Turkish National Assembly Distinguished Service Award (2009).

Muharrem Hilmi Kayhan has been an Independent Member of Tüpraş Board of Directors since March 2018.



Kamil Ömer Bozer
Independent Member

After receiving his degree in business administration from the Middle East Technical University, Kamil Ömer Bozer completed a master's degree at Georgia State University in U.S.A. He began his career as a management trainee at Koç Holding A.Ş. in 1985. After serving as Deputy Chief Executive of Maret A.Ş. from 1990 and as General Manager of Düzey A.Ş. from 1995, he became General Manager of Migros Türk T.A.Ş. in 2002. He was appointed President of Food, Retailing and Tourism Group in 2005. He served as President of Food and Retailing Group between 2006 and 2008, and once again as President of Tourism, Food and Retailing Group from 2009 to April 2011. Kamil Ömer Bozer is currently a Member of Boyner Holding's Board of Directors and he is an Independent Board Member at Dardanel A.Ş. and Arçelik A.Ş.

Kamil Ömer Bozer has been an Independent Member of Tüpraş Board of Directors since March 2018.



Tufan Erginbilgiç
Independent Member

Tufan Erginbilgiç holds a BSc in engineering, an MBA and an MA in Economics.

Mr. Erginbilgiç held leadership positions at BP in several different businesses, including his roles as the CEO of BP Retail Europe, and the global CEO of BP Lubricants Division, which he made into an industry leader while quadrupling its profits. From 2007 to 2009, he was Chief of Staff to a Group CEO, playing a key role in the transformational program that increased revenues and delivered cost efficiencies. Mr. Erginbilgiç was appointed Chief Operating Officer in 2009 and then CEO of BP Downstream business in 2014, which includes global fuels, lubricants and petrochemicals businesses. During his tenure, global downstream was transformed and achieved record profitability and delivered a record-setting safety performance.

He served on the Board of GKN plc as a non-executive director between 2011 and 2018.

Mr. Erginbilgiç joined Global Infrastructure Partners (one of the leading private equity firms headquartered in New York) in 2020 as a Partner. Based in London, he focuses on the energy sector and global operations.

Tufan Erginbilgiç also serves as a director of DCC plc (a member of the FTSE 100) and CNH Industrial (listed on the NYSE). He also holds a seat on the Strategic Advisory Board of the University of Surrey since May 2017.

Tufan Erginbilgiç, who was elected as an Independent Member of the Board of Directors of Tüpraş on 31 March 2021, resigned from his position as Independent Member of the Board of Directors as of December 31, 2022.

PROFIT DISTRIBUTION POLICY

Our Company distributes dividends in compliance with the Provisions of Turkish Commercial Code, the Capital Markets Regulations, the Tax Regulations and other related regulations and the related provisions of our Company's Articles of Association regarding dividend distribution.

In the dividend distribution, in compliance with the Corporate Governance Principles, a balanced and consistent policy is pursued between the shareholders and the Company benefits. In principle; as far as the related regulations, investment needs and financial situation allow, the entire amount of the "net distributable profit for the period", calculated within the frame of the Capital Markets Regulations, is distributed in cash - taking into consideration the market expectations, long term company strategies, investment and financing policies, profitability and cash position - as long as it is covered from the existing resources in our legal records.

The General Assembly or the Board of Directors, if authorized, may decide to distribute dividends with installments in compliance with the regulations of the Capital Markets. There is no privilege in the Articles of Association regarding the participation to dividend distribution.

The aim is to make the dividend distribution within one month at the latest after the General Assembly meeting. Dividend distribution date is decided by the General Assembly. As per the Company's Articles of Association; in compliance with the Regulations of the Capital Markets, the Board of Directors may distribute advance dividend provided that the authorization is granted by the General Assembly. Profit distribution policy and profit distribution proposal are included in the annual report and presented to the approval of shareholders at the General Assembly.

PROFIT DISTRIBUTION PROPOSAL

Financial statements prepared by Turkish Petroleum Refineries Corporation management in compliance with the TAS/IFRS standards for the accounting period 01.01.2022 and 31.12.2022 and audited by PwC Bağımsız Denetim ve Serbest Muhasebeci Mali Müşavirlik A.Ş. are examined and approved by our Board of Directors to be presented to General Assembly.

As a result of the examination of financial tables and records kept as per Turkish Petroleum Refineries Corporation's VUK principles;

Realizing a net profit of TL 41,044,621,000 for the company according to the financial statements prepared in compliance with TAS/IFRS and a net profit of TL 34,891,189,014.29 and a previous year loss of TL 3,523,207,956.78 for the accounting year according to the VUK records;

- a. Pursuant to Article 519 of the Turkish Commercial Code, 5% Legal Reserve that needs to be set aside is not reserved since as of 31 December 2022, capital reserve already exceeds 20% of company's equity.

Net profit according to the financial statements prepared in compliance with TAS/IFRS in the amount of TL 41,044,621,000 increases to TL 41,332,384,392.21 of first assessment base for dividend when donations of TL 287,763,392.21 are added.

According to statutory records, having deducted the accumulated loss of TL 3,523,207,956.78 recorded in previous years from current year net profit, TL 31,367,981,057.51 of net distributable profit was realized.

- b. In accordance with Capital Market Board Regulations, 18th Article of Company's Articles of Association and Dividend Distribution policy of our company which was approved by shareholders in the General Assembly meeting dated 31 March 2014, by taking into consideration Company's long term strategies, investment and financing policies, profitability and cash position, and taking into consideration of ongoing uncertainties both in global and local markets and access to funding, the following profit distribution is proposed as;

- TL 12,500,000,000.00 to be distributed as first dividend to shareholders.
- TL 1,248,623,717.43 to be put aside as general legal reserve,

- c. The dividend amount of TL 12,500,000,000.00 to be fully paid in cash,
- d. If the above-mentioned dividend distribution proposal is approved by the General Assembly, on the basis of statutory accounts, by deducting accumulated loss of TL 3,523,207,956.78 from current year profit, the total dividend amount of TL 12,500,000,000.00 will be distributed. General legal reserve with a value of TL 1,248,623,717.43 will be funded from current earnings of the period.
- e. After distribution of dividend, TL 27,295,997,282.57 in the financial statements, which was prepared in compliance with TAS/IFRS to be transferred to retained earnings, according to statutory accounts, TL 17,619,357,340.08 will be accounted as extraordinary reserve
- f. On this basis, a cash dividend of gross=net TL 45.4121860 is to be paid for one nominal stock worth TL 1.00 at a rate of 4,541.22% to our legally obligated corporate taxpayer shareholders and limited corporate taxpayer shareholders earning dividends through a Turkey-based business or permanent representation office. Other shareholders are going to be paid a gross rate of 4,541.22%, a cash dividend of gross TL 45.4121860, and net rate of 4,087.1% a cash dividend of net TL 40.870974 for one nominal stock worth TL 1.00
- g. To set the dividend distribution date as 10 March 2023 To be submitted for the approval of our shareholders at the Ordinary General Assembly Meeting of our company to be held, with the developments in the financial markets and changes in our company's liquidity position, it has been decided that, should favourable conditions arise in the second half of the year, the possibility of distributing additional dividends with an extraordinary general assembly will be separately assessed.

DIVIDEND DISTRIBUTION TABLE

TÜRKİYE PETROL RAFINERİLERİ A.Ş. 2022 DIVIDEND DISTRIBUTION TABLE (TL)			
1.	Paid in Capital/Issued Capital		275,256,514.00
2.	Total Legal Reserves (According to Statutory Income Statements)		503,342,592.00
Information on privileges in profit distribution if any in the Articles of Association			
		According to CMB	According to Statutory Records
3.	Current period profit / loss (=)	39,875,557,000.00	36,641,128,306.15
4.	Taxes payable (-)	-1,385,010,000.00	1,749,939,291.86
5.	Net profit (=)	41,044,621,000.00	34,891,189,014.29
6.	Previous years losses (-)	0.00	3,523,207,956.78
7.	General Legal reserves (-)		0.00
8.	DISTRIBUTABLE NET PROFIT FOR THE PERIOD (=)	41,044,621,000.00	31,367,981,057.51
9.	Donations made during the year (+)	287,763,392.21	
10.	Net Distributable Profit added donations	41,332,384,392,21	
	First dividend to Shareholders		
11.	Cash	12,500,000,000.00	13,762,825.70
	Bonus		
	Total	12,500,000,000.00	13,762,825.70
12.	Dividend to privileged shareholders		
13.	Distributed other dividend	0.00	0.00
	- Dividend to the Board Members		
	- Dividend to the Employees		
	- Other		
14.	Dividend to redeemed shareholders		
15.	Secondary dividends to shareholders	0.00	12,486,237,174.30
16.	General legal reserves	1,248,623,717.43	1,248,623,717.43
17.	Statutory reserves		
18.	Special reserves		
19.	EXTRAORDINARY RESERVES	27,295,997,282.57	17,619,357,340.08
	Other Resources to be distributed	0.00	0.00
20.	Previous years profit		
	Extraordinary reserves		
	- Other distributable reserves as per the law and the Articles of Association	0.00	
21.	Allocated Legal Reserves to be distributed from other sources		

DIVIDEND RATIO TABLE					
GROUP	TOTAL AMOUNT OF DIVIDEND DISTRIBUTED		TOTAL DISTRIBUTED DIVIDEND/NET DISTRIBUTED PROFIT	DIVIDEND PER SHARE WITH NOMINAL VALUE OF TL 1	
	AMOUNT (TL)	BONUS (TL)	RATIO (%)	AMOUNT (TL)	RATIO (%)
NET	A	11,926,398,699.73	29.06	40.8709674	4,087.10
	C	0.45	0.00	40.8709674	4,087.10
	TOTAL	11,926,398,700.19	0.00		29.06

(*) With this calculation of dividend distribution, 54.11% shares are owned by corporate tax payers and are not publicly traded, are not subject to withholding tax, whilst 0.21% shares of individual shares that are not publicly traded and 45.7% shares that are publicly traded are subject to a 10% withholding tax on the assumption that the beneficial owners are individual taxpayers.

AMENDMENT TO THE ARTICLES OF ASSOCIATION

OLD TEXT	NEW TEXT																																
<p>ARTICLE 6:</p> <p>CAPITAL</p> <p>The company has adopted the registered capital system according to the Law No. 6362 and implemented this system upon the approval of the Capital Market Board dated 22.11.1990 and no. 886</p> <p>a) Registered capital : The registered capital of the company is TL 500,000,000.00 (five hundred million Turkish Liras), which is divided in to 50,000,000,000(fifty billion) shares each with a nominal value of 1 Kuruş (Turkish Cent).</p> <p>The registered capital ceiling permit issued by the Capital Market Board is valid for the years 2021-2025 (5 years). Even if the registered capital ceiling limit allowed may not be reached by the end of 2025, the Board of Directors has to obtain the permission of the General Assembly after obtaining the approval of the Capital Market Board for obtaining a new period not exceeding 5 years regarding the previous ceiling or a new ceiling value in order to adopt a resolution for a capital increase. If the said permission is not obtained, the company shall be considered as having abandoned the registered capital system.</p> <p>b) Issued Capital and Shares : The issued capital of the Company is TL 275,256,514.00, (Two hundred seventy-five million two hundred fifty-six thousand five hundred fourteen Turkish Liras), divided into 27,525,651,399 Group "A" and 1 Group "C" registered shares each with a nominal value of 1 (One) Kuruş.</p> <p>The issued capital has been fully paid free of any collusion.</p> <p>The issued capital is divided in to two groups as (A) and (C) as shown below and all of the shares are registered shares.</p> <table border="1"> <thead> <tr> <th>GROUP</th> <th>CAPITAL (TL)</th> <th>TYPE</th> <th>NUMBER OF SHARES</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>275,256,513.99</td> <td>Registered</td> <td>27,525,651,399</td> </tr> <tr> <td>C</td> <td>0.01</td> <td>Registered</td> <td>1</td> </tr> <tr> <td>Total</td> <td>275,256,514.00</td> <td></td> <td>27,525,651,400</td> </tr> </tbody> </table> <p>The Group C share shall remain in existence until terminated by a decision of the Privatization Supreme Board (or a decision of the relevant authority at that time). In the event a decision might be made for terminating the rights vested in the Group C share, this share shall be converted in to a Group A share.</p> <p>The shares making up the capital are monitored on the records within the framework of the recording rules.</p> <p>The capital of the company may be increased or decreased as necessary within the framework of the provisions of the Turkish Commercial Code and Capital Market legislation.</p> <p><i>The amendments concerning the reduction of the amount of capital on the articles of association which is required to take approval by T.R Energy Market Regulatory Authority.</i></p>	GROUP	CAPITAL (TL)	TYPE	NUMBER OF SHARES	A	275,256,513.99	Registered	27,525,651,399	C	0.01	Registered	1	Total	275,256,514.00		27,525,651,400	<p>ARTICLE 6:</p> <p>CAPITAL</p> <p>The company has adopted the registered capital system according to the Law No. 6362 and implemented this system upon the approval of the Capital Market Board dated 22.11.1990 and no. 886</p> <p>a) Registered capital : The registered capital of the company is TL 500,000,000.00 (five hundred million Turkish Liras), which is divided in to 50,000,000,000(fifty billion) shares each with a nominal value of 1 Kuruş (Turkish Cent).</p> <p>The registered capital ceiling permit issued by the Capital Market Board is valid for the years 2021-2025 (5 years). Even if the registered capital ceiling limit allowed may not be reached by the end of 2025, the Board of Directors has to obtain the permission of the General Assembly after obtaining the approval of the Capital Market Board for obtaining a new period not exceeding 5 years regarding the previous ceiling or a new ceiling value in order to adopt a resolution for a capital increase. If the said permission is not obtained, the company shall be considered as having abandoned the registered capital system.</p> <p>b) Issued Capital and Shares : The issued capital of the Company is TL 275,256,514.00, (Two hundred seventy-five million two hundred fifty-six thousand five hundred fourteen Turkish Liras), divided into 27,525,651,399 Group "A" and 1 Group "C" registered shares each with a nominal value of 1 (One) Kuruş.</p> <p>The issued capital has been fully paid free of any collusion.</p> <p>The issued capital is divided in to two groups as (A) and (C) as shown below and all of the shares are registered shares. The company cannot issue bearer share certificates, except for those to be issued to be traded on the stock exchange.</p> <table border="1"> <thead> <tr> <th>GROUP</th> <th>CAPITAL (TL)</th> <th>TYPE</th> <th>NUMBER OF SHARES</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>275,256,513.99</td> <td>Registered</td> <td>27,525,651,399</td> </tr> <tr> <td>C</td> <td>0.01</td> <td>Registered</td> <td>1</td> </tr> <tr> <td>Total</td> <td>275,256,514.00</td> <td></td> <td>27,525,651,400</td> </tr> </tbody> </table> <p>The Group C share shall remain in existence until terminated by a decision of the Privatization Supreme Board (or a decision of the relevant authority at that time). In the event a decision might be made for terminating the rights vested in the Group C share, this share shall be converted in to a Group A share.</p> <p>The shares making up the capital are monitored on the records within the framework of the recording rules.</p> <p>The capital of the company may be increased or decreased as necessary within the framework of the provisions of the Turkish Commercial Code and Capital Market legislation.</p>	GROUP	CAPITAL (TL)	TYPE	NUMBER OF SHARES	A	275,256,513.99	Registered	27,525,651,399	C	0.01	Registered	1	Total	275,256,514.00		27,525,651,400
GROUP	CAPITAL (TL)	TYPE	NUMBER OF SHARES																														
A	275,256,513.99	Registered	27,525,651,399																														
C	0.01	Registered	1																														
Total	275,256,514.00		27,525,651,400																														
GROUP	CAPITAL (TL)	TYPE	NUMBER OF SHARES																														
A	275,256,513.99	Registered	27,525,651,399																														
C	0.01	Registered	1																														
Total	275,256,514.00		27,525,651,400																														

The Board of Directors is authorized to increase the issued capital by issuing new shares up to the ceiling value of the registered capital as deemed necessary in compliance with the provisions of the Capital Market Law as well as restricting the rights of the owners of the privileged shares and limiting the right of the shareholders to buy new shares. The power of restricting the right of buying new shares may not be used in a manner that might create inequality between the shareholders.

In all cases, the Board of Directors shall issue new group A shares in proportion with the shares owned by the Group A shareholders in the Company in case of a capital increase. In case of a capital increase, the shareholders partake by buying the shares to be issued in the same group as they belong. However, the Group C share shall not partake in the capital increase and remain to be a single share.

The Capital Market Board regulations and the provisions of these Articles of Association shall apply for the used or un-used pre-emptive rights.

The share representing the company's capital is monitored within the framework of the dematerialization basis.

ARTICLE 7: ASSIGNMENT OF SHARES AND ESTABLISHMENT OF USUFRUCT ON SHARES

Şirketle ilişkilerde sadece pay defterinde Merkezi Kayıt Kuruluşu In the relations with the company, only the persons registered in the shares log shall be accepted as shareholders or holders of beneficial interest on the shares taking the records kept by the Central Records Body.

The Group C share may be transferred to another Turkish public body having the same powers as the powers granted by the law no. 4046 to the T.C. Prime Ministry Privatization Administration Chairmanship. In such a case, the transfer is recorded in the shares log immediately without requiring a resolution from the board of Directors.

The Capital Market Board regulations shall be applied in connection with the transfer of the registered shares of the Company transacted in the stock exchange.

In the scope of licenses of operation in the electricity generation and natural gas market The Company;

a) *another license owner, and a legal entity having no license by;* itself or within the body of another legal entity having license, with all assets and liabilities, *and*

b) If intends to be demerged fully or partially

If the merging - demerging transaction is not completed in six month as from the date of approval given duly, the approval will be ineffective. In this case, the merging transactions cannot be continued unless a new approval is obtained by the Resolution of the Board. The provisions of the Capital Market Regulation in relation to the merging and demerging procedures are reserved.

The Board of Directors is authorized to increase the issued capital by issuing new shares up to the ceiling value of the registered capital as deemed necessary in compliance with the provisions of the Capital Market Law as well as restricting the rights of the owners of the privileged shares and limiting the right of the shareholders to buy new shares. The power of restricting the right of buying new shares may not be used in a manner that might create inequality between the shareholders.

In all cases, the Board of Directors shall issue new group A shares in proportion with the shares owned by the Group A shareholders in the Company in case of a capital increase. In case of a capital increase, the shareholders partake by buying the shares to be issued in the same group as they belong. However, the Group C share shall not partake in the capital increase and remain to be a single share.

The Capital Market Board regulations and the provisions of these Articles of Association shall apply for the used or un-used pre-emptive rights.

The share representing the company's capital is monitored within the framework of the dematerialization basis.

ARTICLE 7: ASSIGNMENT OF SHARES AND ESTABLISHMENT OF USUFRUCT ON SHARES

In the relations with the company, only the persons registered in the shares log shall be accepted as shareholders or holders of beneficial interest on the shares taking the records kept by the Central Records Body.

The Group C share may be transferred to another Turkish public body having the same powers as the powers granted by the law no. 4046 to the T.C. Prime Ministry Privatization Administration Chairmanship. In such a case, the transfer is recorded in the shares log immediately without requiring a resolution from the board of Directors.

The Capital Market Board regulations shall be applied in connection with the transfer of the registered shares of the Company transacted in the stock exchange.

In the scope of licenses of operation in the electricity generation and natural gas market **The Company;**

After the generation license is obtained, the Company is obliged to notify the direct and/or indirect changes made in the shareholding structure to Energy Market Regulatory Authority of within six months from the date of the change.

Merger and Division Provisions

The company holding the production license;

a) itself or within the body of another legal entity having license, with all assets and liabilities or

b) If intends to be demerged fully or partially

Prior to **the merging or demerging transaction**, it is obliged to obtain the approval of Energy Market Regulatory Authority in relation to these transactions.

If the merging or demerging transaction is not completed in six month as from the date of approval given duly, the approval will be ineffective. In this case, the merging or demerging transactions cannot be continued unless a new approval is obtained by the Resolution of the **Energy Market Regulatory Authority**. The provisions of the Capital Market Regulation in relation to the merging and demerging procedures are reserved.

Article 22: ASSOCIATE LICENSE PROVISIONS

In the period of preliminary licensing time , the type of share certificates cannot be amended until the production license is obtained .

In the period of preliminary licensing time and until the production license is obtained, it is not allowed to take actions and make transactions that may lead to change in the corporate shareholding structure directly or indirectly, to transfer the shares/share certificates or cause to transfer them, except for the exceptional cases as stipulated in the Electricity Market License Regulation for reasons of inheritance and bankruptcy.

It is obligatory to obtain the approval of the Energy Market Regulatory Authority and other approvals in accordance with the provisions of the Turkish Commercial Code for the amendments to the articles of association regarding the reduction of the Company's capital amount, with this article stating that no change can be made in the type of share certificates and shareholding structure of the company during the period of preliminary licensing time and until the production license is obtained.

Changes in this matter shall be valid from the date of announcement after duly approved and registered in the Trade Registry.

2023 BOARD OF DIRECTORS CANDIDATES

Ömer M. Koç

Ali Y. Koç

Rahmi M. Koç

Semahat Sevim Arsel

Levent Çakıroğlu

Yağız Eyüboğlu

Erol Memioğlu

Muharrem Hilmi Kayhan (Independent Member)

Ayşe Canan Ediboğlu (Independent Member)

Kamil Ömer Bozer (Independent Member)

As of the date this report is published, no assignment has been made for the representative by the Privatization Administration.

REMUNERATION POLICY FOR MEMBERS OF THE BOARD OF DIRECTORS AND EXECUTIVE MANAGEMENT

This policy document defines the remuneration systems and practices of our Board of Directors members and our senior executives, who consist of the general manager, assistant general managers and directors directly reporting to the general manager. Turkish Commercial Code and Türkiye Petrol Rafinerileri A.Ş. In accordance with Article 12 of the Articles of Association, a fixed remuneration is determined each year at the ordinary general assembly meeting for the membership functions of the Board of Directors, valid for the entire Board of Directors. Members of the Board of Directors are paid on a pro-rata basis, taking into account the time they have been in office as of the dates of their appointment and departure.

Members of the Executive Board are also paid within the scope of the policy determined for senior executives, the details of which are explained below.

Additional payment is made to the executive members of the Board in accordance with the policy established for senior executives.

Additional payment is made to the Board members who have been assigned specific duties to support the activities of the Company the amount of which is to be determined by the Board of Directors in consultation with the Corporate Governance Committee.

To the Chair and members of the Executive Committee of the Board which supports the Board in the proper management of the Company in all respects, additional compensation determined by the Board of Directors in consultation with the Corporate Governance Committee by taking into account such Committee Members' contributions, attendance at the meetings, functions, etc. can be granted. Payments made thereof to Executive Committee members within the year are to be deducted from the amount determined at the end of the year.

In respect of remuneration of the independent members of the Board of Directors, a payment plan based on the performance of the Company may not be used.

Pro rata payment is made to the members of the Board of Directors by taking into account the time they carried out their duty between the date of appointment and the date of resignation. Expenses incurred by the members of the Board of Directors on account of making contributions to the company (such as transportation, telephone, insurance, etc.) can be paid by the Company.

The remuneration of Senior Executives is to consist of two components, which are fixed and performance based.

Fixed salaries of senior executives are determined in accordance with international standards and legal obligations by taking into account the prevailing macroeconomic data in the market, the salary policies prevailing in the market, the size and long-term targets of the Company and the positions of the persons.

Bonuses for senior executives are calculated according to the bonus base, the performance of the Company and the individual performance. A summary of the criteria is as follows:

- **Bonus Base:** Bonus Bases are updated at the beginning of each year. They vary depending on the work volume of the executives' positions. When updating the bonus bases, senior management bonus policies in the market are taken into account.
- **Company Performance:** The performance of the Company is determined at the end of the year by measuring the financial and operational targets (market share, exports, overseas operations, productivity, etc.) assigned to the Company at the beginning of each year. In determination of the Company's targets, the sustainability of success and the degree to which it incorporates improvements over previous years are the principles taken into account.
- **Individual Performance:** Definition of individual performance is based on individual and collective objectives and key results determined by Top Level Managers together with their teams and managers. In measurement of individual performance, long term sustainable improvement in non-financial area is a significant principle.

Severance payments may be granted to the key executives by taking into account total term of service, term of service as an executive, as well as contributions made to the company, the recent bonus base, and the salaries and bonuses paid in the last year of service.

Total amounts determined by the above principles and paid to the members of the Board of Directors during the year are submitted for shareholder approval at the next general meeting.

MESSAGE FROM THE GENERAL MANAGER

In 2022, a year of heightened global volatility, we did not deviate from proactive balance sheet management and pursued effective financial policies.

Dear stakeholders,

I would like to take this opportunity to wish peace upon the souls of our citizens who lost their lives in the earthquakes with their epicenter near Kahramanmaraş on 6 February 2023. These earthquakes, which plunged our country into a state of deep mourning on 6 February 2023, affected 10 provinces. I extend my deepest condolences to their relatives and a rapid recovery to all those who were injured.

At Tüpraş, we directed our search and rescue teams to disaster areas within the first hours following the earthquake. We maintained our production without interruption with a sense of responsibility to supply our country's energy needs. We will continue to work with all our might to deliver the energy needed to all corners of our country, especially in the disaster areas.

Hopes that the exit from the Covid-19 pandemic around the world and the normalization process would gain pace in 2022 gave way to fears regarding energy supply security as the Russia-Ukraine war broke out. This led to a surge in energy prices, with supply security starting to dominate the headlines. The crude oil market, which saw some of the lowest prices in history during the pandemic, experienced record increases in 2022.

Global demand for oil products increased by 2.2 million barrels/day on an annual basis. Refineries were left idle as middle distillate stocks declined to record low levels and due to the maintenance work, which had been postponed during the pandemic. As a result, despite an increase in demand, the extended period of recovery supported profitability for refiners.

Brent crude prices reach USD 138/barrel during the year.

The decision by European countries to impose sanctions against Russia, Europe's main energy supplier, in retaliation for the invasion of Ukraine, increased all energy prices especially oil. Brent crude oil prices, which peaked at USD 138 /barrel due to supply concerns, followed a volatile and eventually downward course due as concerns of an impending global recession started to take hold. The Brent crude oil price slid to USD 81 / barrel by the end of December.

A deterioration in the supply-demand balance precipitated a rise in margins for all white products while margins for diesel, jet fuel and gasoline reached historic highs. Even as production costs rose to record highs, elevated product margins positively impacted refining profitability. In parallel with these developments, Tüpraş recorded a net refining margin of USD 16.5/ barrel.

92% capacity utilization attained with a maximum charge

In 2022, we fulfilled our duty to meet our country's energy needs with a safe operation approach. We produced 26.0 million tonnes of products with a total charge of 27.6 million tonnes and a 92% capacity utilization rate, including crude oil and semi-finished products. In line with the recovery in demand we met the majority of the country's demand with 23.5 million tonnes of domestic sales, reaching a sales volume of 29.5 million tonnes including export and transit sales.

The incorporation of Entek, with a capacity of 442 MW, into Tüpraş strongly contributed to our production portfolio.



İbrahim Yelmenoğlu
General Manager

We reached our pre-pandemic performance through disciplined and effective financial management

As a result of the increase in product margins as well as a strong course in domestic and international sales, Tüpraş recorded a profit before tax of TL 39.9 billion in 2022.

In this period of heightened global volatilities, we did not deviate from proactive balance sheet management and applied effective financial policies. Continuity of a strong balance sheet, which will support Tüpraş's operations going forward, will be the main objective of effective financial management.

Steps taken in our journey of strategic transformation in 2022.

Our Strategic Transformation Plan, the first year of which we have completed, sets out our aim to cut our emissions by 27% by 2030, and transform Tüpraş into a carbon neutral energy company by 2050. We press ahead with the belief that these objectives will contribute significantly to our country's carbon commitments.

MESSAGE FROM THE GENERAL MANAGER

Tüpraş sets out to remain the biggest supporter and business partner in the Turkish aviation industry, which commands an important share in the global aviation industry.

One of the four strategic business lines that Tüpraş is focused on is “Zero Carbon Electricity”. Tüpraş undertook an important investment in the field of “Zero Carbon Electricity” in 2022 with the takeover of shares in Entek, which was a subsidiary of Koç Holding and Aygaz, which was approved in the Extraordinary General Meeting held in August.

The incorporation of Entek, with a capacity of 442 MW, into Tüpraş strongly contributed to our production portfolio. This investment marks a significant step towards reaching our zero-carbon installed power target of 1 GW by 2030 and 2.5 GW by 2035.

After the takeover, Entek applied to EMRA (Energy Market Regulatory Authority) for a pre-license in 2022 with the commitment to establish an additional storage facility to its current capacity within the scope of the Regulation on Storage Activities in the Electricity Market. The application covers a total of 22 projects with a total installed capacity of 1,461.5 MW, including a 190 MW solar power plant and a 1,271.5 MW wind farm. Entek will continue to advance towards becoming an important player in the energy world of the future as it pursues the addition of storage facilities to support its growth goals in the field of renewable energy.

As part of the investments in zero-carbon electricity generation at our refinery sites, the contract for the construction of a 12.6 MW solar power plant, which is planned to be commissioned in June 2023 at the Kırıkkale Refinery, was signed in September. Tüpraş later applied to EMRA to install an additional 54.4 MW capacity.

We plan to complete the 1.24 MW capacity solar power plant, currently under construction at the İzmir Refinery, in the second quarter of 2024, while we plan to complete the 12.6 MW capacity wind farm in the third quarter of 2024. We have applied to establish a 5.0 MW capacity solar power plant at the Batman Refinery.

Tüpraş to remain the biggest supporter of Turkey's aviation industry in the future.

Tüpraş sets out to remain the biggest supporter and business partner in the Turkish aviation industry, which commands an important share in the global aviation industry.

As part of our plan, we have taken another important step towards the production of sustainable aviation fuel (SAF), which will significantly contribute to the targets to cut emissions.

We signed a license agreement with Honeywell for the use of UOP Ecofining™ technology at the İzmir Refinery. The project to be implemented with the agreement envisages the conversion of 400,000 tonnes of plant and animal-based waste raw materials into sustainable aviation fuel, renewable diesel and other products per year.

Preliminary design work for the SAF production facility, which will be commissioned in 2027, was completed and detailed design work continues.

Establishment of our Venture Company, Tüpraş Ventures.

In September 2022, Tüpraş Enerji Girişimleri A.Ş. (Tupras Ventures) was established as a 100% owned subsidiary of Tüpraş, with the purpose of investing in domestic and international technology

ventures in the fields of smart information technologies, energy efficiency, the circular economy and robotic solution technologies, especially in the area of Tüpraş's transformation focus.

We carry out studies for the businesses of the future with the integration of enterprise, innovation, open innovation and start-ups. We are developing collaborations by experiencing innovative technologies of domestic and foreign ventures in Tüpraş refineries.

Our first goal in the field of green hydrogen, an area which we attach great importance to, is to establish a demo facility by 2025. We maintain our work in this area without interruption.

At Tüpraş, we work tirelessly to carry out our investments for the production of new products with high added value and energy efficiency.

Future Fit: The Project to Transform Human Resources for the Future

With Tüpraş's human resources project, “Future Fit”, we define the new roles and competencies that will be needed in the future and launch new skill acquisition programs that will prepare our employees for these roles.

We keep an inclusive, egalitarian, fair and safe working environment which respects human rights at the heart of all our processes. As a signatory to the United Nations Women's Empowerment Principles (UN WEPs), we work for equal representation of women with the aim of being an inclusive workplace.

As a company that has been working with all its strength to provide the energy that our country needs since the first day of our establishment, we will continue to work to produce the energy of the future.

Within this framework, we have started work with the goal of ensuring that one in every two people we recruit is a woman by 2022. We set out with the aim of increasing the ratio of women employees in engineering, R&D, innovation, service design and IT from the current 24% to 40% within a 5-year period, by 2026.

As a result of the work of the Diversity, Equality and Inclusion (DEI) Committee in 2022, we published our DEI Policy – another first. In 2022, we were included in Bloomberg's Gender Equality Index for the second time (Global Equality Index-GEI).

Global commitment: Empowerment of women and girls in technology and innovation

At Tüpraş, we focus on creating social benefit while realizing our transition for the energy of the future.

In line with Koç Holding's global leadership at the United Nations Women's Generation Equality Forum, we developed the "Women in Technology and Innovation Program" to contribute to the commitments announced by the Holding in the field of technology and innovation. We aim to reach 100,000 female students through this program.

Highlights among our subsidiaries...

Ditaş, a subsidiary of Tüpraş, operated with a total of 13 tankers with a gross tonnage of 536,279 DWT in the first 6 months of 2022 - Turkey's largest fleet of oil product tankers. In the second half of the year, the fleet expanded to 14 tankers with a gross tonnage of 542,879 DWT.

Turkey's first private railway operator, Körfez Ulaştırma, transported 2.5 million tonnes of hydrocarbons in 2022 and played an organizational role in the transport of 250,000 tonnes of iron ore. The share of railway transport in total transport by road and rail transport rose from 62% in 2017 to 96% in 2022.

Tupras Trading Ltd continues its activities in the UK with the company maintaining its positive contribution to Tüpraş's activities with spot crude oil trading in addition to its fuel trading activities. In 2022, Tupras Trading realized a total product trade in excess of 8 million tonnes. For the needs of Tüpraş refineries approximately 10 million tons of spot crude oil purchase was made.

Tupras Trading recorded total turnover of 83 billion TL in 2022.

Entek, which is 99.23% owned by Tüpraş, achieved sales of approximately 2.7 billion kWh in 2022, with 1.5 billion kWh of this sales amount derived from production and 1.2 billion kWh being from sales made from generation from renewable energy resources. Entek became a 10% partner in WAT Mobility Çözümleri Teknoloji ve Ticaret A.Ş., a Koç Group company established in May 2022 with the mission of rolling out electric vehicle charging stations throughout Turkey.

Our business partnership, Opet rounded off a successful year with 1,857 stations and a total market share of 18.8% - 18.9% in white products and 31.4% in black products. Crowned its 30th anniversary in 2022 with 75 awards from



At Tüpraş, we focus on creating social benefit while realizing our transformation for the energy of the future.

the world's leading business awards programs, Opet broke a record that is hard to reach in this respect.

We will continue to work to produce the energy of the future

As a company that has been working with all its strength to provide the energy that our country needs since the first day of our establishment, we will continue to work to produce the energy of the future.

In line with this goal, which we see as a national responsibility, I would like to express my gratitude to our employees, business partners, shareholders and all of our stakeholders who have always been the source of our strength and always will be.

Yours respectfully,

İbrahim Yelmenoğlu
General Manager

SENIOR MANAGEMENT



İbrahim Yelmenoğlu
General Manager

İbrahim Yelmenoğlu graduated from the Faculty of Political Sciences at Ankara University in 1991 and received his MA from the University of Illinois in 2003.

Starting his career in 1987 at the Ministry of Finance, he worked on the Board of Public Auditors in 1992. In 2004, he started work at the Koç Holding Auditors Group and served as Koç Holding Auditors Group Coordinator until 2006. Following the transfer of 51% of Tüpraş's shares to Koç Holding on 27 January 2006, İbrahim Yelmenoğlu was assigned as Assistant General Manager for Financial Affairs. He was appointed as General Manager as of 1 January 2016.



Doğan Korkmaz
Assistant General Manager
(Financial)

He started his professional life with Koç Holding MT program in 1996 and started working in Arçelik Investment Finance department at the same time. He held Corporate Finance and Financial Markets Strategist positions in Arçelik until 2007. In 2007, he became Treasury and Capital Markets Manager of Arçelik. In 2009, he became Finance Director at Beko plc, Arçelik's UK subsidiary. In 2012, he became the Finance Director of Arçelik. Doğan Korkmaz graduated from Department of Business Administration at DEU in 1996. He has also completed his MBA program in Koç University in 2007 and Diploma in Global Business at Oxford University in 2013. As of 1 January 2016, Doğan Korkmaz was appointed as Chief Financial Officer of Tüpraş.



Levent Zağra
Assistant General Manager
(Investments & Planning)

Levent Zağra graduated from Worcester Polytechnic Institute, Department of Mechanical Engineering, and earned his MBA and MS in Manufacturing Systems Engineering from Cornell University.

He began his professional career at Koç Holding in the Strategic Planning Department in 1996. In 2002, he was appointed as General Manager of Promena Elektronik Ticaret. Between 2009 and 2016, he served as the Energy Group Coordinator at Koç Holding. Levent Zağra was appointed as Assistant General Manager responsible for Investments and Planning at Tüpraş in April 2016.



Özgür Kahramanzade*
Assistant General Manager
(Sales & Marketing)

Özgür Kahramanzade holds a Bachelor's degree in Mechanical Engineering from Boğaziçi University. He received his Master's degree in Management from Purdue University, Krannert Business School.

Özgür Kahramanzade began his professional career as a Management Trainee at Beko Elektronik in 1994; in 1997, he began working as a Project Engineer at Koç Holding. He joined Zinerji as Project Officer in 2000; in 2001, he started work as a Project Manager at Koç Holding. In 2005, he was appointed as Director of Marketing, Investments and Group Companies at Opet Petrolcülük, and later as Supply and Technical Assistant General Manager at the same company in 2006. Between December 2010 and April 2016, he served as General Manager of Entek. Özgür Kahramanzade was appointed as Assistant General Manager responsible for Sales and Marketing in April 2016 and as the General Manager of Opet as of 1 January 2023.

* As of 31 December 2022, Mr. Özgür Kahramanzade was replaced by Mr. Atilla Uluşu.



İhsan Serdar Kemaloğlu
Assistant General Manager
(Technical)

Serdar Kemaloğlu graduated from Middle East Technical University, Department of Chemical Engineering in 1991.

He began his professional career in 1993 as Plant Engineer at Tüpraş İzmit Refinery, where he assumed various roles including Supervisor and Chief Engineer at the Refinery's FCC, Crude Oil, Vacuum, Desulphurization and Hydrocracker Units. Serdar Kemaloğlu participated in efforts to commission the Isomerization Unit in 2002. As the Chief Process Control Engineer at İzmit Refinery, he was actively involved in the implementation of Advanced Process Controls (APC), launched in 2008. After serving as Production Manager at İzmir Refinery, he was appointed as Batman Refinery Manager in June 2013; and between October 2015 and February 2017, he served as Kırıkkale Refinery Manager. Serdar Kemaloğlu was appointed as Technical Assistant General Manager on 1 February 2017.



Atilla Uluşu
Assistant General Manager
(Crude Oil Supply & Foreign Trade)

Atilla Uluşu graduated from Lycée Saint Joseph İstanbul in 1994 and then Bilkent University Political Science and Public Administration in 1999.

He started his professional life in 2000 as Ram Algeria Regional Sales Representative and he became Regional Director in the same country as of 2002. In 2003, he was appointed as LPG Trading & Planning Responsible in Aygaz. Following this position, he became Overseas LPG Sales Responsible mainly for LPG exports to Iraq and other East Mediterranean Countries. He became Crude Oil Supply Coordinator in Tüpraş in 2017; Crude Oil Supply Manager in 2013 and Crude Oil Supply and Production Planning Director in 2015. As of 5 May 2017, Atilla Uluşu was appointed as Assistant General Manager responsible for Crude Oil Supply and Foreign Trade and as of 1 January 2023, he was appointed as Assistant General Manager responsible for Sales and Marketing.



Sarp Yeletayşı
Assistant General Manager
(Crude Oil Supply & Foreign Trade)

Sarp Yeletayşı graduated from İstanbul Boys' High School in 1997 and from Boğaziçi University Department of Industrial Engineering in 2001. He received his master's degree in Engineering Management in 2004 and PhD in Crisis and Risk Management in 2010 from George Washington University.

Mr. Yeletayşı started his career in 2001 at Mercedes-Benz Türk as the Planning Manager. During his graduate studies in the USA, between 2002 and 2004, he was a Research Assistant and worked as Business Continuity Planner at Marriott International. Between 2004 and 2006, he worked as Crisis and Risk Management Expert at George Washington University and between 2006 and 2008 as Senior Analyst and Product Manager at Coop System Inc.

As of 2009, Mr. Yeletayşı returned back to Turkey to start working at Tüpraş as a Foreign Trade Specialist. He acted as Chief, Coordinator and Director of Foreign Trade at Tüpraş and as of 2019, he was appointed as the Director of Refinery and Trade Integration at Tüpraş Trading Ltd. which is the first foreign office of Tüpraş in London.

As of 1 January 2023, Sarp Yeletayşı was appointed as Assistant General Manager responsible for Crude Oil Supply and Foreign Trade.

MILESTONES IN TÜPRAŞ'S HISTORY



1955

Batman Refinery is commissioned.



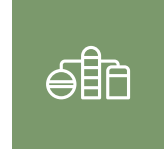
1961

İzmit Refinery is commissioned.



1972

İzmir Refinery is commissioned.



1986

Kırıkkale Refinery is commissioned.



1950s

1955

- Turkey's first oil refinery, Batman Refinery, is commissioned.

1960s

1961

- İzmit Refinery (İpraş), with a 1 million tons/year capacity, is commissioned.

1970s

1971

- The First Expansion Project of the İzmit Refinery is completed with its crude oil processing capacity reaching 5.5 million tons/year.

1972

- The İzmir Refinery, with a refining capacity of a 3 million tons/year, is commissioned.

1974

- Turkey's only lubricant production facility is commissioned as part of the İzmir Refinery.
- Deniz İşletmeciliği ve Tankerciliği A.Ş. (DİTAŞ) is established.

1980s

1982

- The Second Expansion Project at the İzmit Refinery is completed, with its crude oil processing capacity reaching 11.5 million tons/year.

1983

- İpraş and the three other refineries unites under Tüpraş.
- İpraş's 29% stake in Ditaş is acquired by Tüpraş.



1986

- The Kırıkkale Refinery, with a capacity of 5 million tons/year, is commissioned.

1987

- The İzmir Refinery Expansion Project is completed, raising the refinery's refining capacity to 10 million tons/year.

1989-2003

- Long Term Investment Plan launched.

1990s

1990

- Tüpraş handed over to the Privatization Administration.
- Management planning embraces the simulation approach.
- Production planning starts to follow the optimization model.

1991

- Some 2.5% of Tüpraş shares are offered to the public and start trading on the ISE.

1993

- Hydrocracker Complex commissioned at the Kırıkkale Refinery.
- Hydrocracker Complex commissioned at the İzmir Refinery.

1997

- Hydrocracker and CCR complexes commissioned at the İzmit Refinery.

1998

- Automatic Pricing Mechanism put in place.

1999

- Free float rises to 3.58%.



1991

Tüpraş shares go public.



2000

Tüpraş shares begin trading on the London Stock Exchange



2006

Tüpraş shares are transferred to Koç Holding A.Ş.



2000s

2000

- Following the second international public offering, 34% of Tüpraş shares begin trading on the İstanbul and London Stock Exchanges.

2001

- Petkim Yarımca Complex acquired by Tüpraş.
- İzmir Refinery's CCR Reformer and Isomerization units commissioned.

2002

- İzmir Refinery's Isomerization Unit commissioned.
- 79.98% of Ditaş shares purchased for USD 16.5 million.

2003

- Supply Option Study launched.

2004

- All refineries obtain quality and environment certifications.

2005

- Free float increases to 49%.
- The Koç-Shell Joint Venture Group wins tender for the block sale of 51% of the state-owned Tüpraş shares.
- Diesel Desulphurization Unit at İzmir Refinery commissioned.
- 100% import liberalization begins.
- Laboratory accreditation obtained.
- Refinery licenses renewed.
- Petroleum Market Law is enacted.

2006

- Tüpraş shares are transferred to Koç Holding A.Ş.
- 40% of Opet's shares acquired from Aygaz A.Ş.



2007

- Operational Excellence Program launched.
- New logo designed and corporate identity study concluded.
- CCR Reformer and Diesel Desulphurization Unit at İzmit Refinery is commissioned.
- Intranet Portal launched.
- National Marker Application launched.
- RUP investment decision taken.
- SAP System was initiated. The Company releases its corporate responsibility report (GRI) in compliance with international standards.
- Installation of flue gas measurement devices (CEMS) completed.
- Energy management units established.
- Tüpraş's Corporate Governance Rating set at 7.91.
- Transportation agreement signed with Turkish Railways (TCDD).
- Environmental, Health and Safety Policy released with management declaring its commitment to the new policy.
- Tüpraş Recognition, Appreciation and Award scheme launched.

2008

- Diesel Desulphurization and CCR Reformer units at the Kırıkkale Refinery commissioned.
- Gasoline Specifications Improvement Investment at the İzmir Refinery commissioned.
- All refineries prepared to sell diesel at Euro V standards.
- The tanker, T. Sevgi, joins the Ditaş fleet.
- Railway Transportation carried out.
- Production at Petrochemical Plant terminated and work on Residuum Upgrading Project initiated.

MILESTONES IN TÜPRAŞ'S HISTORY



2010

R&D Center opened.



2012

Tüpraş issues USD 700 million, 5.5-year maturity bond on the international market.



2013

Tüpraş issues USD 700 million, 5.5-year maturity bond on the international market.



- Advanced Process Control applications are started.
- OSAR-Risk Assessment Table launched.

2009

- Gasoline Specifications Improvement Investment at İzmit Refinery is commissioned.
- The tanker, T. Gönül, joins the Ditaş fleet.
- All gasoline products marketed in Turkey is improved in line with Euro V specifications.
- Contractor management system is activated.
- Customer Relationship Management System launched.
- Winter diesel production initiated

2010

- R&D Center opened.
- Ethical values revised.
- Master's degree courses launched jointly with universities.
- Tüpraş registered to the REACH statute.
- CE Certification obtained for bitumen products.
- World's first Cracking Catalyst in the Desulphurization Unit's reactor implemented.
- Batman Refinery awarded first prize while İzmit refinery is awarded third prize in the Industrial Energy Efficiency Competition.
- Refineries launch the Waste Management Program via SAP.

2011

- Loan agreement signed for the Fuel Oil Residuum Upgrading Project.
- İzmit and İzmit kerosene sweetening units commissioned.
- İzmit and Batman Refineries awarded first prizes in Industrial Energy Efficiency Competition.
- Corporate Governance Rating updated to 8.62.



2012

- Tüpraş issues USD 700 million, 5.5-year maturity bond on the international market.
- İzmit Refinery commissions its C3/C4 Splitter and Selective Hydro generation units.
- The tanker, T. Suna, joins the fleet.
- The tanker, T. Leyla, begins transportation activities.
- Batman Refinery ranked first in Industrial Energy Efficiency Competition.
- Corporate Governance Rating upgraded to 9.10.
- İzmir Refinery commissions its Caustic Neutralization Unit.
- İzmir Refinery inaugurates U-920 Gas Turbine and Waste Heat Boiler.
- Kırıkkale Refinery and Batman Refinery commission new bitumen tanks.

2013

- Batman Refinery awarded first prize in Industrial Energy Efficiency Competition.
- Tüpraş's Corporate Governance Rating upgraded to 9.34.
- Tüpraş obtains ISO 50001:2011 Energy Management System Certification.
- Tüpraş obtains ISO/IEC 27001:2005 Information Security Management Systems Certification.
- New bitumen tanks commissioned at the İzmit and Batman refineries.
- Aegean Region Chamber of Industry hands "Environmental Best Practice Award" to İzmit Refinery for the Base Oil Complex Burner Modernization Project.
- Heat integration project commissioned in the CCR and Benfree Units at the Kırıkkale Refinery.



2014

İzmit Refinery's RUP Facility completed.



2014

Tüpraş ranked among the top 15 companies on the BIST Sustainability Index.



2014

- İzmit Refinery's RUP Facility completed.
- T. Esra, one of the world's two largest tankers of its kind and designed to carry heavy petroleum products such as bitumen, is launched and joins the fleet. Construction of the T. Aylin tanker reaches its final phase.
- The Batman Refinery wins first prize in the category of Energy Efficient Industrial Facility in the Industrial Energy Efficiency Competition.
- The simulation program, developed after the R&D project entitled "Monitoring, Modelling, Simulation and Optimum Maintenance Planning of Exchanger Pollution to Minimize Energy Waste at the Refinery", is registered as a European Union Trademark (CTM) under the name "HexMon".
- Following an assessment carried out in accordance with the new methodology issued by the Capital Markets Board in January 2014, Tüpraş's Corporate Governance Rating is graded as 9.31.
- Tüpraş ranked among the top 15 companies on the BIST Sustainability Index, which was launched on 4 November 2014.
- The R&D Center Campus, covering an area of 12,950 m² and comprising a Design Building, a Laboratory Building and a Pilot Facility Testing Building, commences operations.

2015

- Tüpraş wins first prize under the European Business Awards for the Environment (EBAE)'s Turkish National Scheme for its project "Using Membrane Deaerated Cold Boiler Feed Water for Energy Recovery".
- The T. Aylin tanker, launched on 24 June 2014, is put into service in February 2015 and completes its maiden voyage in March.
- Tüpraş's Corporate Governance Score rose to 9.44.
- Tüpraş ranked among the top 30 companies included in the Borsa İstanbul's Sustainability Index, when BIST-50 component companies are assessed in 2015, and also in the 2014 assessment of BIST-30 component companies.



2016

- Tüpraş placed in the top three ranks in the Category-2 at the Industrial Energy Efficiency Competition, with the Kırıkkale Refinery being awarded first prize, the İzmit Refinery being awarded second prize and the İzmir Refinery awarded third prize. The Batman Refinery wins the Special Jury Prize in the Category-3 at the same competition.
- In response to the patent application for "Diesel Production Method and System", the Turkish Patent Institute issues a patent with an examination to Tüpraş, providing protection for a 20-year period.
- Groundbreaking ceremony held for the construction of a gas turbine in the first phase of the New Power Plant for the Kırıkkale Refinery.
- The HexMon brand receives design mark registration from the Turkish Patent Institute.
- İzmit Refinery's PLT-62 Greywater Treatment Unit, which treats discharge water from the İSU Körfez Wastewater Treatment Plant for industrial reuse, commences operations.
- Construction of the Kırıkkale Refinery's Wagon Maintenance and Repair Workshop, the most comprehensive workshop of its kind in Turkey, is completed and enters operation after receiving Entity in Charge of Maintenance - ECM certification on 29 September 2016.
- The Eastern Marmara Regional Directorate of Customs and Trade grants Tüpraş first Authorized Economic Operator certificate to Tüpraş in Kocaeli.
- At the Industrial Energy Efficiency Project Competition, Batman Refinery won first prize in the Category-2; meanwhile, Kırıkkale and İzmit Refineries won second and third place prizes, respectively, in the Category-3.
- Tüpraş website renewed and the Tüpraş Supplier Portal was launched.
- Tüpraş's third project was accepted into Horizon2020 with a record high score.
- The Project for Method Development for Compatibility and Stability Measurements of Crude Oil was approved by TÜBİTAK-TEYDEB as a qualified R&D project.

MILESTONES IN TÜPRAŞ'S HISTORY



2017

Körfez Ulaştırma A.Ş. becomes Turkey's first private railway operator.



2018

London Trading Office opened.



2019

Tüpraş awarded contract to sell jet fuel annually to Istanbul Airport (İGA) for 5 years.



- The European Bank for Reconstruction and Development (EBRD) extended a USD 150 million loan to Tüpraş to support the Company's energy and water efficiency efforts.
- Two new product tankers, T. Caroline and T. Nevbahar, were added to Ditaş's fleet.

2017

- With the establishment of Körfez Ulaştırma A.Ş., Tüpraş becomes Turkey's first private railway operator.
- Developed by R&D Directorate, field performance tests of high quality modified bitumen got underway.
- New F-1101 furnaces are commissioned at the Batman Refinery.
- Tüpraş R&D Center's First Catalyzer Pilot Plant was established.
- Two new product tankers, T. Semahat and T. Sadberk, were added to Ditaş's fleet.
- A USD 700 million, 7 year maturity Eurobond issue was carried out for foreign investors. The Eurobond, which carried a fixed coupon of 4.5%, was listed on the London Stock Exchange.

2018

- Completion of İzmir Refinery 7000 Unit modernization project.
- Kırıkkale Refinery New Power Plant is commissioned.
- London Trading Office opened.
- The Hydro Processing Pilot Plant is opened.
- Kırıkkale Refinery ranked first in the Category-3 at the Industrial Energy Efficiency Project Competition, with the İzmit Refinery ranked second. The Batman Refinery wins third prize in Category-2 at the same competition.
- R&D Center developed the HPNA Analysis Method.
- Corporate Governance Rating raised to 9.48.

2019

- Tüpraş awarded contract to sell 1.8 million tons of jet fuel annually to Istanbul Airport (İGA) for 5 years.
- Körfez Transportation receives five new locomotives from TÜLOMSAŞ
- Tüpraş becomes "Most Successful Turkish Industrial Organization" in Horizon2020, the EU's R&D and Innovation Program
- Three new product tankers, T. Adalyn, T. Elinor and T. Fatma join the Ditaş fleet
- İzmir Refinery awarded first prize in the Category-3 Increasing Energy Efficiency in Industry Projects Competition at the Industrial Energy Efficiency Project Competition, while the İzmit Refinery was awarded the Jury Special Prize.
- Tüpraş's Corporate Governance Rating raised to 9.50.

2020

- "Modiphal-T" project added to the product portfolio within the scope of the In-House Entrepreneurship Program.
- Long-term cooperation agreement signed with Emerald Industrial Innovation Fund, an international venture capital fund.
- London Trade Office converted into subsidiary, with the title of Tupras Trading Ltd.
- Basic Level Zero Waste Certification obtained for İzmit, İzmir, Kırıkkale and Batman refineries.
- Kırıkkale Refinery awarded second prize in the Category-3 Increasing Energy Efficiency in Industry Projects Competition at the Industrial Energy Efficiency Project Competition, while the İzmit Refinery was awarded the Jury Special Prize.
- Tüpraş's Corporate Governance Rating raised to 9.58.
- Tüpraş joins TURQUALITY® Support Program.



2020

Long-term cooperation agreement signed with Emerald.



2021

Tüpraş announces its “Strategic Transition Plan” in.



2022

Entek Elektrik Üretimi A.Ş is included in the subsidiaries portfolio.



2022

- İzmit Refinery awarded in Waste Management category at the Sustainable Business Awards 2020 for its “Industrial Symbiosis Applications”.
- Tüpraş Academy opened at the Kırıkkale Refinery.

2021

- Tüpraş announces its “Strategic Transition Plan” in line with its goal of becoming carbon neutral.
- In the Energy Efficiency in Industry Project Competition, the Kırıkkale Refinery is awarded second place and the İzmit Refinery awarded third place in Category 3; Projects Increasing Energy Efficiency in the Industry.
- In a step towards becoming a digital refinery, the “Terminal Automation System” (TAS) is commissioned at the Wagon Filling Unit of the İzmit Refinery in Region B.
- The FCC Revamp Project of İzmit Refinery Plant number 7 Unit is completed.
- ISO 45001: 2018 Occupational Health and Safety Management System Certificate is obtained.
- Körfez Transportation receives 7 hybrid locomotives ordered from the Swiss company, Stadler.
- Environmentally friendly, safe and user-friendly high bitumen emulsions added to the product portfolio with the “Emuphal-T” project carried out within the scope of the in-house enterprise program.
- Tüpraş was included in the Bloomberg Gender Equality Index, one of the World’s most comprehensive gender equality surveys.

- Within the scope of the Strategic Transition Plan, 99.24% of the shares in Entek Elektrik Üretim A.Ş. were taken over from Koç Holding and Aygaz through a partial split.
- A license agreement was signed with Honeywell for the use of UOP Ecofining™ technology with the goal of producing sustainable aviation fuel.
- The İzmit Refinery won first prize in the Energy Efficiency in Industry Project Competition Category-3 Projects for Increasing Energy Efficiency in Industry, with the İzmit Refinery being awarded third place and the Kırıkkale Refinery receiving the Special Jury Award.
- Körfez Transportation received 75 tank wagons ordered from the world’s largest wagon manufacturer, the US-based Greenbrier company.
- “Tupras Ventures” was established in September 2022 for the purpose of direct investment in start-ups.
- Tüpraş became a member of Hydrogen Europe.
- The Landfill Contactless Sales Digital Platform was commissioned.
- The commissioning of the R&D Pilot Scale Coker Unit was completed.
- The Tüpraş Sustainability Committee started its work.
- The “Asphaltic Primer” product, developed in the R&D laboratory in cooperation with TÜBİTAK SAGE, was put on sale.
- 1.67% of the shares in our business partnership, Opet Petrolcülük A.Ş., were purchased from Temel Ticaret ve Yatırım A.Ş.

DEVELOPMENTS IN 2022

ENTEK'İN %99,23 HİSSESİ TÜPRAŞ'A GEÇTİ.

Tüpraş undertook a significant investment in the field of “zero-carbon electricity” by taking over the shares in the renewable Entek.



Takeover of Entek Shares

Tüpraş undertook a significant investment in the field of “zero-carbon electricity” by taking over the shares in the renewable energy company, Elektrik Üretim A.Ş. (Entek), an affiliate of Koç Holding and Aygaz.

The process of the transfer of the shares in Entek Elektrik Üretim A.Ş. (“Entek”), an affiliate of Koç Holding A.Ş. and Aygaz A.Ş., to Tüpraş through a partial demerger was approved in the general assemblies of the companies after obtaining approval from the relevant official authorities and the transaction was initiated on 25 April 2022. After Extraordinary General Meetings held by Koç Holding, Aygaz and Tüpraş on 25 August 2022, the decision was taken that shares in Entek with a nominal value of TRY 942,727,458.04, corresponding to 99.23% of the capital of Entek, would be acquired. With the realization of the transfer transaction, another important step has been taken towards Tüpraş's 2050 Carbon Neutral Target. Following the transfer process, Entek, which owns eight hydroelectric power plant, one wind farm and one natural gas conversion power plant with a total capacity of 442 MW, joined Tüpraş as a subsidiary, while significant progress was taken towards the target of achieving an installed power generation capacity of 1 GW by 2030 and 2.5 GW in 2035 within the scope of the Strategic Transition Plan.

Tüpraş to Produce Turkey's First Sustainable Aviation Fuel

As it prepares to produce sustainable aviation fuel (SAF), Tüpraş signed a license agreement with Honeywell, one of the world's leading tech giants, for the use of UOP Ecofining™ technology, and started work on biofuel production. In the “biofuels” field, one of its four future business focus areas within the scope of the Strategic Transition Plan, Tüpraş will convert approximately 8,300 barrels of raw material waste into SAF, renewable diesel and other products each day through the Ecofining facility planned to be established at the Izmir Refinery to produce biofuels from vegetable waste and animal fats.

Biofuels obtained from raw material waste play an important role in reducing the refining sector's carbon footprint and in supporting compliance with legislation. Renewable fuels with characteristics which are largely similar to petroleum-based diesel and jet fuels can be used in existing systems in certain proportions as a substitute fuel without the need for engine modifications, and this technology will be applied for the first time in our country in collaboration with Tüpraş.



As it prepares to produce sustainable aviation fuel (SAF), Tüpraş signed a license agreement with Honeywell, one of the world's leading tech giants, for the use of UOP Ecofining™ technology, and started work on biofuel production.

Tüpraş Sustainability Committee starts activities

Tüpraş established the Sustainability Committee in September 2022 with another step taken within the scope of the Strategic Transition Plan. The Committee consists of five sub-working groups:

- The Value of Life,
- Carbon Neutral,
- ESG Excellence,
- Transformation together with People and Society,
- Sustainable Technologies.

The Sustainability Committee has undertaken a number of tasks including the following;

- * Determination of sustainability priorities, setting goals for improving and monitoring performance,
- * Ensuring alignment between strategic goals and sustainability priorities and creating predictability,
- * Providing comprehensive feedback with a holistic perspective of stakeholder expectations regarding sustainability activities and related compliance requirements



DEVELOPMENTS IN 2022

While Tüpraş's product portfolio expands with the Tüpraş Polymer Grade Propylene Production Project, which will contribute to the goal of sustainable refining, the unit will also be the unit with the longest separation column of Tüpraş.

Work continues on Tüpraş Polymer Grade Propylene Production Project

The Polymer Grade Propylene Production Project aims to separate the propylene compound in the LPG stream produced in the FCC and Delayed Coker Units with separation columns in the units to be installed in the Izmir and Izmit refineries. The basic engineering work for the project was completed by Honeywell UOP in January 2021 and detailed engineering works are ongoing. A polymer grade (99.5% purity) propylene stream will be produced is used as the raw material of many key products in the petrochemical and chemical sectors. This investment will enable Tüpraş to expand its value-added product portfolio in line with its sustainable refining goals.

The project is scheduled to be commissioned at the end of 2026.

HIDROSIMO, an In-House Enterprise Project

HIDROSIMO, which allows users to perform engineering calculations on pipelines through a web-based program, starts with the work carried out by the simulation team and continues within the scope of the In-House Enterprise Program. Tüpraş plans commercialize the product, which was rolled out in Tüpraş, and offer the product to external customers in the near future. The work, carried out by the in-house enterprise project team and IT teams, will culminate with the addition of a digital product to the Tüpraş product range.

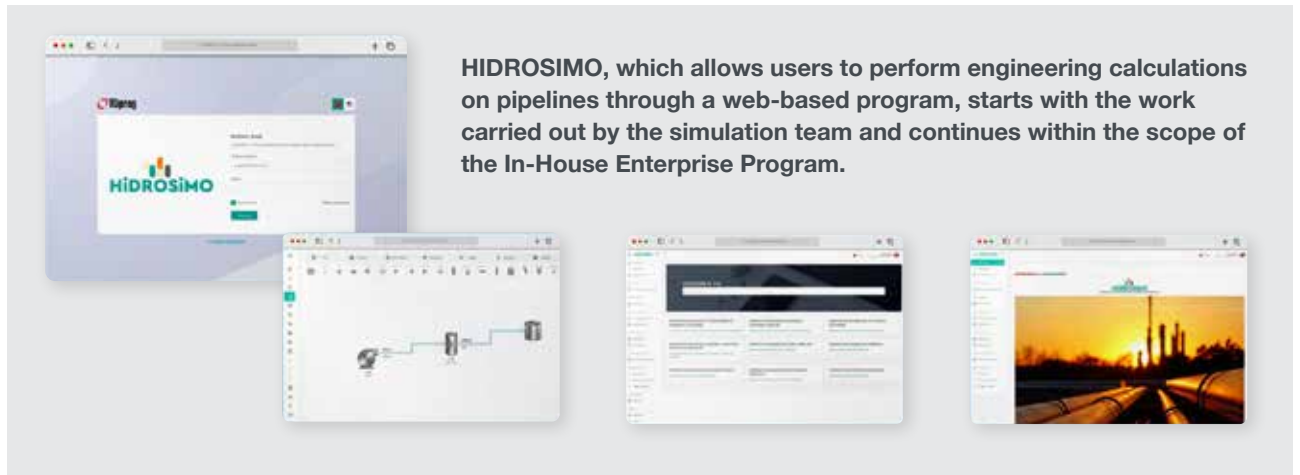
HIDROSIMO performs comprehensive engineering calculations such as pressure loss, erosion limits, velocity calculations and fluid regime analysis of fluids passing through pipelines in all business processes and units, as well as the design of instruments and control systems under one roof. In addition, the software also allows proficiency and feasibility studies of existing equipment and systems to be performed.

The high value-added product which emerged in the project, and which has been ongoing for more than one year, was implemented with the support of a team which drew the participation of employees from different departments.

Körfez Ulaştırma adds 75 new wagons to its fleet in the latest phase of its expansion

In line with its aim of supporting the development of rail transportation in Turkey, Körfez Ulaştırma continues to contribute to faster and safer transportation while strengthening its logistics operations with the addition of 75 new wagons to the fleet.

The wagons purchased from the world's largest wagon manufacturer, the US-based Greenbrier, meet the requirements of the Technical Specifications for Interoperability (TSIs) certification, the highest standard set for the railway industry within the scope of EU standards and are able to transport all white products produced in the refineries by rail, thanks to their resistance to high-pressure values.



HIDROSIMO, which allows users to perform engineering calculations on pipelines through a web-based program, starts with the work carried out by the simulation team and continues within the scope of the In-House Enterprise Program.



R&D Pilot Scale Decoiler Unit to provide significant contribution to production sustainability in the refinery

With the aim of safely and sustainably continuing the operations of the Refinery Coker unit, the Tüpraş R&D Center realised the design of the Pilot Scale R&D Coker Unit by drawing on the engineering competence which it has developed in this field. The installation and commissioning of the unit has been completed.

Possible charge which is processed or can be processed in the refinery Coker unit can be tested in this unit by simulating the coking reactions on a pilot scale in the unit, which is the first Coker unit established on a pilot scale in Turkey. With the tests carried out, potential stability problems in the charge and causes of problems related to incompatibility which may occur with the coexistence of different sources will be investigated, and solutions will be proposed. In addition, the main operational problems encountered in the refinery Coker unit, such as rapid contamination in the furnace tubes of the coking unit and hot spots will be examined in detail, supporting an improved understanding of operational risks. This process is aimed at contributing to the sustainability of production at the highest level by minimizing production losses.

More new products added to the Tüpraş portfolio

Work on the development of the “Asphaltic Primer” product carried out by Tüpraş in cooperation with TÜBİTAK SAGE since 2017 has been completed. The first sales of asphaltic primer, a product used in the defence industry to cover the inner surfaces of warheads, were realised in 2022.

Within the scope of the project, which required the development of a domestic alternative as a solution to the constraints in the supply and logistics times, the product was developed in the Tüpraş R&D laboratory, and the user-side performance tests were carried out in the TÜBİTAK SAGE laboratories and approval was obtained.

The project, which serves the sustainable refining targets of Tüpraş in line with the 2050 Strategic Transition Plan, has also contributed to the diversification of the product portfolio with products with high added value.

Work on the development of the “Asphaltic Primer” product carried out by Tüpraş in cooperation with TÜBİTAK SAGE since 2017 has been completed and the first product sale was realised in 2022.

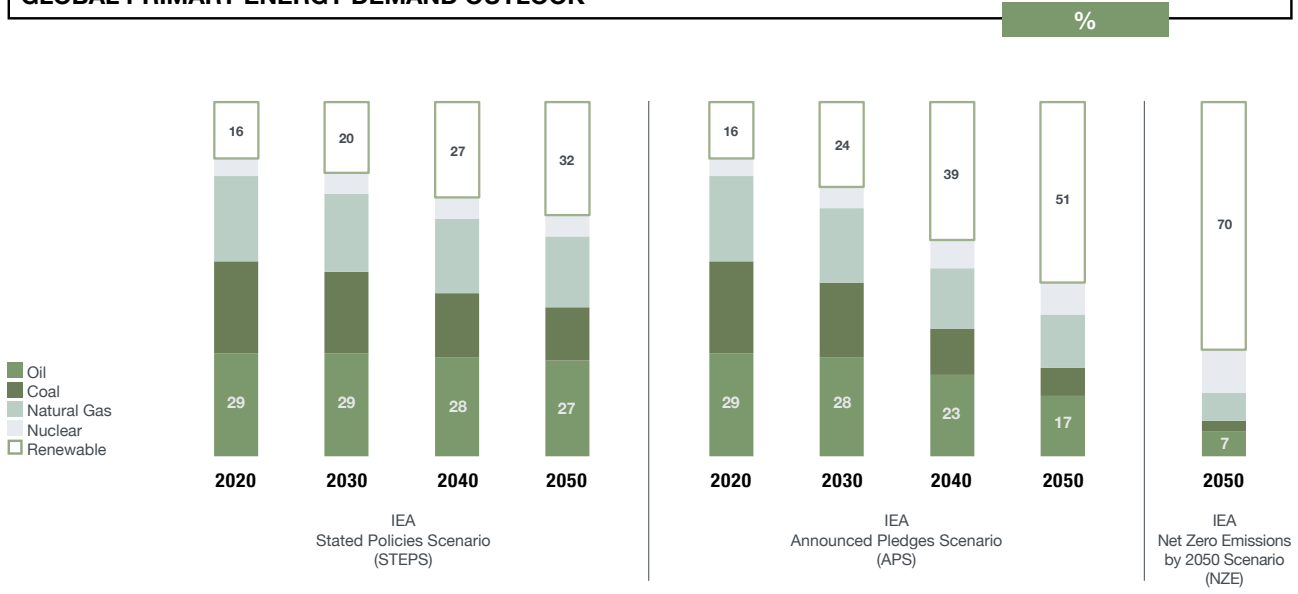


STRATEGY

The pioneer of the Turkish energy sector for the last 67 years, Tüpraş, which has been a, announced the “Strategic Transition Plan” which it has created with the aim of producing the energy of the future.



GLOBAL PRIMARY ENERGY DEMAND OUTLOOK





OUR STRATEGIC GOAL

BECOMING A LEADING ZERO-CARBON ELECTRICITY PRODUCER



In spite of the volatility in global markets, Turkey has maintained relatively strong economic foundations thanks to its important demographic advantages. With an awareness that demographic dynamism can only turn into a real advantage by directing new generations to more productive and high-value-added areas, Tüpraş aims to constantly improve its efficiency and productivity. In this context, Tüpraş has set its primary goal as meeting the increasing and diversifying energy needs of a developing Turkey safely and without interruption by undertaking continuous improvements in areas such as sustainability and Environment, Social and Governance (ESG).

Tüpraş is pressing head in its process of tackling the climate crisis and transitioning to a low carbon economy in parallel with the vision put forward by Koç Holding. In this respect, Tüpraş, which has been a pioneer of the Turkish energy sector for the last 67 years, announced the “Strategic Transition Plan” which it has created with the aim of producing the energy of the future. Tüpraş aims to lead the transformation of the Turkish energy sector by investing in new areas which support the transition to a low-carbon economy while managing its existing assets with a sustainable profitability approach within the framework of its Strategic Transition Plan. In line with this plan, Tüpraş has embarked upon the process of transforming itself into a carbon neutral energy company with a balanced and diversified clean energy portfolio.

“A new global energy economy is emerging”

The International Energy Agency observes the commitments announced by countries in the Announced Pledges Scenario. According to the Announced Pledges Scenario, a new global energy economy is emerging as zero-carbon energy sources, electric vehicles and other low-carbon technologies come to the fore all over the world. In 2021, 21% of the world’s energy supply was provided by renewable resources, including nuclear and biomass, while the share of fossil fuels was 79%. The share of oil, which was 29% in 2021, will decrease to 17% in 2050 according to the IEA’s Announced Pledges Scenario, while the share of renewable resources, including nuclear and biomass, in energy supply will increase to 60%.

Although specialized organizations have a wide array of scenarios for the future of the energy market, there is a general consensus that while the dominant position of oil will be gradually replaced by low-carbon alternatives, oil will continue to be one of the most important sources of energy for many years to come.

STRATEGY

“2030 to be an important turning point for the Turkish energy sector”

With an awareness that the “Green Transformation”, which has recently started to gain momentum, offers a number of opportunities in achieving its goals, Tüpraş is in a unique position with its proximity to the EU, which is at the heart of the green transformation, on the one hand, and with the continued growth of demand in the domestic market on the other.

Electric vehicles are expected to lead sales of new passenger vehicles from the beginning of the 2030s, and will become the dominant powertrain before 2040. The use of hydrogen as a fuel is expected to enter a gradual growth process from 2030 and gain more rapid momentum after 2040.

In our country, which is home to one of the world’s leading aviation sectors, approximately 10% of aviation fuel is expected to consist of SAF by 2030, while synthetic and hydrogen-based fuels are expected to be included in this pool in the longer term. In view of these expectations, the consumption of fossil fuels in Turkey is predicted to peak in 2030. After 2030, demand for diesel, in particular, will gradually start to be replaced by hydrogen and electric vehicles. Despite this, the current domestic refining capacity for the production of diesel, a large proportion of which is currently imported, will be needed for some considerable time to come.

Our Energy for the Future: Leadership in the clean energy transformation of the Turkish energy sector

The Tüpraş of the future will fly the banner of “Our Energy is for the Future” by catering to a sustainable world and the balance of life. Meanwhile, a road map has been determined in which products and services will be transformed in a manner that will meet the expectations of all stakeholders.

As part of its roadmap, Tüpraş plans to obtain the resources required for transformation from its existing assets, while rendering its refining operations more sustainable through the investments in energy efficiency, increased productivity and value-added products it will carry out in these areas. In addition, in the first period of the plan, the majority of new energy investments are planned to be directed to the zero-carbon electricity facilities needed to establish an integrated business model with green hydrogen production. Following the installations of electrolyser capacities required to produce green hydrogen, it is planned to convert all existing grey hydrogen to green in all production processes. The biofuel production facility investments carried out in parallel with these studies will help Tüpraş achieve its target of being Turkey’s leading SAF producer.

Under this plan, Tüpraş aims to achieve 27% reduction in Scope 1 and 2 emissions from production activities by 2030 compared to its 2017 levels with 35% and 49% reductions by 2035 and 2040 respectively with ongoing investments, while maintaining its activities as a carbon neutral energy company up until 2050.

TÜPRAŞ FOCUSES ON FOUR BUSINESS AREAS UNDER THE STRATEGIC TRANSITION PLAN.



MAKE EXISTING ASSETS MORE COMPETITIVE AND PROFITABLE TO FUND THIS TRANSITION



SUSTAINABLE REFINING

INVESTING IN NEW AREAS WHICH SUPPORT OUR SUSTAINABILITY APPROACH



BIOFUELS



ZERO CARBON
ELECTRICITY



GREEN
HYDROGEN



Sustainable Refining – As refining, currently the beating heart of our activities, becomes the driving force of the transformation

By concentrating on projects focused on reducing emissions in refining or investments which will offer a short-term return, more valuable products will be produced with lower emissions with existing assets. Within the scope of energy efficiency activities being carried out at Tüpraş's refineries, 52 energy efficiency projects were realized in 2022, achieving an annual reduction of 73,199 tonnes in CO₂ emissions and annual energy savings of 315,515 Gcal.

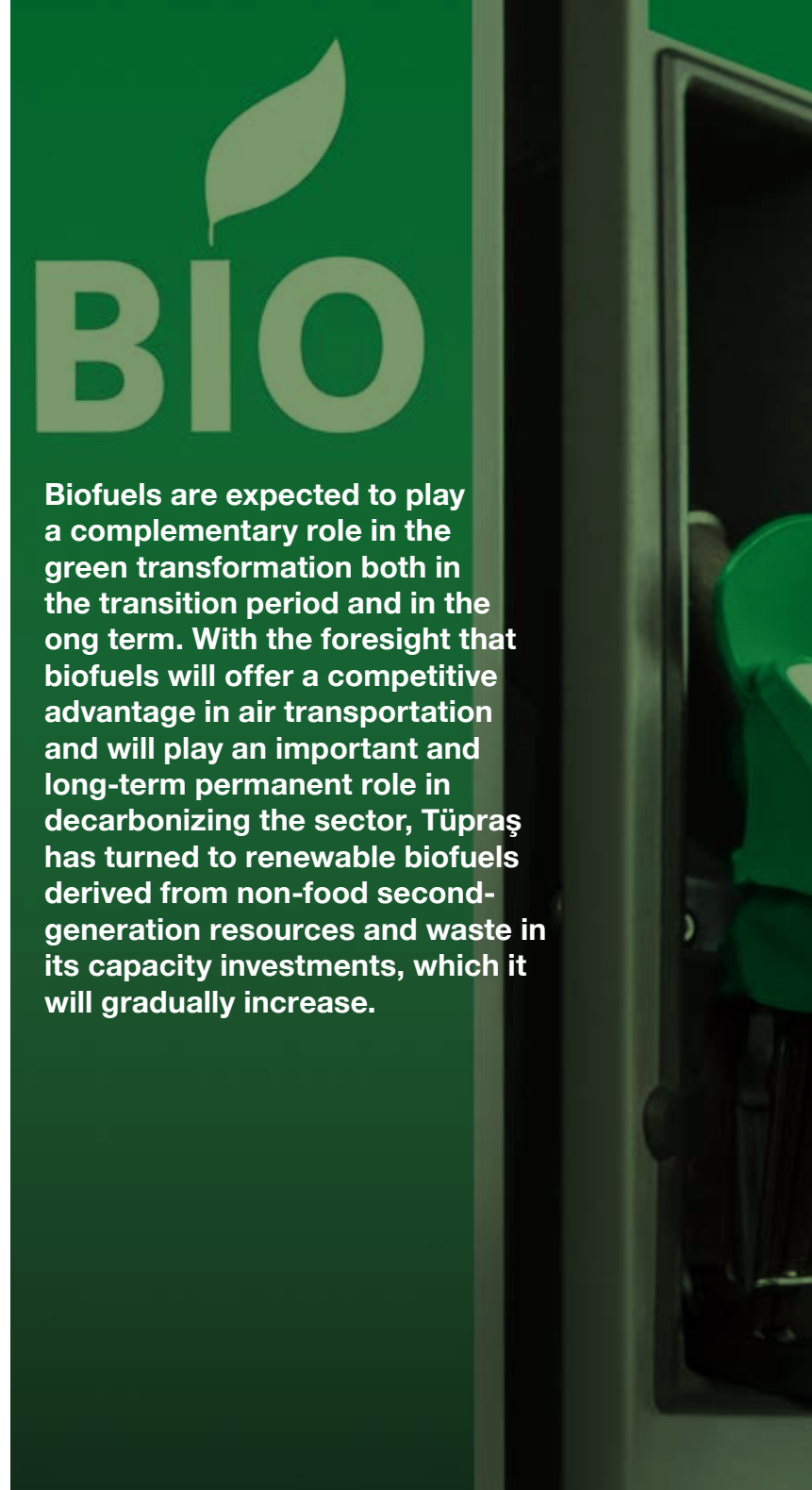
Refining, which is the beating heart of Tüpraş, will also serve as the driving force of this transition. Tüpraş plans to spend approximately USD 2.3 billion on energy efficiency, modernization, decarbonization and value-added product production projects until 2035. Refining is projected to account for 90% of the Company's EBITDA until 2030, falling to 70% between 2031 and 2035. While Tüpraş aims to direct a large proportion of the income obtained from refining activities to new investment areas and to reduce its carbon footprint, with a total of USD 5 billion allocated for investment to 2035, Tüpraş aims to maintain the current dividend distribution policy which it has been pursuing for many years. Its new business model envisages an average dividend payout ratio of 80%.

Biofuels - Becoming the leading Sustainable Aviation Fuel (SAF) producer in Turkey

In its Announced Pledges Scenario, the International Energy Agency predicts that biofuel consumption will increase five-fold by 2050 compared to 2021. Biofuels are expected to play a complementary role in the green transformation both in the transition period and in the long term. With the foresight that biofuels will offer a competitive advantage in air transportation and will play an important and long-term permanent role in decarbonizing the sector, Tüpraş has turned to renewable biofuels derived from non-food second-generation resources and waste in its capacity investments, which it will gradually increase.

By focusing on SAF, Tüpraş will remain the biggest supporter and business partner of the aviation sector, one of the leading sectors in our country on a global scale, both now and in the future, and will also contribute significantly to meeting its targets on cutting emissions. Tüpraş aims to process 400,000 tonnes of plant and animal based waste raw materials in 2030 following a raft of investments which will continue until 2035. Tüpraş plans to triple its SAF production capacity after 2035.

Tüpraş signed a license agreement with Honeywell UOP, one of the world's leading technology companies, for the use of Ecofining™ technology at the İzmir Refinery in 2022. With the facility that will be established, Tüpraş plans to convert 400,000 tons of vegetable and animal-based waste raw materials into SAF, renewable diesel and other products annually. The preliminary engineering work of the SAF production facility, which is planned to be commissioned in 2027, was completed, and detailed engineering studies are ongoing.



Biofuels are expected to play a complementary role in the green transformation both in the transition period and in the long term. With the foresight that biofuels will offer a competitive advantage in air transportation and will play an important and long-term permanent role in decarbonizing the sector, Tüpraş has turned to renewable biofuels derived from non-food second-generation resources and waste in its capacity investments, which it will gradually increase.

STRATEGY

According to the International Energy Agency's Announced Pledges Scenario, it is predicted that global electricity consumption will approximately double by 2050 when compared to its 2021 level.

Zero Carbon Electricity

According to the International Energy Agency's Announced Pledges Scenario, it is predicted that global electricity consumption will approximately double by 2050 when compared to its 2021 level. Electricity will play a key role in the energy sector, both in meeting future energy needs directly and more efficiently, and as the main input in the production of green hydrogen. While establishing the capacities to meet the prospective increase in demand for electricity, Tüpraş will only use zero-carbon resources in line with its approach towards tackling climate change. Tüpraş plans to sell electricity periodically to optimize and provide zero-carbon electricity to consumers, while using the bulk of the electricity generated in the facilities which it will build to produce green hydrogen for integration purposes. Tüpraş aims to become one of the leading companies in the field of zero-carbon electricity, reaching an installed capacity of approximately 1 GW in 2030 and 2.5 GW in 2035 with a combination of generation and potential purchases during the electricity transformation.

The Entek company had owned eight hydroelectric plants, one wind farm and one natural gas cycle power plant with a total capacity of 442 MW. In 2022, Tüpraş acquired Entek as an initial step towards its aim of becoming the leader in Turkey's zero-carbon electricity generation. Entek currently has a capacity of 442 MW. Entek applied to the Energy Market Regulatory Authority under the Regulation on Storage Activities in the Electricity Market, which was published on 19 November 2022, for a pre-license. The purpose for the pre-license application was to establish a storage facility in addition to its existing capacity with an additional capacity of 1,461.5 MW through a total of 22 projects, including a 190 MW capacity solar power plant and a wind farm with a capacity of 1,271.5 MW. The takeover of Entek shares marked a significant milestone for Tüpraş in achieving the installed capacity goals it set out in its Strategic Transition Plan. Meanwhile, work on the installation of solar and wind power plants at the refineries has got underway. Tüpraş signed the construction contract for the 12.58 MW capacity solar power plant in September. Tüpraş has applied for the construction of an additional 54.4 MW in capacity.

Green Hydrogen

According to the International Energy Agency's Announced Pledges Scenario, hydrogen is expected to be used most intensively in the transportation industry. Hydrogen consumption is projected to start growing on a significant scale in 2030, and grow by ten-fold by 2050 compared to its 2030 level. Tüpraş currently uses hydrogen in its refinery processes and is the largest producer of hydrogen in Turkey. The focus will be on producing green hydrogen through electrolysis, which stands at the forefront of zero emission hydrogen production methods.

Tüpraş targets the following;

- In the area of green hydrogen, viewed as the fuel of the future, production will get underway with the installation of a 20 MW electrolyser. Tüpraş plans to gradually increase its installed electrolyser capacity to 400 MW by 2030 and start selling green hydrogen in the field of logistics and heavy transportation from 2030. It is to operate in different areas in the green hydrogen value chain. Tüpraş will serve a wide range of sectors, especially transportation, and become a multifaceted player by seizing export potential.
- After the 1 GW electrolyser capacity is reached in 2035, Tüpraş targets zero carbon emissions arising from hydrogen production by 2040 with the installation of additional capacity.

Tüpraş continues to work on the installation of a 20 MW electrolyser. Negotiations were held with electrolyser manufacturers in 2022. Work on preparing the preliminary engineering specification documents is continuing.



HIGHLIGHTS

USD 10 billion

Within the scope of its Strategic Transition Plan, Tüpraş aims to invest a total of approximately USD 5 billion by 2035, and USD 10 billion by 2050 with an annual average investment of USD 350 million.

USD 1.3 billion

The investments are expected to pave the way for an increase in EBITDA to USD 1.3 billion by 2030 - 30% higher than the average over the last 5 years. With the support of its investments in new areas, the company plans to maintain an EBITDA of USD 1.3 billion in 2035 as the transition to new products intensifies.

30%

New lines of business including SAF, green hydrogen and zero carbon electricity sales are expected to account for 30% of EBITDA by 2035.

80%

New business model that the Company initiates, enables to pay an average of 80% of its distributable profit as dividends.

USD 50 million

Tüpraş plans to invest USD 50 million in the venture capital field until 2030, as part of its investments in new technologies and business models in the energy transformation.

ESG performance

Having continuously improved its overall performance in the Environmental, Social and Governance (ESG) categories, Tüpraş is also planning to benefit from burgeoning ESG focused funding opportunities which have recently emerged in light of the new roadmap.

ACHIEVEMENTS AND AWARDS

Tüpraş concluded the EU's R&D and Innovation Program, HORIZON2020, as the Most Successful Turkish Industrial Enterprise through the incentives it was granted.

- Tüpraş was the only Turkish company to be included in Bloomberg's "50 Companies to Watch in 2022" list.
- Tüpraş concluded the EU's R&D and Innovation Program, HORIZON2020, as the Most Successful Turkish Industrial Enterprise through the incentives it was granted.
- Tüpraş maintains its position in a wide range of national and international sustainability indices including BIST SE (Refinitiv), S&P Global, MSCI ESG Rating, FTSE4Good, Sustainalytics and Vigeo Eiris (Moody's) and Bloomberg Gender Equality (GEI).
- Gamze Albayrak, who worked as a field worker in the Tüpraş İzmit Refinery, received an award in the "Out of the Box Women" category at the Turkey's Leading Women Awards presented by the Dünya Newspaper.
- In the Women-Friendly Brands Platform, Tüpraş won first place in the "Gender Equality Awareness" category in the Women-Friendly Brands 2022 Awareness Awards in recognition of its project, "Our Energy For Equality".
- Providing a significant contribution to the Turkish economy with its achievements in production and exports, Tüpraş ranked first in the "Chemicals and Products Sector" category and third in the general ranking in the Export Champions announced by the Turkish Exporters Assembly (TIM).
- Tüpraş received an award in recognition of its leadership in the "Chemicals and Products" sector in the "Strong Women of Export" award program organized by the Turkish Exporters Assembly (TIM).
- The Tüpraş Academy and Technical Safety and Environment Directorate buildings within the Kırıkkale Refinery were awarded the LEED Gold Certificate, as Tüpraş transforms its activities and business processes to ensure that they are environmentally friendly for a sustainable future.
- Carrying out work in preparation for the production of "Green Hydrogen" in its focus business areas within the framework of the Strategic Transition Plan, Tüpraş became a member of "Hydrogen Europe", the leading stakeholder organization in the European hydrogen market.
- Tüpraş' İzmir Refinery was handed the award for the "Fastest Growing Port Facility in terms of Cargo Handling" in the 2nd





Turkish Maritime Summit organized by the Ministry of Transport and Infrastructure.

- The **Izmit Refinery** won first prize in the “Energy Efficiency in Industry Competition (SENER-22)”, held by the Ministry of Energy and Natural Resources, in recognition of its project “Increasing Availability in Energy Recovery Equipment”. The **İzmir Refinery** won the third prize with its “U-921 Waste Heat Boiler HP-LP Mix Economizer Package Energy Saving with Retube Process” project and the **Kırıkkale Refinery** won the special jury award for its “Energy Saving Work”.
- The CEO of Tüpraş, İbrahim Yelmenoğlu, was named “Best CEO” and the CFO of Tüpraş, Doğan Korkmaz, was named “Best CFO” in the survey carried out by Institutional Investor, covering developing countries in Europe and the Middle East and Africa (EMEA) region, which recognised the best management teams. The Tüpraş Investor Relations team was selected as having the energy sector’s “Best Investor Professionals” in the survey, while Tüpraş was ranked first in the “ESG” category and evaluated as the “Best Company in Investor Relations”.

- Tüpraş won the third best “In-House Enterprise Project” award with the “Protrack/ SecureLogistics” project in the fourth “Corporate Enterprise Awards”, which was organized by Özyeğin University Entrepreneurial Institutions Platform and Fast Company Türkiye.

- The Tüpraş Corporate Publication Refined Magazine was the winner of the “Best Corporate Publication” category for the second time at the Stevie International Business Awards in 2022.



Social Gender Equality

- Tüpraş announced its commitment to gender equality in the field of technology and innovation in line with Koç Holding’s global leadership at the United Nations Women’s Generation Equality Forum.
- Tüpraş has pledged to train 100,000 female students within the space of five years within the scope of the “Women in Technology and Innovation Program” which it has developed as well as the educational projects which will unleash the potential of women working in STEM fields while encouraging the development of women-driven technologies. The first step in the program was taken in collaboration with Batman University.
- Tüpraş aims to increase the proportion of women working in the Engineering, R&D, Innovation, Service Design, and Information Technologies departments from 23% to 40%, and to increase the proportion of women employees to 50% when hiring new personnel.

INVESTOR RELATIONS

Tüpraş's annual stock return outperformed BIST 30 Index by 50%

Europe was facing an energy crisis as soaring natural gas costs in the region dominated the agenda in the last quarter of 2021. Undoubtedly, the most important development in 2022 was the rise in geopolitical tensions between Russia and Ukraine and the fallout of the war in the region, escalated by Russia's invasion on 24 February 2022. This significantly affected supply-demand balances in the energy sector. The decisions taken to impose sanctions on Russia precipitated concerns surrounding supply in the oil market, setting Brent crude oil prices and refining product cracks on a fluctuating course. Fears of recession stoked by the inflationary environment were another factor affecting market dynamics. Supply constraints resulting from a rise in demand as the effects of the pandemic receded supported refining margins.

In 2022, Tüpraş pressed ahead with its investments in new areas which would support sustainability approaches within the scope of its Strategic Transition Plan. Entek Elektrik Üretim A.Ş. of its capital with a nominal value of 942,727,458.04 TL, which corresponds to 99.23% acquisition of shares by partial division has been an important step in the zero-carbon electricity business line. Tüpraş explored the opportunities in the field of

sustainable aviation fuel and hydrogen and also maintained its goal of leading the transition of the energy sector in Turkey and transforming itself into a carbon neutral energy company.

Achieving increased operational profitability following the pandemic, Tüpraş rounded off 2022 with a market value of TL 146 billion, approaching historic high levels.

In line with the CMB's Principles on Corporate Governance, Tüpraş aims to provide timely, accurate, complete, clear and easily accessible information, provided that it does not include trade secrets. The Company ensures that the principles of equality, transparency, accountability and responsibility are respected when distributing such information.

Corporate information, reports, historical and related period financial statements and activities and material event disclosures required by investors can be accessed through the Investor Relations section of the Company's corporate website (www.tupras.com.tr).

Annual General Meeting

The Annual General Meeting of Tüpraş for the year 2022 will be held on Wednesday, 8 March 2023 at 10:00 am at the address of Güney Mahallesi, Petrol Caddesi No: 25 Körfez/Kocaeli.

Annual General Meeting agenda items, financial statements pertaining to the 2022 operation year, the Independent Audit Report, the proposal regarding the distribution of profit, the Annual Report, which also includes explanations on Compliance with the Corporate Governance Principles and Sustainability Principles and Informative Notes which includes necessary explanations for compliance with the Capital Market Board regulations will be made available at the Company Headquarters, on the Company corporate website (www.tupras.com.tr), on the Public Disclosure Platform (PDP), on the e-company portal of Merkezi Kayıt Kuruluşu (Central Securities Depository) and in the Electronic General Assembly (EGA) System three weeks prior to the meeting within its legal duration.



Providing Information

In 2022, the company attended a total of 10 conferences and two roadshows in the USA, the UK, Poland, the Czech Republic and Turkey. The company held over 400 one-to-one meetings with fund managers and analysts. In addition to the meetings, the company responded to written and verbal questions coming from domestic and foreign institutional investors, domestic individual investors and analysts. Investors were informed about Tüpraş and the sectoral developments through teleconferences organized quarterly with the participation of the CFO.

Investor Composition in the Tüpraş Shares

46.8% of the Tüpraş shares are traded at Borsa İstanbul (BİST). Diversity and richness of investor portfolio are considered as an important indicator of trust and stability from investors' perspective. As an indicator of this, the share of the international institutional investment banks, funds and foreign institutions in the publicly traded shares of Tüpraş stood at 43% as of the end of 2022.



DISTRIBUTION OF DOMESTIC/FOREIGN OWNERSHIP OF TÜPRAŞ SHARES

%

46.8% of the Tüpraş shares are traded at Borsa İstanbul (BİST).

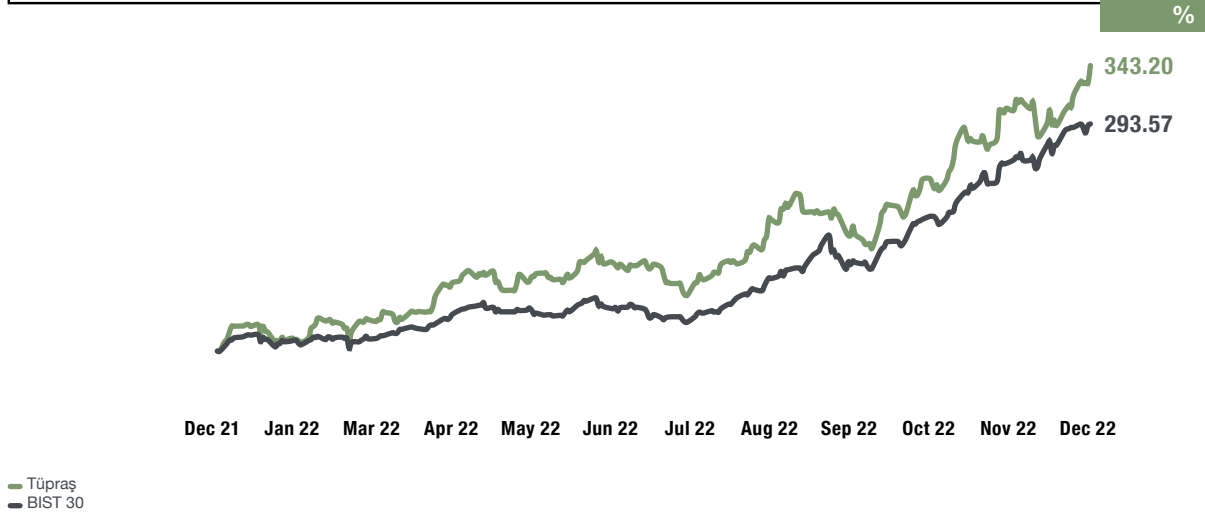


■ Domestic Ownership 57.47
■ Foreign Ownership 42.53



INVESTOR RELATIONS

TÜPRAŞ AND BİST-30 RELATIVE SHARE PERFORMANCE IN 2022



Performance of Shares and changes in Market Value

Product margins increased throughout 2022, allowing Tüpraş to notch up a significant recovery in its profitability. The rise in profitability coming on the back of a stronger operational performance and the steps Tüpraş has taken in new business lines in parallel with its long-term strategic plan were also positively reflected to its share price performance. Tüpraş shares outperformed the BİST 30 index by 50% in terms of their annual return performance.

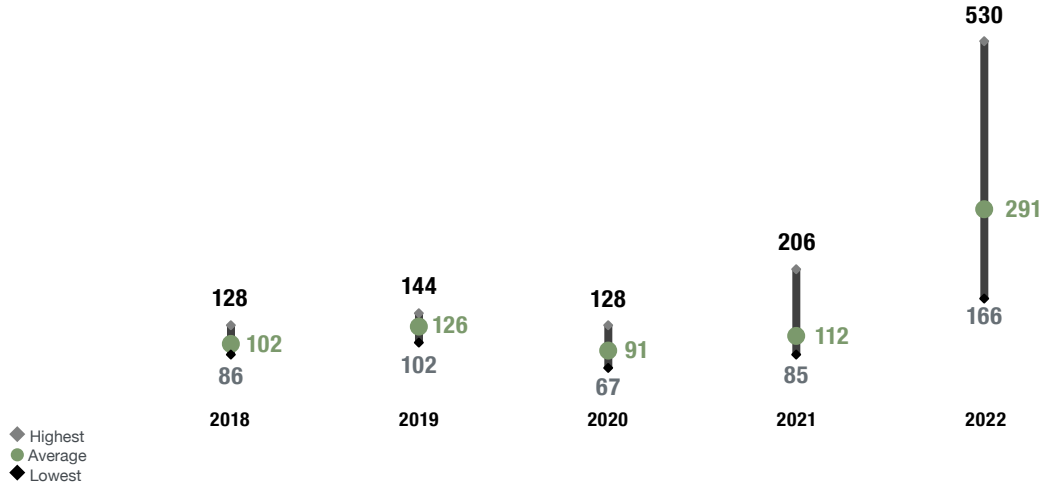
In 2022, the Russia-Ukraine war led to serious fluctuations in mid-distillate margins in particular, leading to a performance which was above historic levels. Gasoline product margins also followed a volatile course in response to regional demand conditions and recession worries, but like mid-distillate product margins, were significantly higher than their historic averages. Thanks to a combination of higher product margins, an increased capacity utilization rate and a widening in the price gap between heavy and light crudes, Tüpraş was able to significantly boost its profitability in 2022. The company also managed to increase its market value compared to both 2020 and 2021, rounding off 2022 with a market value of TL 146 billion – an increase of 277% in TL terms compared to the end of 2021, when its market value stood at TL 39 billion. As of 1 September 2022, as a result of the new shares issued for the takeover of Entek Elektrik, the paid-in capital of Tüpraş increased from TL 250,419,200 to TL 275,256,514.

Tüpraş managed to increase its market value, rounding off 2022 with a market value of TL 146 billion



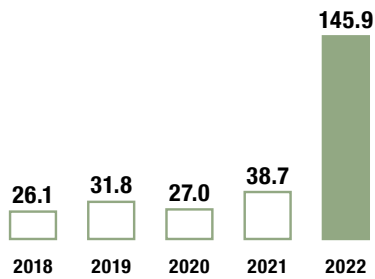
TÜPRAŞ STOCK PRICE TREND

(TL/Share)



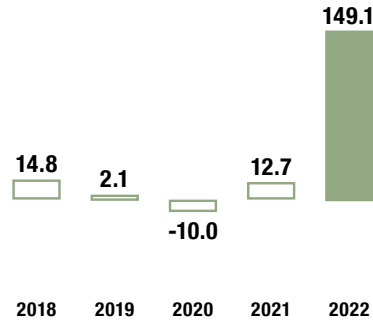
MARKET CAPITALIZATION

TL billion



EARNINGS PER SHARE

TL



The BIST Sustainability Index

The BIST Sustainability Index (XUSR), which was created by Borsa İstanbul in November 2014 and which includes companies with a high level of corporate sustainability, provides companies with the opportunity to improve their corporate transparency and accountability as well as their risk management skills with regard to sustainability issues, in addition to assessing the companies' economic, environmental and social performances.

Tüpraş was incorporated into the BIST Sustainability Index in 2014 when the index, which assesses BIST-listed companies on the basis of their compliance with international sustainability criteria, was created. As a result of the assessment conducted by Refinitiv in 2022 within the scope of the BIST Sustainability Index, Tüpraş's rating was determined as 66.91.

As a result of the assessment conducted by Refinitiv in 2022 within the scope of the BIST Sustainability Index, Tüpraş's rating was determined as 66.91.

INVESTOR RELATIONS

Credit Ratings

Tüpraş's financial and operational performance is closely monitored by international credit rating agencies.

In 2022:

- In its latest update, Fitch Ratings confirmed Tüpraş's long-term foreign currency credit rating as "B" and upgraded its outlook from "negative" to "stable".
- Moody's Investors Service lowered Turkey's long-term country credit rating from B2 to B3 with a stable outlook, and revised the country borrowing ceiling in foreign currency from B2 to B3. Moody's Investors Service stated that Tüpraş's credit

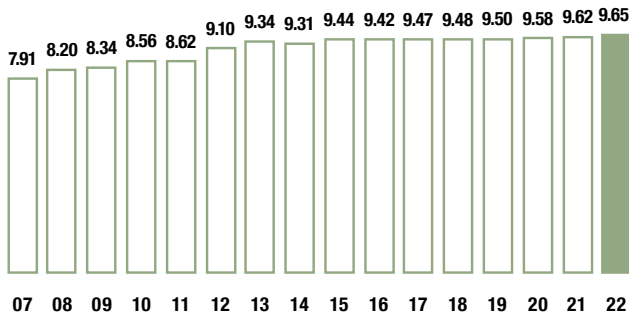
rating was limited to the country's borrowing ceiling. Moody's lowered its long-term credit rating for the Company from "B2" to "B3" and revised its outlook from "negative" to "stable".

- JCR Eurasia Rating determined Tüpraş's long-term national rating as "AAA (tr)" - the highest possible rating - and its short-term national rating as "J1+ (tr)" with a "stable" outlook. In the assessment, Moody's determined Tüpraş's long-term international rating in foreign and local currency as "BB" with a "negative" outlook.

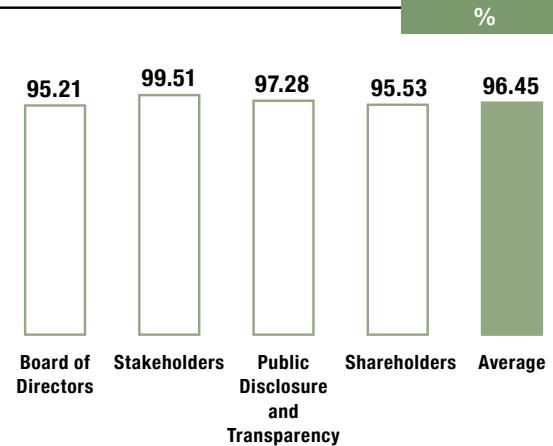
COUNTRY CREDIT RATING

Credit Rating Agency	Last Update	Rating Type	Credit Ratings	Outlook
Fitch Ratings	October 2022	Long Term Corporate Credit Rating	B	Stable
	July 2022	Long Term Corporate Credit Rating	B	Negative
	February 2022	Long Term Corporate Credit Rating	B+	Negative
Moody's Investors Service	August 2022	Long Term Corporate Credit Rating	B3	Stable
JCR Eurasia Rating	December 2022	Long Term National Credit Rating	AAA (tr)	Stable

CORPORATE GOVERNANCE RATING SCORE



CORPORATE GOVERNANCE RATING COMPOSITION





Tüpraş's financial and operational performance is closely monitored by international credit rating agencies.



Corporate Governance at Tüpraş

The Company's Corporate Governance Rating, which had been determined as 7.91 on 8 October 2007 in the Corporate Governance Index, which Tüpraş was included into in 2007, has improved over the years. The Corporate Governance Rating Score rose to 9.65 in 2022.

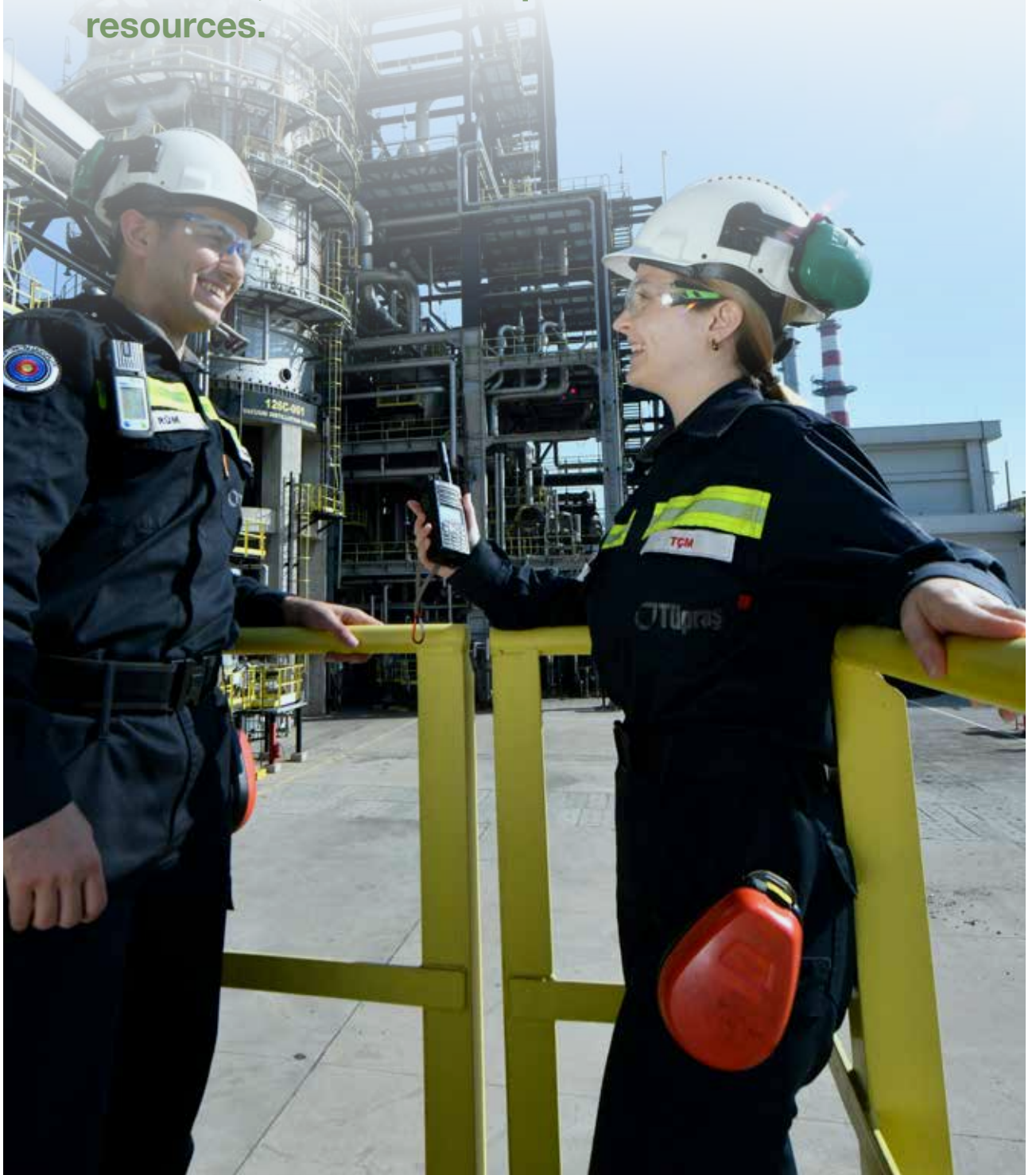
SAHA Kurumsal Yönetim ve Kredi Derecelendirme Hizmetleri A.Ş. outlined the factors affecting the rating upgrade under the heading of the Board of Directors as follows.

- The damage to be caused to the company by faults of the members of the board of directors during their duties being insured at a price exceeding 25% of the company's capital. This matter is disclosed on the Public Disclosure Platform,
- The Working Principles of the Board of Directors and how meetings of the Board of Directors to be held are written down.

According to the World Corporate Governance Index published by SAHA Kurumsal Yönetim ve Kredi Derecelendirme Hizmetleri A.Ş. on 8 October 2019, Tüpraş was placed in the 1st group. This index ranks the countries both according to their level of compliance with corporate governance principles and the level of development of their institutions in relation to corporate governance.

“

Tüpraş has creative, dynamic, expert, highly motivated, effective and qualified human resources.



HUMAN RESOURCES

As a world-class refiner and the largest industrial company in Turkey, Tüpraş aims to maintain its place as a preferred workplace in the sector. The Company has creative, dynamic, expert, highly motivated, effective and qualified human resources and is becoming stronger with every passing day thanks to its development programs. As in other companies of the Koç Group, the philosophy of “Our Most Valuable Asset is Our Human Resources” constitutes the essence of Human Resources Policy also at Tüpraş. Tüpraş places priority on the issue of creating inclusive workplace conditions and offering equality of opportunity. In this context, practices which adopt equality of opportunity are implemented to prevent all kinds of discrimination in the workplace and to increase the employment of women at all levels. Declaring that “Our Energy For Equality”, Tüpraş has also been supporting the “HeForShe” movement of the UN Women, which since 2015 has been calling on men from all over the world to be the advocates of gender equality standing shoulder to shoulder with women. Tüpraş signed the United Nations Women’s Empowerment Principles (WEPs) in 2017 and announced its goal of being an inclusive and equitable workplace in the energy sector to its stakeholders, while developing in-house practices in this regard. The Company also carries out pioneering projects which will raise awareness in this field and trigger transformation in the community. With this approach, the Company aims to contribute to “Gender Equality”. At the same time, the “Diversity, Equality and Inclusiveness Committee” was established at Tüpraş in 2021 in order to manage its activities more systematically and in a planned manner with the goal of creating a workplace environment which supports diversity, equality and inclusion. Tüpraş aims to implement the principles that it specified specifically by the Committee, monitor them through audits and create a living organization culture in this regard. As a result of these efforts, Tüpraş was included in the Bloomberg Gender Equality Index in 2021 and published its Diversity, Equality and Inclusion Policy in 2022.

The outlines of its basic applications within the framework of the Tüpraş Human Resources Policy are summarized below:

- Recruitment criteria are determined and announced in writing, and these criteria are compiled within recruitment. Tüpraş aims to attract qualified candidates with high potential, who will take Tüpraş forward.



As a world-class refiner and the largest industrial company in Turkey, Tüpraş aims to maintain its place as a preferred workplace in the sector.



- Task definitions and distributions and performance criteria were determined by the company management and announced to the employees.
- A safe working environment is provided for employees, and efforts are undertaken to ensure continuous improvement of the conditions.
- In the training and in rotation and promotion decisions, attention is paid to the use of objective data.
- Great importance is attached on performing training for the development of the professional knowledge and skills of the employees and their personal skills.
- Decisions taken regarding employees or developments concerning them are announced to the employees.
- The employees are informed of the Company’s financial situation, wages, careers, education, health care and other matters that concern them.
- There are recognition and reward systems that support both the short and long-term success of all employees, and which provide awareness of performance and value created.
- Decisions that may affect employees are communicated to them and their representatives.

HUMAN RESOURCES

Tüpraş set out its long-term human resources plans in line with the objectives of inclusion of employees who will best accomplish the Company's goals, increasing their leadership capabilities, developing their scientific and operational competencies through continuous training, and making the right career plans.

- The Company supports the freedom to establish an association and the effective recognition of the right to collective bargaining agreements.
- There is no application of assigning an indirect representative outside the Human Resources teams to carry out relationships with the employees.
- Working models are updated in line with the requirements of the work and future expectations, and any model that will improve the quality or efficiency of the work may be applied.
- There is no discrimination among employees; a fair, objective and transparent Human Resources Policy is ensured.

Tüpraş set out its long-term human resources plans in line with the objectives of inclusion of employees who will best accomplish the Company's goals, increasing their leadership capabilities, developing their scientific and operational competencies through continuous training, and making the right career plans. The human resources processes created within this scope are managed with great care in line with Tüpraş's corporate goals and are structured in a way to be supported by technological infrastructure to strengthen the employee experience. Within the framework of the Human Resources Policy, the Human Resources teams ensure that candidates are selected in accordance with the qualifications of the position, consideration of employee competencies, that evaluations are performed with the appropriate evaluation tools without discrimination and that employees benefit from opportunities equally during their working lives after being recruited.

Tüpraş uses contemporary, inter integrated systems that enable the production of business results in all human resources processes, from the recruitment process to the performance management system and the development, remuneration and termination processes.

Any rights and side benefits attached to the title or position are predefined and are uniform for everyone. Within the scope of market wage comparisons, wage structures and their position in the market are monitored by working with the internationally accepted surveyors. Wage management policies are monitored

and kept up-to-date through the sectoral wage research carried out regularly. A transparent wage system is applied, in which the contribution to achieving the corporate goals is kept as a key component according to the levels of responsibility. This serves as a model of wages and side benefits based on the principle of equality and fairness, which is objective, transparent and which reflects the realities of the national and international business world, and which is based on the work carried out. The Company always supports the principle of equal pay for equal work. Currently, there is no gender gap in terms of pay in the Company.

Care is taken to use objective data in decisions related to training, rotation and promotion. The rules and frameworks adopted within the scope of these issues are shared with employees and all communication channels, including the Company's intranet portal, which are used to keep all employees informed.

Continuous improvement and development is carried out in order to ensure a safe working environment and conditions for the employees. The Company aims to fully ensure occupational health and safety in the workplace and on the job in the refineries. To this end, employees are informed of the rules and instructions and act accordingly and take the necessary measures. The human resources management and the company management participate in the platform, which is geared towards occupational health and safety, and topics such as occupational health and safety are discussed, and suggestions are taken into consideration and necessary actions are taken. Necessary training is given to employees regularly in the workplaces, and the content of the training is reviewed according to practices and developments. In addition, at the refineries, risk assessments are completed in a timely manner in accordance with legal regulations. Work accidents are consolidated and monitored and reported every year.

An "open office" is implemented in order to support and improve the communication process between the management and the employees throughout the company. All kinds of complaints, opinions and suggestions are shared through the open office communication. At the same time, employees have been informed that they should contact the Human Resources teams when they experience any problems with the management.



In the use of duties, authorities and responsibilities defined in the company, Tüpraş aims to act in accordance with the Company's Articles of Association, the Personnel Regulation, the Collective Bargaining Agreement, the Law of Obligations, the Tüpraş Values and Working Culture Principles and the Labor Law governing work life and the law order that is valid and in force on the national platform.

Ethical rules which employees must follow within the company and matters that they should take into consideration when communicating with each other were also set. These issues are set out in the "Tüpraş Code of Ethics", "Job Descriptions", "Collective Bargaining Agreement" and "the Personnel Regulation", which all employees are informed of.

Religion, language and race are not asked in job advertisements, job application forms and job interviews. In accordance with the principle of "The Right Person for the Right Job", there is no discrimination in the recruitment of employees. Measures are taken to ensure that there is no racial, religious, language or gender based discrimination among employees, and to protect employees from any in-house physical, mental and emotional abuse. No complaints concerning discrimination have been conveyed to the Company. Employees are informed of these issues through the personal development and communication training sessions.

Tüpraş takes the Universal Declaration of Human Rights as a guide and adopts an understanding that respects human rights towards its stakeholders in the societies it operates in. Creating and maintaining a positive and professional working environment for its employees is the basic principle of Tüpraş. Tüpraş acts in accordance with global ethical principles on issues such as recruitment, promotion, career development, pay, benefits and diversity and respects the rights of its employees to form and participate in non-governmental organizations of their own choice. Under no circumstances does it tolerate forced labor, child labor or any forms of discrimination and harassment. The Company clearly sets out its commitments in this area in its Human Rights Policy approved by the Board of directors, which is also published on its website since the beginning of 2021.

Tüpraş takes into consideration the following international standards and principles regarding human rights as a priority:

- The UN Guiding Principles on Business and Human Rights (2011),
- UN Global Compact (2000),
- ILO Declaration of Fundamental Principles and Rights at Work (1998),
- Women's Empowerment Principles (2011),
- Worst Forms of Child Labor Convention (No. 182).
- The OECD Guidelines for Multinational Enterprises (2011)

HUMAN RESOURCES



Social Responsibility

Backed by its knowledge in the refinery sector and socially sensitive employees, Tüpraş creates projects which will contribute to social development in the fields of culture, the arts, education, the environment, sports and gender equality, and extends its support for such projects.

Tüpraş has been presenting its sustainability approach, which is integrated into the Company's business strategies, along with its practices in the field of environment, social and corporate governance to its stakeholders in the Sustainability Reports which it has been publishing since 2008. Tüpraş prepares its Sustainability Reports in accordance with the Global Reporting Initiative (GRI) Standards "Basic Level".

Talent Management

The talent management process ensures that human resources are evaluated as efficiently as possible and that developmental needs are identified correctly. The data obtained during the talent management process is reviewed in annual Strategic Human Resources Meetings. Within the scope of these meetings, performance evaluations of employees who are paid on a monthly basis are carried out and backup plans are created for executive positions. Within the scope of back-up planning, leadership competencies are measured by applying Tüpraş Leadership Competency Sets through mid-level assessment center and top-level assessment center applications, and managers are directed to development programs. With the internal backup system, critical positions and backup plans are created, while the potential talent pool is also determined. Talent pools established to find high caliber employees in Tüpraş are implemented at three levels.

Leadership schools specially designed for Tüpraş leaders were commissioned in 2020 and all of our leaders have been included in the program so far. All employees who will take on a management or leadership role for the first time continue to benefit from the programs. In addition to leadership schools, more than 100 Tüpraş employees have been included in different leadership programs and the Koç Group leadership programs in order to improve their leadership competencies.

Development is Our Passion at Tüpraş!

With its talent management approach Tüpraş provides:

- Discovering talent which will support the achievement of future strategy and goals,
- Providing solutions in accordance with the expectations and needs of different talent profiles,
- Sustainable institutional and individual development with interdisciplinary learning opportunities.

With its integrated Human Resources systems, Tüpraş provides talented individuals with a focused and original employee experience where they can showcase their potential. Tüpraş is prepared for the future with the talent strategy created in line with business strategies with the following targets:

- Attracting talented individuals who are compatible with the values and competencies of the institution,
- Determining the competencies which will be needed going forward and discovering and developing potential leaders with these competences,
- Rotation of talent in line with backup plans and thus creating interdisciplinary learning opportunities for leaders to be equipped, achieving high performance and supporting a culture of cooperation,



- Determining critical roles and developing backup plans to create a sustainable and effective organization,
- Sustainable development and performance are achieved with an integrated system focused on corporate and individual benefits and customized metrics.

Online Internship Program

Tüpraş contributes to the strengthening of vocational education with the projects it carries out for its business partner employees and high school and university students. In 2022, a total of 111 students were provided with internship opportunities at Tüpraş.

In the program, which is almost entirely managed with internal resources, more than 50 Tüpraş employees have devoted nearly 400 hours to the development of students by providing one-to-one training, departmental presentations, guidance and mentoring support. In addition, students who met Tüpraş employees in their career and development conversations asked about issues of interest to them regarding their career path.

In the experience surveys, the net recommendation score of the students was measured to be +53, and it was determined that they had a high level of satisfaction in the program.

Nextremers Program

The long-term Nextremers Project Student Program, which was launched in 2019 and aims to contribute to the professional and personal development of university students, continued to reach young talented individuals in 2022. On the one hand, they continued to develop in their business life by contributing to the project outputs of the teams they were involved in with the responsibilities and initiatives they took on, while on the other, they participated in development programs specially designed for them.

Development Focus at Tüpraş

Within its focus on the improvement and structural change activities in human resources, Tüpraş has attached tremendous importance to training and development activities aimed at the development of both the professional knowledge and skills and the behavioral capabilities of its employees, while attracting a qualified workforce and deploying them in the most efficient and productive manner. In this context, the Tüpraş Academy was established in the Kırkkale Refinery. The Academy, which provides workshops, training classes, a conference hall and a library, prepared online training content with internal trainers, with 121 online training courses on different subjects reaching 4,314 employees through internal training.

In order to develop the competencies of "I Work Safely and with an Agile Mind", 100 online personal development classes were held on 21 different topics, in which 756 employees attended.

Tüpraş employees are prepared for the competencies of the future with training programs such as the "RPA (Robotic Process Automation) Coaches" and "Analytical Tüpraş Training and Project Program".

1,882 employees attended the technical training programs which they requested through the Tüpraş Development Dialogue on 399 different topics.

HUMAN RESOURCES

It is aimed that the talented individuals who will carry Tüpraş into the future are brought into the organization, with the development of leadership and technical competencies through the training and development programs designed specifically for Tüpraş, along with support in making the right career planning.

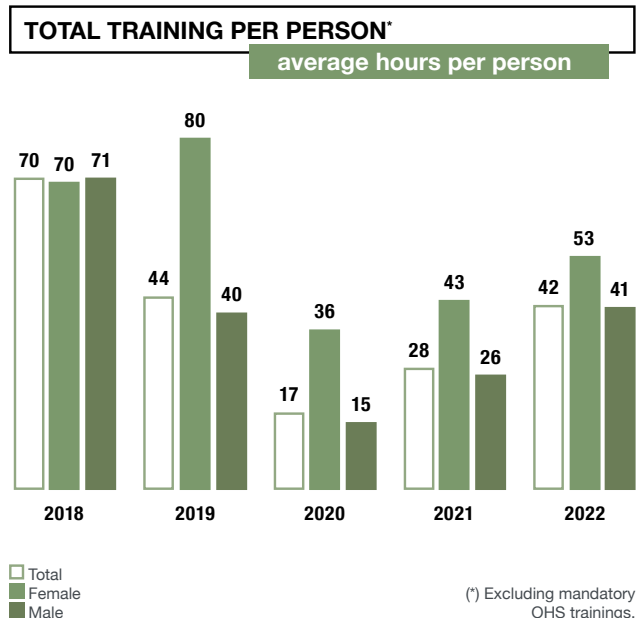
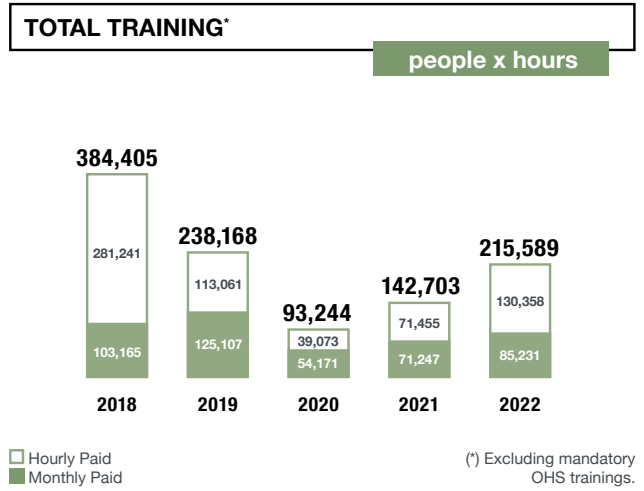
The E-TECH ACADEMY was commissioned in order to offer a comprehensive and online training platform which meets international standards in order to improve the technical competencies of employees in the technical departments. A total of 57 different areas of training content with a total of 227 hours were made available to employees in the Academy, allowing employees access to technical training without putting themselves at risk of exposure to COVID-19. To date, 775 training records have been created on the platform.

In July 2022, 3,820 hours of personal development training was commissioned covering 20 different topics for paid employees. Employees may follow their personal development training programs on both their PCs and mobile devices through a specially designed training platform.

Tüpraş aimed to offer the Data Literacy Training Project, implemented together with Data Analytics Directorate employees, to all company employees. Under the program designed by the Data Analytics team, 445 employees have qualified to become data literate within the scope of Data Visualization, Basic Statistics and Introduction to Power BI.

Within the scope of talent management, it is aimed that the talented individuals who will carry Tüpraş into the future are brought into the organization, with the development of leadership and technical competencies through the training and development programs designed specifically for Tüpraş, along with support in making the right career planning.

In this direction, the leadership development of the employees is supported through the training and development activities, project work and on-the-job learning/rotation processes, which are designed by the leading business schools and university collaborations for the development of professional knowledge and skills and personal talents of the employees. Within the scope of the development programs aimed at improving the leadership competencies of the employees, development programs which include effective communication, coaching and development, cooperation development and future-oriented development are designed. The talent management process, which enables effective guidance of human resources and identifying development needs, serves as a guide in promotions and appointments.



The “Tüpraş Development Dialogue” is used in order to establish an open dialogue between managers and their employees for the development of employees in line with Human Resources targets.

	Number of Employees	Total Hours of Training	Average Training Hours
Monthly Paid	1,296	85,231	67
Hourly Paid	3,817	130,358	36
Total	5,113	215,589	42

Tüpraş Development Dialogue

The “Tüpraş Development Dialogue” is used in order to establish an open dialogue between managers and their employees for the development of employees in line with Human Resources targets.

The behavioral competencies, career development plans and individual development needs of employees receiving monthly salaries are evaluated in an environment where the employee and the manager come together and establish a dialogue with the “Tüpraş Development Dialogue” tool. The “I Work with a Safe and Agile Mind” program, which was created together with employees for the first time in Tüpraş, consists of three sections which aim to develop competence by evaluating employee competencies, to evaluate their professional/technical qualifications, to help them gain a perspective on career development, assess their openness to rotation and their mobility status, to plan possible career paths within Tüpraş, and to determine individual development needs in both behavioral and professional areas.

The Tüpraş Development Dialogue tool was implemented in 2022 with the participation of 96% of monthly-paid employees, with the focus on developing a perspective which will foster dialogue, feedback, rotation, development and looking at the future differently within the Company. All employees carried out their training and development plans in the Tüpraş Development Dialogue using the Training and Development Catalog, which was specially designed to support their behavioral competencies and career development plans. Simultaneously, they created their professional/technical development plans using the Qualification Matrix specially prepared for positions to support their technical and professional development. Throughout the year, they followed the Tüpraş Development Dialogue forms and the training programs they selected on the digital HR portal, Energetic.

In line with the plans made for development focuses, 21 different behavioral competencies and 24 vocational and technical training programs were provided with the participation of 756

employees in the training development catalog and professional development activities provided by the Human Resources Department in 2022, with the participation of 492 employees.

Performance Management

A well-structured performance and career management system constitutes a cornerstone of employee development. The performance management for monthly paid employees is realized with the Koç Dialogue system. The Koç Dialogue system is a transparent and dynamic performance system which can be updated throughout the year, in which inspirational targets and success criteria are adopted with the OKR (Objectives and Key Results) method. Starting from the General Manager, all employees who receive a salary may see each other’s OKRs and keep them updated throughout the year. With its flexible OKR structure which can be changed according to the dynamism and variability of the current situation, the performance system has become one of the most important components of the working model. At the end of the year, performance improvement results are shared with employees through feedback which covers the entire year. Employees paid on an hourly basis are provided with feedback by the senior management regarding the results for the period and target expectations.

The total pay for all employees who are paid on a monthly basis consists of a basic salary, variable pay (premium) and fringe benefits. Pay is updated every year in line with the country’s economic indicators, market data on pay and company data.

Employee Loyalty and Employee Experience

Based on the results of the employee loyalty survey, which has been repeated over a long period by an independent organization, Tüpraş’s overall loyalty score in 2022 increased by 12.4 points compared to the previous year to stand at 47.4%. The loyalty score among employees drawing a monthly salary at 76%, while for those paid on an hourly basis it stood at 36%. The monthly loyalty score among employees drawing a salary was the highest recorded in the last 10 years.

Any issues identified in the employee loyalty survey and which require improvement are addressed through the Employee Experience (TEX) approach.

HUMAN RESOURCES

Tüpraş Employee Experience studies, which are unique to Tüpraş and were created at the beginning of 2021 with the participation of employees in order to integrate the employee experience approach more deeply into the processes, continued to be carried out in 2022.

The following issues were most commonly cited as those requiring improvement, and gathered under the “7 Experience Themes”.

- The openness and transparency expected from the company,
- Support expected from the management,
- A sense of feeling valuable,
- Work processes which make life easier,
- Having a balanced work-private life,
- Working in pleasant environments,
- Continuous development

Tüpraş aims to enhance employee loyalty with the improvements to be carried out under these experience themes and through the employee experience approach.

Tüpraş Employee Experience studies, which are unique to Tüpraş and were created at the beginning of 2021 with the participation of employees in order to integrate the employee experience approach more deeply into the processes, continued to be carried out in 2022. In this context, there was an increase in the loyalty scores among both employees drawing a monthly salary and those on an hourly salary, which was achieved by developing faster solutions and realizing concrete actions more quickly with teams of managers and agile working methods in “7 experience themes which we need to improve first”.

Employee Support Practices

TİSK Employee Support Program: The Employee Support Program is provided by a fully specialized professional team which serves the lifestyles and individual needs of Tüpraş employees and their families. With the TİSK Employee Support Program, the employees and their relatives are supported in the following areas.

- Psychological Counselling
- Medical Counselling
- Healthy Nutrition Counselling
- Techno Support Counselling

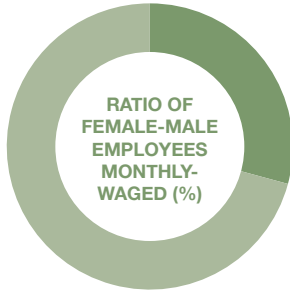
MediHis Online Sağlık Servisi: MediHis is a digital health platform with a digital data archive feature that can be used by the Company doctors, employees and their families. Those who work with MediHis and their relatives receive support in the fields of;

- Digital data archives
- In-house healthcare application
- Online polyclinic application
- Medavantaj application



HUMAN RESOURCES INDICATORS*

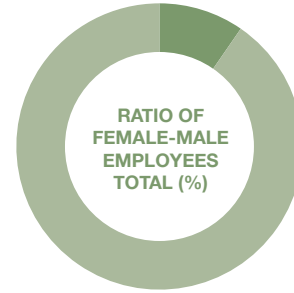
%



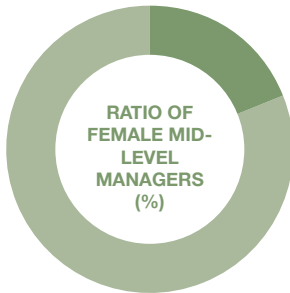
Female 26%
Male 74%



Female 3%
Male 97%



Female 10%
Male 90%



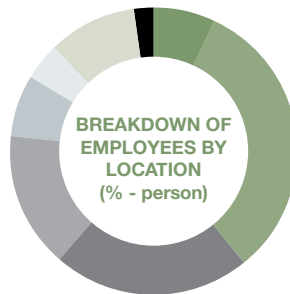
Female 21%
Male 79%



Female 31%
Male 69%



Hourly-Waged 70% - 4,293
Monthly-Waged 30% - 1,819



Head Office	445	7%
İzmit Refinery	1,950	32%
İzmir Refinery	1,371	22%
Kırıkkale Refinery	918	15%
Batman Refinery	429	7%
Entek	233	4%
Ditaş	615	10%
Körfez Ulaştırma	124	2%

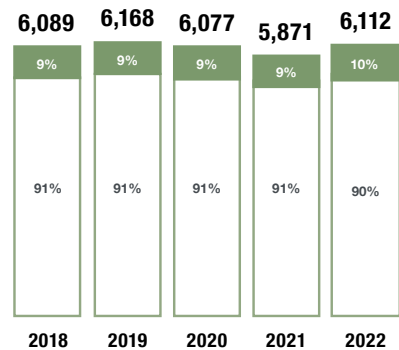


PhD	17	0,9%
Masters	410	22,9%
Graduate (Technical)	704	39,3%
Graduate (Administrative)	358	20,0%
Associate	143	8,0%
Industrial Vocational High School	98	5,5%
High School	52	2,9%
Others	11	0,6%

*Excluding Tupras Trading Ltd.

TOTAL NUMBER OF EMPLOYEES*

%



Female
Male

*Including affiliated companies.

HUMAN RESOURCES

The “Refined Suggestions” system is implemented in order to support and encourage employees to submit individual and original ideas on issues such as process improvement, energy savings, resource saving, productivity in production, environmental protection and occupational safety.

Support Program at Work: The program, which was initiated in 2016 and includes screening, training and individual psychological support work carried out by industrial psychologists at all refineries, is ongoing.

Extended Health Insurance Program: All employees are covered by complementary health insurance, and may benefit from private health coverage at preferential rates for themselves and their families.

Flexible Working Hours: At Tüpraş, employees receiving a monthly paid have the opportunity to organize the times they start and end their shifts on a daily and weekly basis in accordance with their personal needs and preferences, provided the management is aware and within certain limits.

Nursery Fringe Benefit Package: The Nursery Fringe Benefit Package supports the work-leisure balance in particular, and the career development of female employees.

Adaptation Process Guidance Program: To help newly recruited Tüpraş employees adapt to the corporate culture and ensure that they start work quickly, a “Guidance Support Program” practice is offered in the first 3-month orientation period.

Flexible Side Benefit (Flextra) Package: With this system, which is a flexible system of additional side benefits, each year employees may choose from a wide pool of side benefit such as life insurance, gifts and discount checks and individual pension programs, in addition to their existing side benefits, and have the option to change side right packages in accordance with their lifestyles and different individual needs. This is offered to employees every year with the company’s contribution.

Remote Working Support Packages: Employees working remotely at Tüpraş are provided with lunch and support for a company phone line.

Office Free Common Office: Employees working remotely may work from any common office within the Koç Group, using the office free reservation system based on their work plans. Tüpraş has four common offices within the scope of the Office Free application.

Recognition, Appreciation and Award Systems:

The Achievement Recognition and Appreciation and Rewarding System, which supports the Tüpraş vision and working culture, is aimed at rewarding successful work and experience which make a difference and to create a company working environment where employees are happy and feel proud to work in.

The Tüpraş Achievement Recognition and Appreciation and Rewarding System includes six different sub-processes as listed below:

- Annual awards (Scientific Publication and Innovation, Seniority, etc.)
- Successful projects and practices of Tüpraş employees are rewarded with “Tüpraş Employee Experience Improvement Awards” in order to improve their working life experiences,
- Instantaneous rewards,
- The HSE (Health, Safety and Environment) awards,
- The “Bravo” Platform, which ensures appreciation for good practices and behavior which reflects the company’s culture and values, and that such practices can be transparently displayed by all employees.
- The System aims to reveal and evaluate good ideas from all employees, to encourage their continuous development, and ensure employees feel “a part of the common solution” through models which support the participation of employees in the Company management.

A bonus system is in place which rewards performance and provides additional pay over the annual base wages, depending on the performance of the employees paid on a monthly basis during the relevant period in line with their targets. The “Refined Suggestions” system is implemented in order to support and encourage employees to submit individual and original ideas on issues such as process improvement, energy savings, resource saving, productivity in production, environmental protection and occupational safety. With the Suggestion System, employees are given the opportunity to create added value with their work.

Another practice regarding the participation of employees in decisions is that two representatives from the union have the right to speak in meetings of the disciplinary board for employees on paid on an hourly basis, as required by the collective bargaining agreement.



Collective Bargaining Agreement

Tüpraş respects the union rights of its employees and allows them to exercise these rights freely. Support is provided to employees seeking to become members of trade unions and non-governmental organizations, provided that they are organized within the framework of the law. A Collective Bargaining Agreement has been signed at the Company since its establishment. There are union workplace representatives at Tüpraş, where the Petrol-İş Union is organized, in numbers determined within the framework of legal regulations.

All employees at Tüpraş paid on an hourly basis work under the Collective Bargaining Agreement as a member of a union. Tüpraş expects its meticulous approach towards protecting union rights to be adopted by its suppliers and business partners. Checks are carried out to ensure that suppliers and business partners fully implement union rights in their operations.

Every 3 years, a Collective Bargaining Agreement process is carried out with the Petrol-İş Union, of which 75% of the company's employees (3,817 employees) are members. The current Collective Bargaining Agreement in place is delivered to all union member employees in the form of a booklet. It is also kept up-to-date on the Company's intranet portal. Work processes are managed in accordance with the provisions of the relevant Collective Bargaining Agreement articles.

During the reporting period, 30 Tüpraş employees played an active role in the management of the unions they were members of. At the same time, 1,216 employees receiving monthly salaries took on the responsibility of being an employer's representative.

Tüpraş respects the union rights of its employees and allows them to exercise these rights freely.

The Collective Bargaining Agreement includes subject titles such as:

- recruitment processes,
- equality in recruitment (gender equality) and an approach of inclusion (avoiding discrimination on the basis of religion, language, race, disabled employee recruitment, etc.),
- determination of working conditions,
- possibilities for rotation,
- definition of remuneration and fringe benefits,
- social benefits (food, marriage, childbirth, kindergarten, etc.),
- use of leave,
- occupational health and safety practices,
- educational and research activities provided,
- protection of employee rights,
- sensitivity to environmental protection

The opinions of the employees are received through one-to-one interviews, survey practices, OHS boards and workshops, and necessary topics are brought to the agenda of the collective bargaining agreement.

SECTOR



“

The oil sector, which saw the lowest levels in history in 2020, experienced historical records in 2022, just two years later.

The consensus view in the energy sector at the beginning of 2022 was that economic growth would gain momentum as world started to overcome the pandemic, with economies returning to their pre-pandemic levels with a full normalization. However, Russia's military operation against Ukraine in February sparked a surge in energy prices, with natural gas and electricity prices - which had already started to edge up in the last quarter of 2021 - seeing particularly sharp spikes amid to supply concerns. Although the rise in oil prices was less marked than for other types of energy, the oil sector, which saw the lowest levels in history in 2020, experienced historical records in 2022, just two years later.

Although demand for oil maintained its upward trend throughout 2022, demand did not reach its pre-pandemic level, contrary to early expectations. This was due to a number of factors, such as the Zero-Covid policy maintained by China for a significant part of the year and further delays to the resumption of international flights to Asia, as well as the pressure on demand from high prices. The brisk growth in global demand for petroleum products, with an increase of 5 million barrels/day YoY in the first quarter of 2022, slowed to rises of just 2 million barrels/day in the 2nd and 3rd quarters due to the base effect, the impact of high prices on demand and increasingly stringent measures taken in China. As a result, demand for oil products for the full year fell by 0.4 million barrels a day compared to the 2021 level, to 99.9 million barrels/day on average. Thus, although global demand increased by 2.2 million barrels/day on an annual basis in 2022, it still failed to reach the 2019 level (100.5 million barrels/day). While demand in the OECD group of countries remains 1.6 million bpd

below its 2019 level, demand in China contracted by 3% YoY – the first YoY decline in China since 1982.

The war, initiated by Russia, the world's largest energy exporter and second largest supplier of crude oil, has dragged on far longer than anticipated with devastating results, bringing supply chain issues and placing energy supply security firmly at the top of the agenda for all world economies throughout the year. In recent years, the issues of sustainability and reducing emissions – a focus especially for developed countries – have been rather been put on the back burner.

Against a backdrop of rising demand, the combination of Russia's invasion of Ukraine in the first half of 2022, the continued supply cuts by OPEC+ countries and the supply constraints due to structural and geopolitical factors in countries such as Nigeria, Libya and Angola started to drive oil prices upwards. Meanwhile, the decision taken by the EU and G7 countries, especially the USA, to impose sanctions against Russia - the main energy supplier for Europe - triggered supply concerns and sent prices of energy, including oil, skyrocketing. In this environment, the price of Brent crude oil, which started the year at USD 79/barrel, reached a 14-year peak of USD 138/barrel, while inflation has become the most troublesome problem facing economies all over the world, as a result of higher energy prices. Factors such as decisions taken by the International Energy Agency and the USA to release strategic oil reserves, shutdowns and restrictions as well as the high prices in China, mounting concerns of an impending recession, OPEC+'s gradual easing of production cuts, the continued rise in non-OPEC oil production which was



////////////////////

The process of consolidation in the refining sector is expected to continue until 2030 with a net capacity increase of approximately 3 million barrels/day.

led by the USA and the recovery in Libyan production have all put downward pressure on oil prices. In addition, amid concerns of recession and tighter monetary policies being taken to combat inflation, oil prices closed the year at USD 81.30 / barrel having followed a somewhat volatile course. As a result, Brent crude prices in 2022 averaged USD 101.30 / barrel - USD 30.40 / barrel (43%) higher than in 2021.

While the USA halted purchases from Russia in a bid to turn the tables on Russia's war and stop purchasing oil and natural gas from Russia EU countries took its 6th decision on sanctions where the EU pledged to end its purchases of crude oil with effect from December 5 and its purchases of oil products with effect from February 5, 2023, with the exception of oil purchased by countries such as Hungary and the Czech Republic through the Druzba pipeline. In addition, members of the G7 introduced the price cap application to enter effect from 5 December. As a result of these sanctions, approximately 4 million barrels/day of oil and oil products flowing to the EU will have to turn to new markets by the end of the first quarter of 2023, with Asian countries - China and India in particular - expected to substantially ramp up their imports of oil and oil products from Russia.

When it comes to the refining sector, the demand in 2022 was higher than in 2021 for all products with the exception of naphtha. Demand for gasoline increased by 0.4 million barrels/day compared to its 2021 level, while demand for diesel was up by 0.7 million barrels/day, reaching its 2019 level. Demand for jet fuel, having dipped to historical lows in 2020, became the product to record the steepest jump in demand of 0.9 million barrels/day - yet remaining 1.9 million barrels per day (24%) lower than in 2019.

According to EMRA in 2022 figures, demand for petroleum products decreased by 4% in Turkey in 2022. While the 7% drop in demand for diesel was the main factor behind the decline, demand for gasoline continued to surge ahead, with a rise of 9%. Jet Fuel recorded the sharpest rise in demand, with an increase of 38% including international use.

The decline in inventories, which we started to see in 2021, continued in 2022. The low levels of middle distillate stocks, in particular, tended to inflate crack margins. Refiners saw their profitability bounce back from historic lows in 2021 as inventories diminished and demand started to return, with continued strengthening in 2022 as demand increased by 2.3 million barrels/day despite a net increase of 1.1 million barrels/day in refining capacity around the world. Another important factor supporting profitability in the refining sector this year was the prolonged turnaround processes for refineries which remained idle due to the delayed maintenance during the pandemic period. Average refinery downtime and maintenance in 2022 was 2 million barrels/day more than in 2019. Market imbalances in diesel, a product the EU is still heavily reliant on imports from Russia for, and a resurgence in jet fuel demand brought middle distillate margins to new records, while a three - to four - fold jump in costs of natural gas, the product seeing the steepest demand growth in YoY terms, had to be reflected to final product prices, taking product margins and refining profitability to new records. Over the year as a whole, average gasoline, diesel and jet fuel crack margins were 124%, 163% and 149% higher than 2019 respectively, while fuel oil and naphtha cracks were 115% and 96% lower, respectively.

Looking ahead to the medium term, the process of consolidation in the refining sector is expected to continue until 2030 with a net capacity increase of approximately 3 million barrels/day. In the same period, demand for refined products is expected to increase by about 4 million barrels/day. Although this may appear an encouraging development at first glance, given that idle refineries will return to operation, competition is expected to grow in the coming period - although this will be a positive period for the refining sector in general.

PRODUCTION AND SALES

Tüpraş's main activity is the supply and refining of crude oil necessary to meet the country's need for petroleum products and the domestic and international sales and distribution of the petroleum products which it produces. As a result of its crude oil refining activities, the refiner produces petroleum products such as LPG, gasoline and naphtha, jet fuel, kerosene, diesel, fuel oil, bitumen and machine oils.

In addition to the renewable energy investments to be carried out within the scope of the "Strategic Transition Plan", Tüpraş has prioritized Energy Efficiency and Decarbonization Projects, which increase operational efficiency for sustainable refining and reduce Scope 1 and Scope 2 emissions, Green Hydrogen Production Facilities and Sustainable Aviation Fuel and Biofuel Production Facilities in its refineries.



Tüpraş optimizes and diversifies resources in crude oil purchasing operations in order to distribute risk in the supply chain and to provide price and freight advantages. A significant proportion of crude oil purchases are carried out through annual agreements entered into with national oil companies. In addition, purchases are carried out to provide flexibility for the supply of crude oil types with the characteristics required by product demands and to increase additional options. Tüpraş Trading Ltd, which continues its activities in the UK, maintained its positive contribution to Tüpraş' activities of with spot crude oil trading in addition to its fuel trading activities.

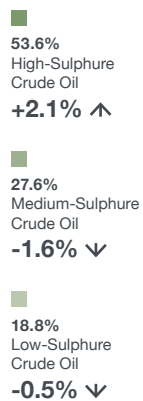
19 different types of crude oil purchased from 11 countries

In 2022 Tüpraş purchased 19 different types of crude oil from 11 countries, including Turkey, in gravities ranging from 18 to 47 API. Of the USD 21.7 billion directed to purchases of crude oil, products and semi-finished products, USD 17.6 billion was allocated to the purchases of 24.8 million tonnes of crude oil supplied during the year.

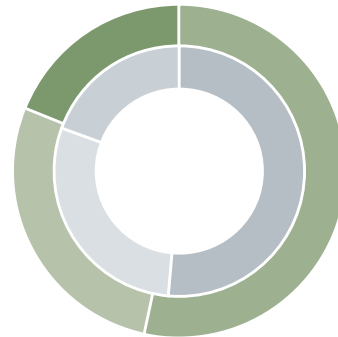
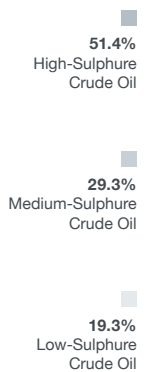
Tüpraş imported 2.5 million tonnes of semi-finished products in 2022 as well as 2.5 million tonnes of finished products to meet the country's demand.

Breakdown of Crude Oil Procured

2022



2021



“

The growth in demand and recovery in product margins in 2022 paved the way for an increase of 1.2 million tonnes in refining volumes when compared to the previous year.

92% capacity utilization with optimum charging

The growth in demand and recovery in product margins in 2022 paved the way for an increase of 1.2 million tonnes in refining volumes when compared to the previous year, with a capacity utilization rate of 92% with a total charge of 27.5 million tonnes, including crude oil and semi-finished products. While Tüpraş produced a total of 26.0 million tonnes of oil products, Tüpraş realized a high value-added white product efficiency rate of 79.5%, thanks to the high crude oil charge and the RUP unit stance experienced throughout the year.

The operational profitability of refineries is indicated by the gross refinery margin, which is defined as the difference between the cost of crude oil determined in international markets and the revenue of products produced from this crude oil. Having dominated the global agenda for a long time with its social and economic fallout over the past 2 years, the effects of the Covid-19 pandemic on mobility have eased in 2022 with demand for petroleum products starting to normalize. Margins for all white products increased throughout 2022 due to the disruption to the supply-demand balance caused by the war between Russia and Ukraine War; historic peaks were seen in diesel, jet fuel and gasoline margins. These peaks in margins have had a positive impact on the profitability of refineries. Tüpraş's net refining margin was realized as USD 16.5/barrel in 2022, comparing favorably with the Mediterranean margin of USD 28.2/barrel.



PRODUCTION AND SALES

Competitive advantages that come with structural advantages

Tüpraş enjoys a competitive advantage with its four refineries and their existing warehouses and terminals, which being located close to the large centers of consumption throughout Turkey allow production and sales optimization. The company provides an uninterrupted supply through Körfez Ulaştırma A.Ş., a railway transportation company carrying out fuel oil transportation between the refineries, and Ditaş, a subsidiary of Tüpraş carrying out transportation of crude oil and petroleum products to meet Tüpraş's needs. The positive contribution of Tüpraş Trading Ltd to the fuel and crude oil trade activities, especially exports, reinforces this advantage.

Tüpraş's refineries offer structural benefits when compared to the other regional refineries:




- A strategic leading position in the industry
- High refinery complexity
- A wide range of crude oil processing capacity
- Close proximity to oil producers in the Middle East
- Strong logistics advantage with the sea and rail transport fleet
- Additional added value in the supply and sales chain with the trading company based in London
- High storage capacity
- A widespread LPG and fuel distribution network
- Qualified manpower
- High and sustainable customer satisfaction

Turkey's first and largest refiner - meeting a significant proportion of Turkey's energy needs

Tüpraş, as Turkey's largest refiner, was also its first. It supplies 53 types of petroleum products through four refineries utilizing leased terminals throughout Turkey and meets a significant proportion of the country's energy needs.

Tüpraş conducts direct wholesale of products to companies distributing fuel oil, LPG, bunker fuel, jet fuel and mineral oil, which are licensed by the Energy Market Regulatory Authority (EMRA), as well as industrial, petrochemical and paint companies which intensively use petroleum products in industry, along with the General Directorate of Highways, Municipalities, other official institutions and the contractors approved by these institutions, private construction and contracting companies, cement manufacturers, trading companies and the Ministry of National Defence on behalf of the Turkish Armed Forces.

LOOKING AT SOME OF THE PRODUCTS:

Product	Domestic Sales	Developments
 Gasolines	3.2 million tonnes	Tüpraş met almost all gasoline sales in the Turkish gasoline market, realizing sales of 3.2 million tonnes – an all-time high, marking an increase of 11% compared to the previous year.
 Jet Fuel	3.6 million tonnes	The Turkish jet market recovered more rapidly than expected, outperforming global markets. In line with its mission of meeting the country's needs, Tüpraş has provided uninterrupted product supply through both production and supply from abroad.
 Diesel	12.3 million tonnes	Despite the decrease in domestic consumption compared to 2021, Tüpraş sales increased by 8% compared to the previous year. Tüpraş unwaveringly met domestic demand through both its own production and imports of final products, and played an important role in preventing the fallout of the Ukraine-Russia war on product prices and supply from turning into a nationwide energy crisis.

A year in which Tüpraş successfully fulfilled its responsibilities in meeting the demand of its domestic customers

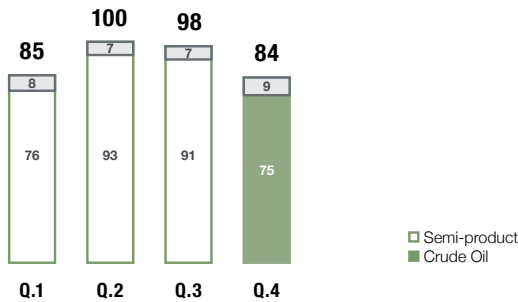
Tüpraş constantly reviews all processes covering sales, delivery, after-sales service and marketing in order to develop customer-oriented sales approaches in rapidly changing market conditions, and meets customer demands and expectations to the highest level and as rapidly as possible by placing digitalization and the customer experience at the heart of its work, while continuing to provide after-sales support.



92%

Capacity utilization was 92% parallel to the normalization process.

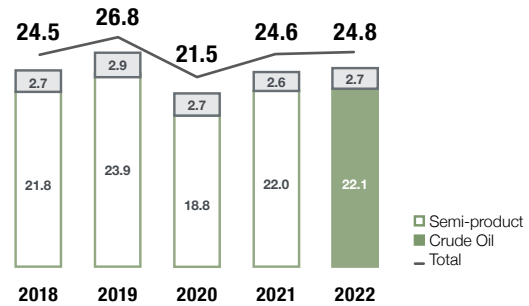
CAPACITY USAGE
%



24.8 million tonnes

The supply of crude oil and semi-finished products increased by 100 thousand tonnes each.

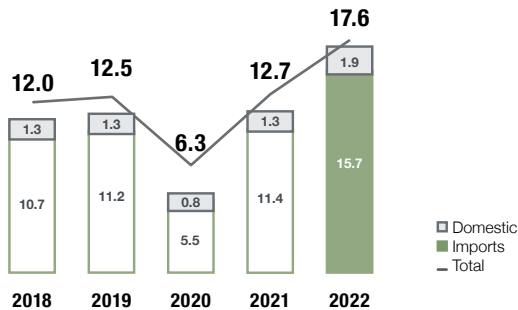
CRUDE OIL SUPPLY
million tons



USD 17.6 billion

Approximately 89% of the crude oil procurement cost is imported.

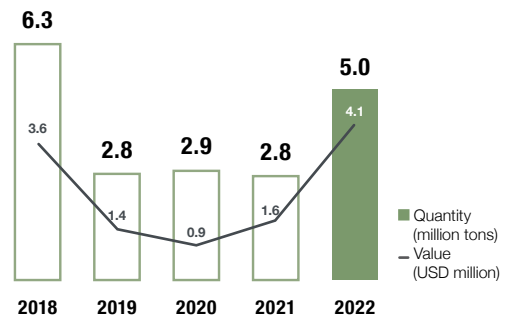
CRUDE OIL SUPPLY
USD billion



5.0 million tonnes

Product import volume increased by 80% in terms of tonnage and increased by 161% in value.

PRODUCT IMPORT



PRODUCTION AND SALES

While meeting the majority of the country's demand with 23.5 million tonnes in domestic sales, Tüpraş achieved a total sales volume of 29.5 million tonnes when international and transit sales are included.

REFINING PRODUCTION AT TUPRAŞ (thousand tonnes)

Products	2021	2022	Change %
LPG	812	886	9.2
Gasoline/Naphtha	5,510	5,743	4.2
Jet Fuel/Kerosene	2,958	3,742	26.5
Diesel	10,763	10,023	-6.9
Fuel Oils	1,495	1,652	10.4
Bitum	1,932	2,466	27.6
Coke	909	877	-3.5
Other	708	659	-6.9
Total	25,086	26,048	3.8

Tüpraş focuses on digital customer solutions in order to meet the demands and expectations of its customers to the highest level and in the fastest way. Tüpraş presses forward in its digital transformation journey which started with the Driver Tanker Queue Tracking Application within the scope of Land Filling Digital Customer Experience projects, with the "Contactless Sales" and "Land Filling Appointment System" projects. In addition, the Tüpraş Customer Portal application, which was expanded with the strategy of producing fast solutions, and the Tüpraş Solution Center (444 123 0) and the Customer Notification Management System, which was specially designed in line with the needs of the customers, support the digitalization processes.

Within the scope of "Digitalization" and "Efficiency in Business Processes" studies carried out in line with the feedback and requests received from customers in 2022;

- Following the complete digitalization of customer and customer portal registration/change applications in December 2021, the work carried out to complete registration processes through robotic technologies in order to contribute to business efficiency in internal processes was completed in January 2023.
- Within the scope of the Land Filling Appointment System Project, which was initiated with the rollout of the petrocoke product in August 2021, landfill deliveries of jet fuel and sulfur started to be carried out under an appointment system from December 1, 2022, with the system aimed to be rolled out for all products in 2023.
- The Landfill Contactless Sales System, which works in integration and in parallel with the TAS (Terminal Automation System) transformation, ensures that the driver experience is managed without human contact with the support of kiosks, the mobile application and the Tüpraş Solution Center. The entire transformation process is scheduled to be completed in 2023.



International sales of 5.7 million tonnes of products

In addition to its fuel trading activities, Tupras Trading Ltd continued to contribute positively to Tüpraş's activities with spot crude oil trading. In 2022, Tüpraş realized international sales of 5.7 million tonnes of products worth USD 4.5 billion.

- In line with the zero paper initiative within the Sales and Marketing Directorate, work on ensuring that all official internal and external correspondence between the Head Office and Refinery Sales Units and their stakeholders is performed digitally using e-signature and mobile signature through Izonay via the KEP address has been completed.

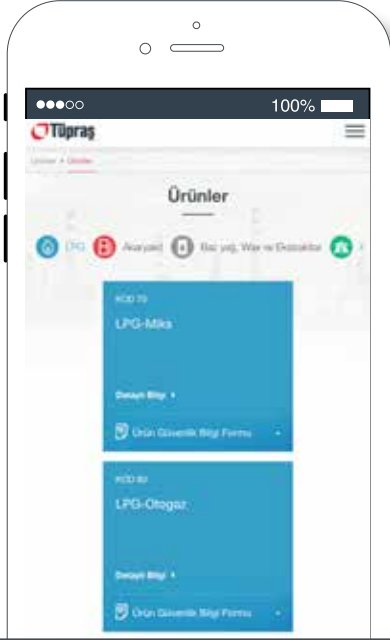
Through these projects, all processes between Tüpraş and its customers have been digitized and a solid infrastructure has been created so customers are able to complete their daily operations without human contact and in a much shorter space of time, while placing the final link in the 360-degree digital customer experience.

With its large fleet and alternative production and supply solutions, Tüpraş has successfully fulfilled its responsibilities in meeting the needs of its domestic customers. Receiving positive feedback on product and service quality in the Customer Satisfaction Survey, the Company achieved a general satisfaction score of 83 in the Shipment/Delivery processes.

While meeting the majority of the country's demand with 23.5 million tonnes in domestic sales, Tüpraş achieved a total sales volume of 29.5 million tonnes when international and transit sales are included.

- The Driver Portal Mobile Application, which was put into use in August 2021, allows drivers to track their orders and appointments on an end-to-end basis with instant access to necessary information and announcements. The application, which provides efficient process management with bilateral and uninterrupted communication, continues to be developed continuously in line with the needs of the drivers. The Land Filling Contactless Sales Project, which is a first in the refining sector, may be integrated into the wagon, pipeline and sea filling processes in the coming periods depending on its operational suitability.
- Payment refund requests for customers' current account balances have started to be provided with self-service through the Customer Portal platform.
- All transactions currently carried out manually by both the customer and Tüpraş are planned to be completely digitized by April 2023, from the delivery of customer requests during the Daily Coupon Service process, which is given to distributor license holders to meet the mandatory petroleum stock obligation, to the reporting of stock amounts to EMRA by following the customer-based inventory.

PRODUCTION AND SALES



With its large fleet and alternative production and supply solutions, Tüpraş has successfully fulfilled its responsibilities in meeting the needs of its domestic customers.

TOTAL SALES OF TÜPRAŞ REFINERIES (thousand tonnes)

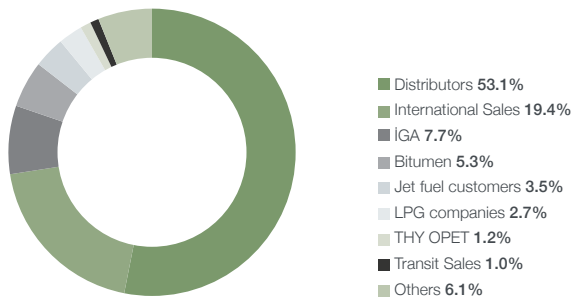
Products	2021	2022	Change %
LPG	836	803	-3.9
Naphtha	206	52	-74.7
Gasolines	2,919	3,225	10.5
Jet Fuel / Kerosene	2,989	3,639	21.8
Diesel	11,352	12,313	8.5
Fuel Oils	397	512	28.9
Bitumen	1,580	1,547	-2.1
Coke	984	939	-4.5
Others	445	421	-5.3
Total Domestic Sales	21,707	23,452	8.0
International Sales	5,250	5,732	9.2
Transit Sales	629	287	-54.4
Total Sales	27,586	29,471	6.8

53%

The share of fuel distribution companies in total sales was 53%.

BREAKDOWN OF SALES

%

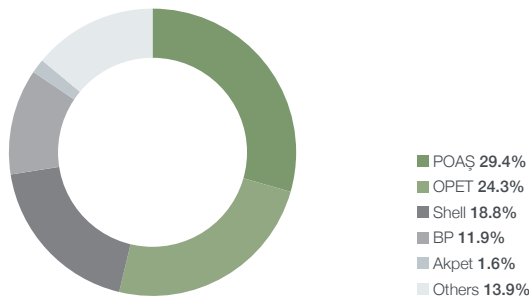


15.6 million tonnes

The total of sales made to distributors excluding jet fuel is 15.6 million tonnes.

BREAKDOWN OF SALES TO DISTRIBUTORS

%



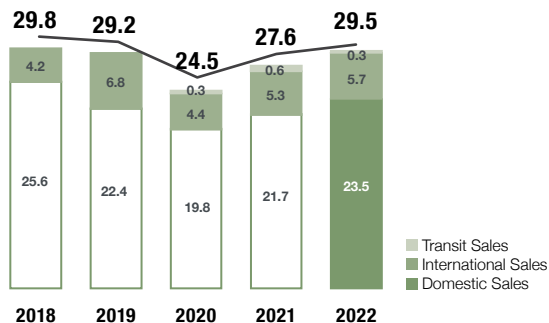
Through these projects, all processes between Tüpraş and its customers have been digitized and a solid infrastructure has been created so customers are able to complete their daily operations without human contact and in a much shorter space of time, while placing the final link in the 360-degree digital customer experience.

29.5 million tonnes

Total sales increased by 6.8%.

TOTAL SALES

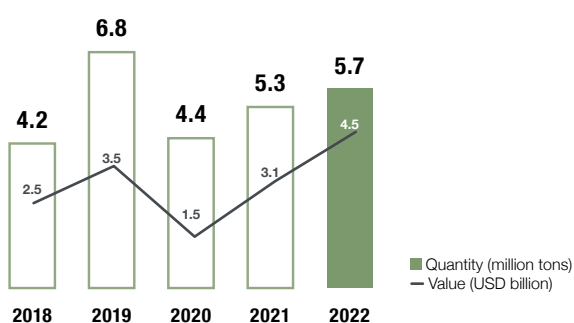
million tonnes



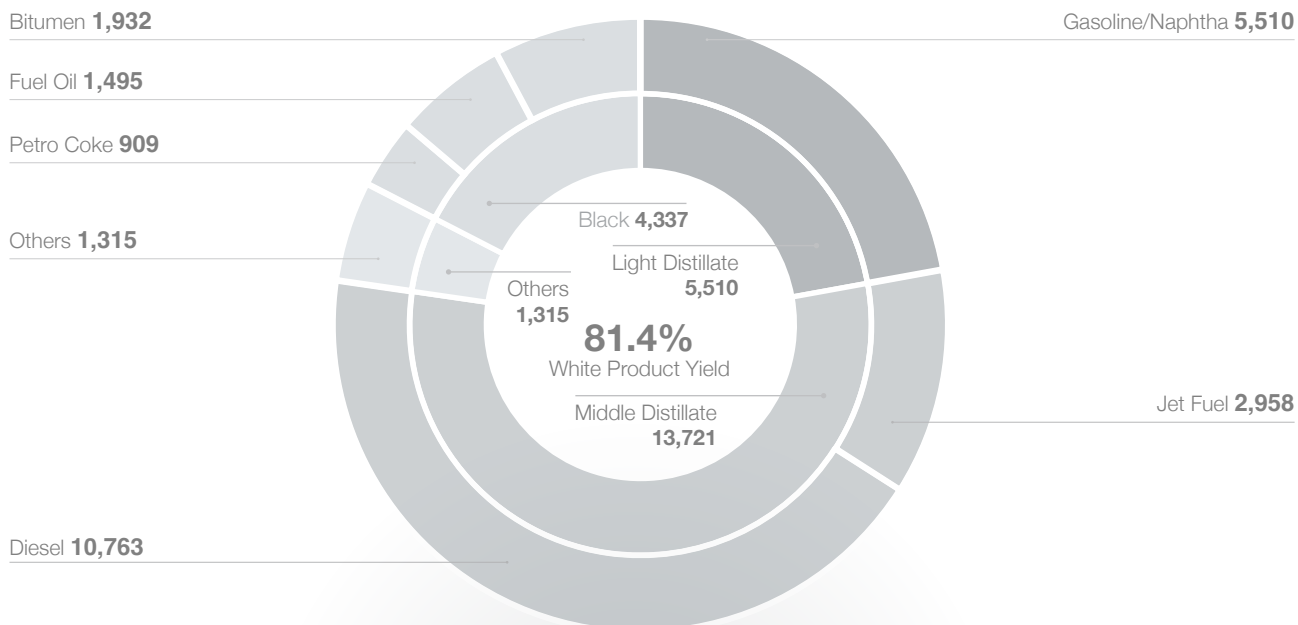
5.7 million tonnes

International sales volume increased by 9% in tonnage and 46% in value.

INTERNATIONAL SALES



PRODUCTION AND SALES



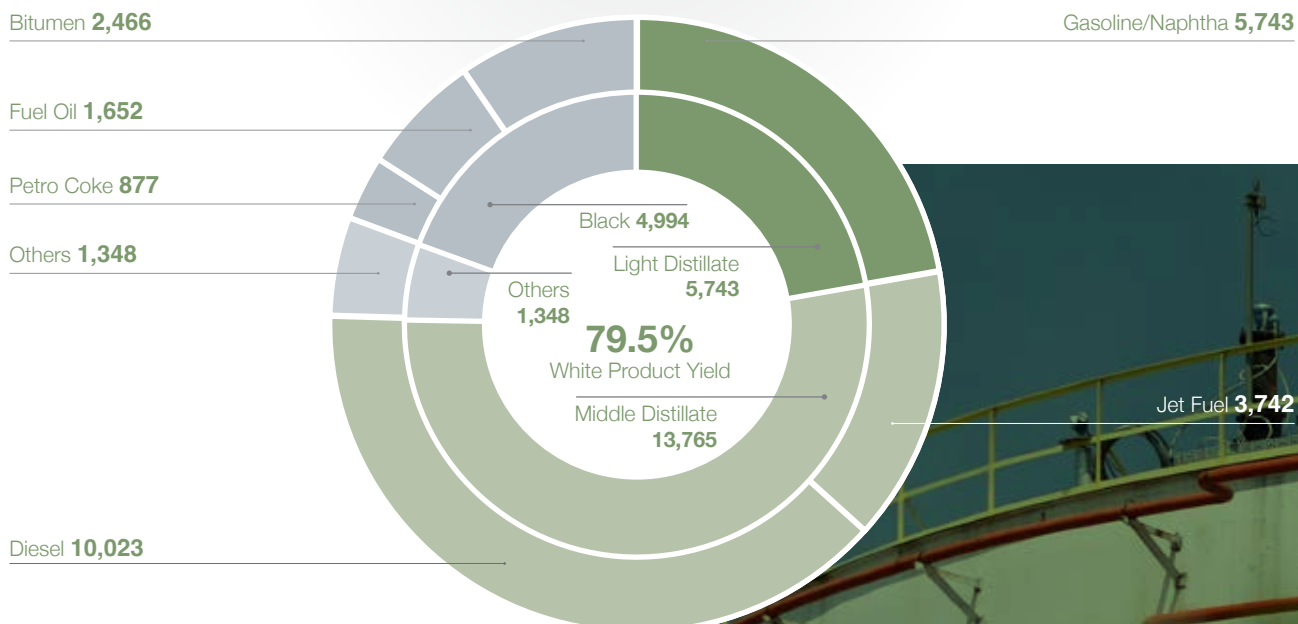
2021



PRODUCT YIELDS

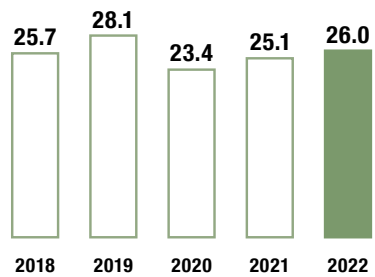


2022

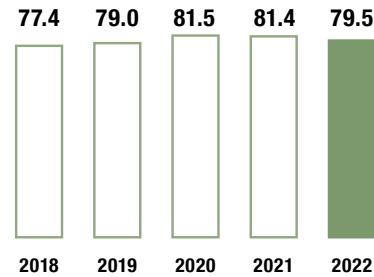


3.8%

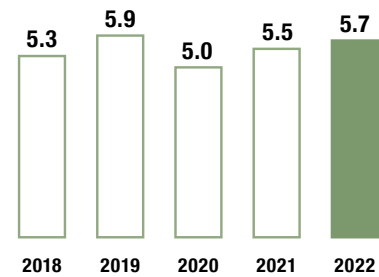
Total production increased by 3.8% on the back of increasing demand and the recovery in product margins.

TOTAL PRODUCTION
 million tonnes
**79.5%**

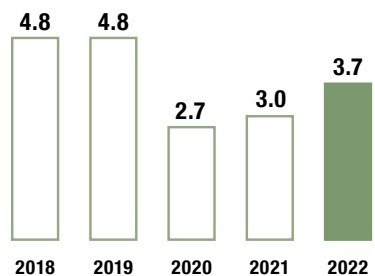
High value-added white product productivity was realized as 79.5% with the effect of high crude oil charge and RUP unit downtime during the year.

WHITE PRODUCT
 %
**4.2%**

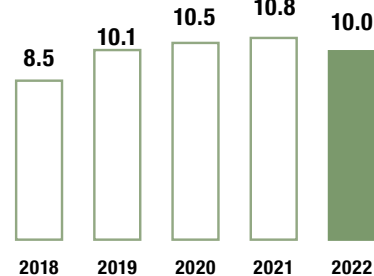
Light distillate production increased by 4.2%, driven by demand and margins.

GASOLINE AND NAFTA
 million tonnes
**26.5%**

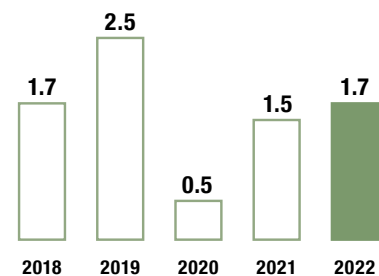
Jet fuel production was the product with the highest increase with 26.5%.

JET FUEL
 million tonnes
**-6.9%**

Declining domestic consumption was reflected in diesel oil production as a decrease of 6.9%.

DIESEL
 million tonnes
**10.4%**

While the recovery in fuel oil demand continues, 2022 production increased by 10.4%.

FUEL OIL
 million tonnes


“

In 2022, Tüpraş realized a high value-added white product yield of 79.5%.

İZMİT REFINERY



The İzmit Refinery began production in 1961 with a capacity to process 1 million tonnes of crude oil per year. As a result of significant capacity increases and the investments in the conversion unit over the years, the Refinery's design capacity was registered at 11.3 million tonnes/year by the end of 2019.



A Nelson Complexity value of 14.5

Producing to Euro V standards, the İzmit Refinery is truly located in the heart of Turkey when in terms of the consumption of petroleum products. The RUP Facility located within the İzmit Refinery was mechanically completed at the end of 2014. The unit converts 4.2 million tonnes of black products into approximately 3.5 million tonnes of high-value, environmentally friendly white products which meet EU standards - mostly diesel, gasoline and LPG. After the Fuel Oil Conversion Facility was commissioned, the İzmit Refinery reached one of the highest conversion rates in the world, with a Nelson Complexity value of 14.5.



15.6 million tonnes total product sales

10.6 million tonnes of crude oil and 1.9 million tonnes of semi-finished products, totaling 12.5 million tonnes, were processed at the were processed at the İzmit Refinery in 2022. As of the end of 2022, the Refinery's total product sales amounted to 15.6 million tonnes, of which 12.5 million tonnes were domestic sales.





//////
The highest conversion rate in Turkey

//////
The refining capacity of the İzmit Refinery is 11.3 million tonnes.

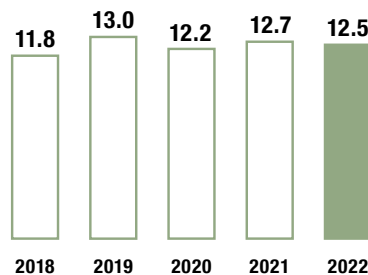
14.5 Nelson Complexity Index
1,950 employees at year-end
3.0 million m³ The storage capacity of the İzmit Refinery



12.5 million tonnes

The total production of the refinery decreased by 1.6% in 2022.

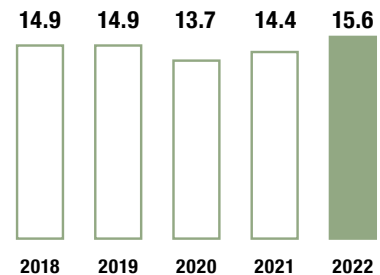
CRUDE OIL AND SEMI PRODUCT PROCESSED
 million tonnes



15.6 million tonnes

The refinery's total sales increased by 8.0% in 2022.

TOTAL SALES
 million tonnes



İZMİT REFINERY

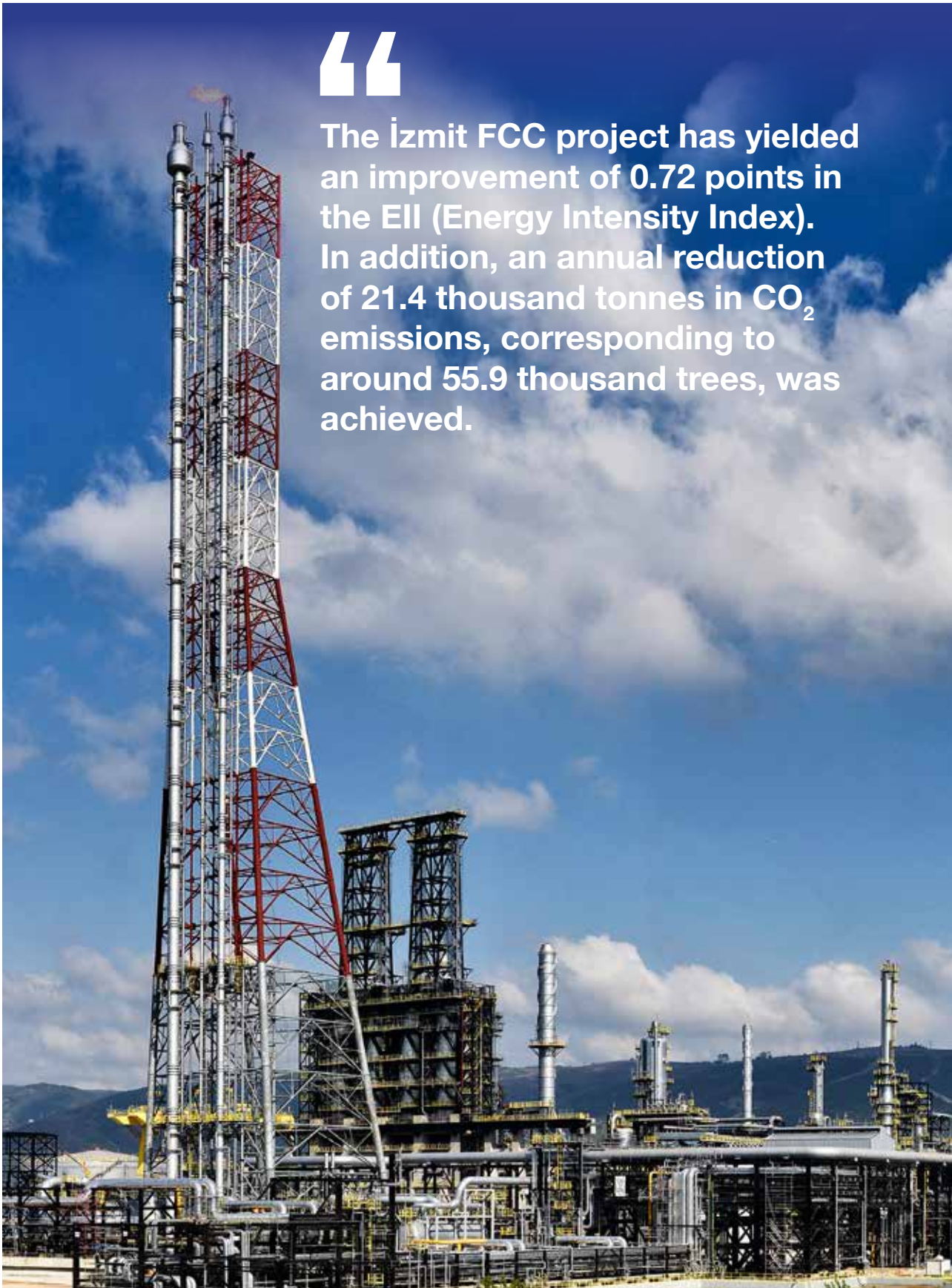
The project of renewing the APH equipment of the Plant 5 Crude Oil Unit 5F-1 and 5F-3 furnaces, is expected to yield USD 5.5 million/year in savings.

Major projects carried out during the year:

- The project for flue gas energy recovery and particle removal in the Izmit FCC, which had already got underway, was revised to include modernizations in the reactor-regenerator and column sections so both could process heavier charges, with increased efficiency due to the internal changes required in the reactor and regenerator. The FCC Unit was commissioned in revamp mode in January 2022. With the FCC Revamp Project, a minimum expected gasoline yield of 46%, a maximum dry gas yield of 3.1%, a minimum gasoline RON value of 93.2 and a minimum 13.14 (metric ton/ hour) or 550 kg / cm² of steam production was realized in the flue gas exchangers. Although the operation of the unit has been halted, the unit will yield a return of USD 34.2 million / year on future price projections, with the unit delta return in the new design being USD 13.5 million / year. The project has yielded an improvement of 0.72 points in the EII (Energy Intensity Index). In addition, an annual reduction of 21,400 tonnes in CO₂ emissions, corresponding to around 55,900 trees, was achieved.
- The project of Loading Isomerates from Wagon Filling Islands with Bottom Filling at the Izmit Refinery was commissioned in May 2022, and the first wagon loading was carried out successfully. The use of rail transport to meet all the isomerate needs of the Kırıkkale Refinery in tanker transport, which had been carried out by road transport before the project, will reduce the risks associated with road transport. The savings provided by the project, where engineering and purchasing processes are carried out with Tüpraş resources, amount to USD 2.4 million/year.
- In order to increase the bitumen export capacity at the Izmit Refinery, the projects for the installation of the 10G-72 Fuel Oil Pump at the Petroleum Movements Unit in the Plant 26 Tank Field and the conversion of the Phase-1 Outer Pier Fuel Oil Filling Arm into an Asphalt Filling Arm were implemented. The existing 10G-72 fuel oil pump in the Petroleum Movements Unit was converted into a bitumen pump by undertaking the necessary revisions and the pump was installed in the tank field of the Plant 26 Unit. In addition, the existing fuel-oil filling arm at the Phase-1 pier was dismantled and the newly supplied bitumen filling arm was installed. A loading rate of 393 m³/hour (9,438 m³/ day) was achieved in the bitumen ship filling using the revised bitumen pump and the new bitumen filling arm. The performance exceeded the targeted value and filling times were significantly shortened when compared to before the project. In addition, the new bitumen filling arm paved the way for safer and more ergonomic loading operations, which had previously been carried out with a 4" hose, thus ensuring an environmentally friendly operation condition.
- Within the scope of the 1st phase of the "Propylene Sales Lines Facility" project, various lines were established between the TK-328-329 spherical tanks and the Phase-2 pier, and work on the coalescer system in the Plant 3 Unit was carried out. In the first phase of the project, a total water value of 422 ppm was attained, with a water value of 3,500 ppm at the coalescer inlet, yielding sub-quality saleable propylene. The 2nd phase of the project, which will be commissioned at the beginning of 2024, will pave the way for the production and marketing of propylene with a very low water content and high quality, which can be easily sold in the petrochemical sector.
- The existing airpreheater (APH) equipment in the Plant 5 Crude Oil Unit 5F-1 and 5F-3 furnaces is planned to be replaced with newer type equipment with high efficiency. Within the scope of the project, the APH equipment of the 5F-3 furnace was replaced with new designed equipment in the planned production halt of October 2022, with the APH equipment in the 5F-1 furnace planned to be replaced in the first quarter of 2023. In addition to providing higher reliability with a new type of design, the newer equipment is expected to yield approximately USD 1 million /year in savings at the 5F-3 furnace and USD 4.4 million /year in savings at the 5F-1 furnace.
- Within the scope of the energy efficiency studies carried out at the refinery, it was found that the use of steam at the lowest possible pressure in the reboiler systems was more efficient and could also prevent the LP steam venting that occurs periodically in the summer. At the beginning of the project, the Plant 25 intermediate stop was considered as an opportunity and the necessary connections were made from the LP steam line and the project studies were completed. During and after the 25C-8 halt, the inlets and instrumentation work on the reboiler side were also completed, with the transition to LP steam mode was successfully completed in the E-16 reboilers. Thanks to the project, an average of 10 tonnes /hr of MP steam consumption has been converted to 9 tonnes /h of LP steam consumption. The project, with an investment cost of approximately USD 30,000 is yielding USD 1.2 million/year.

“

The İzmit FCC project has yielded an improvement of 0.72 points in the EII (Energy Intensity Index). In addition, an annual reduction of 21.4 thousand tonnes in CO₂ emissions, corresponding to around 55.9 thousand trees, was achieved.



İZMİR REFINERY



With the aim of meeting Turkey's growing requirement for petroleum products, the İzmir Refinery was brought into operation in 1972. The refinery, which started production with an annual crude oil processing capacity of 3 million tonnes, is now registered as having an annual refining capacity of 11.9 million tonnes following significant capacity increases and unit modernizations carried out over the years. The Izmir refinery, which has a Nelson Complexity Index of 7.66, is the only refinery in Turkey to have a machine oil production complex, with a 400,000 tonnes/year capacity.

Major projects carried out during the year:

- With the measures put in place following the increase in natural gas prices, natural gas consumption in the refinery was reduced by 50%. During the year, 14 Quick Win studies were commissioned which yielded 77,400 Gcal/year in energy savings, reductions in CO₂ emissions amounting to 17,800 tonnes/year and financial savings of TL 16 million /year. The EII value, which had stood at 99.6 in 2021, decreased to 98 in 2022.
- The first pilot plant work with respect to the green hydrogen investment got underway in the Izmir Refinery with the purpose of technological adaptation. Basic engineering studies on the project are planned to be completed in 2023.
- Within the scope of the SAF Project, the basic engineering study for confining has been completed and the basic engineering study for the Pretreatment Unit will begin in 2023.
- Basic engineering study on the Propane/Propylene Splitter Unit investment has been completed. This investment will bring petrochemical raw material product to the portfolio of the Izmir Refinery for the first time.
- New dolphins and fenders were built at pier no. 202, allowing ships of up to 185 meters in length to berth. This provided flexibility with importing and exporting. The more efficient use of the piers will reduce demurrage costs.
- As of the end of 2022, the Operational Availability value of the Izmir Refinery was realized as 96.98 in the first quarter according to Solomon criteria.
- The waste recovery rate increased from 90% to 92% and the on-site recovery of waste continued. In 2022, sewage sludge and tank bottom sludge also joined the circular economy. In addition, renovation work has been carried out at the waste site.

In 2022, the İzmir Refinery achieved an 83% capacity utilization rate with a total charge of 9.9 million tonnes, including crude oil and semi-finished products, and a total of 8.7 million tonnes of products were sold, 6.2 million tonnes of which were sold to the domestic market.





The only refinery with a lubricants production complex in Turkey



The refining capacity of the İzmir Refinery is 11.9 million tonnes.

7.66 Nelson Complexity Index

1,371 employees at year-end

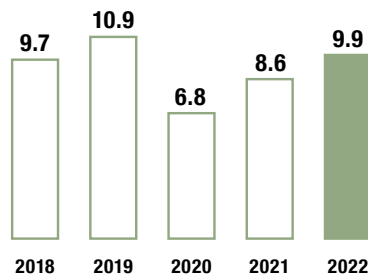
2.5 million m³ The storage capacity of the İzmir Refinery



9.9 million tonnes

The total production of the refinery increased by 14.7% in 2022.

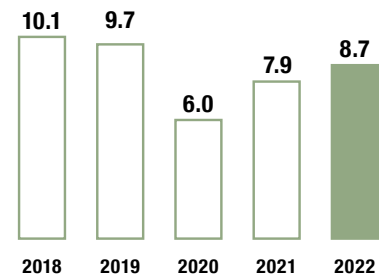
CRUDE OIL AND SEMI PRODUCT PROCESSED
million tonnes



8.7 million tonnes

The refinery's total sales increased by 9.9% in 2022.

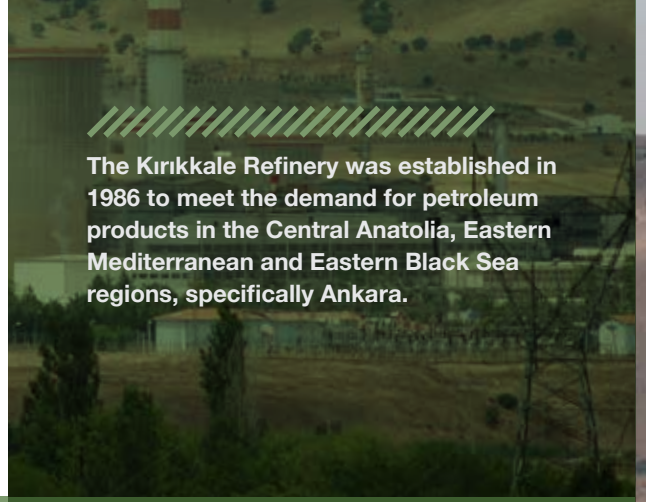
TOTAL SALES
million tonnes



KIRIKKALE REFINERY



The Kırıkkale Refinery was established in 1986 to meet the demand for petroleum products in the Central Anatolia, Eastern Mediterranean and Eastern Black Sea regions, specifically Ankara.



81% capacity utilization was achieved.

Over the years, the Refinery has developed the configuration offering a mid-level complexity by Mediterranean standards with the addition of a hydrocracker, isomerization, diesel desulphurization and CCR reformer units. With a Nelson complexity of 6.32, Kırıkkale Refinery has Turkey's largest road tanker filling capacity.

The crude oil supply of the Refinery, which has a nameplate annual crude oil processing capacity of 5.4 million tonnes, is provided from the Botaş Ceyhan Terminal, using the Ceyhan-Kırıkkale pipeline.

Once production got underway at the İzmit Refinery Fuel Oil Conversion Facility, it was ensured that the Kırıkkale Refinery - which sends semi-finished products to this unit to be fed to the charger - achieved its targeted operational performance. In 2022, the Refinery processed a total of 4.4 million tonnes, including semi-finished products, and 81% capacity utilization was achieved.

4.2 million tonnes product sales

In 2022, 4.2 million tonnes of petroleum products were produced at the refinery with LPG, gasoline, jet fuel, kerosene, diesel fuel, fuel oil, bitumen and products which will be used as charge for the Fuel Oil conversion project being the main products from the refinery. The total product sales made to meet the consumption needs of Central Anatolia stood at 4.2 million tonnes as of the end of the year.





//////
Turkey's largest road tanker filling capacity

//////
The refining capacity of the Kırıkkale Refinery is 5.4 million tonnes.

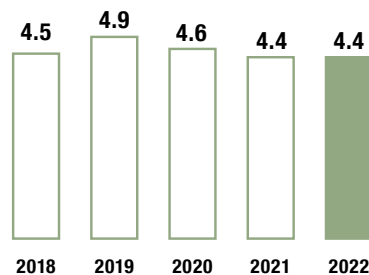
6.32	918	1.3 million m ³
Nelson Complexity Index	employees at year-end	The storage capacity of the Kırıkkale Refinery



4.4 million tonnes

The total production of the refinery in 2022 remained at the level of the previous year.

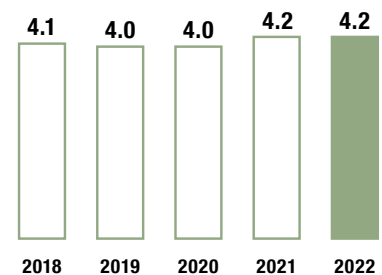
CRUDE OIL AND SEMI PRODUCT PROCESSED
 million tonnes



4.2 million tonnes

The total sales of the refinery followed a course in line with the previous year in 2022.

TOTAL SALES
 million tonnes



KIRIKKALE REFINERY

Within the scope of digitalization studies, a digital twin of the Plant 1100 HP Unit was created in order to increase efficiency of unit operations, while the Energy Mirror application was activated to perform online tracking of the EII account.

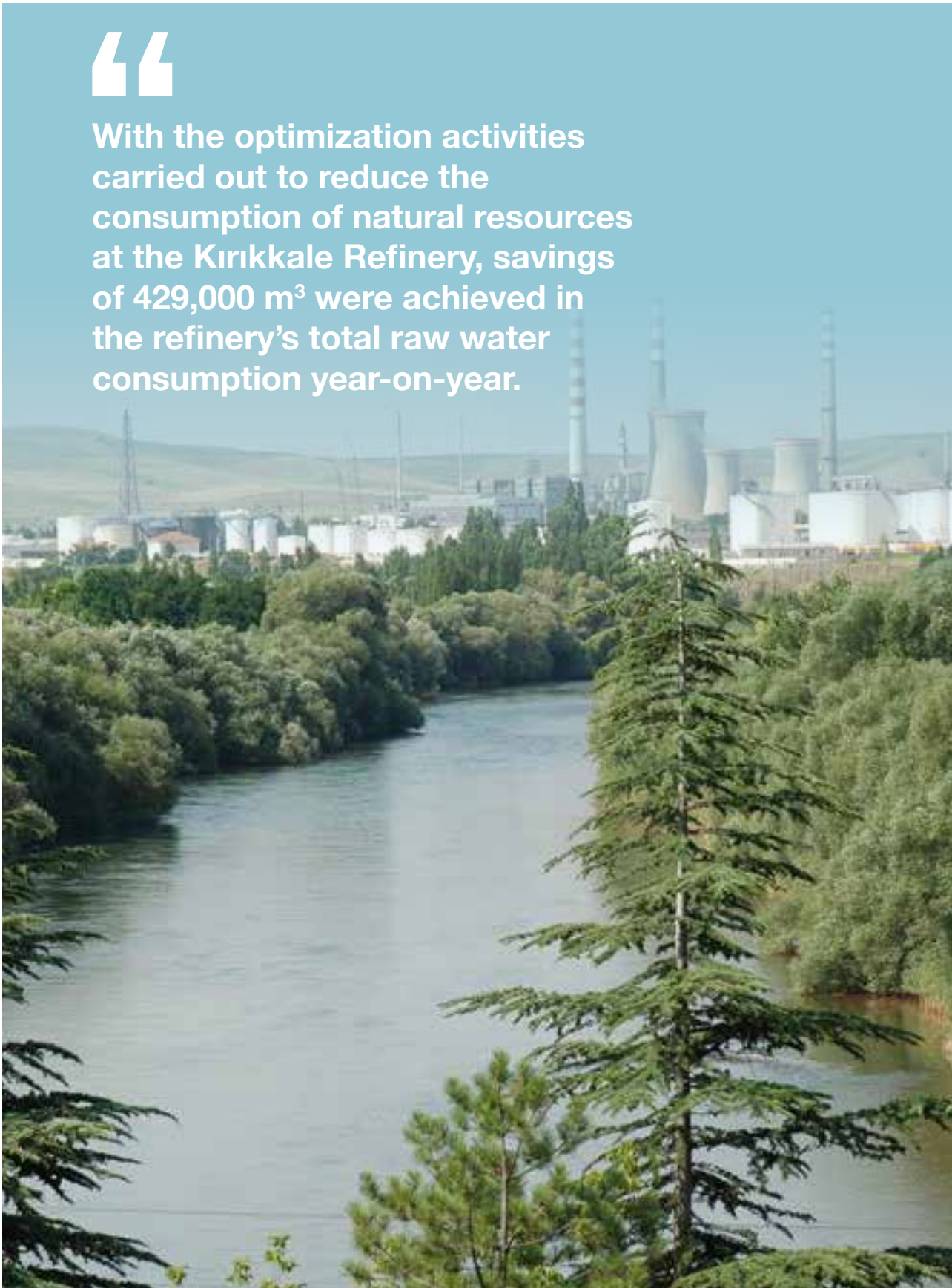
Major projects carried out during the year:

- Work on the 2nd phase of the Fire System Modernization was completed.
- Capacity allocation was received from TEİAŞ for the 16.72 MW licensed solar power plant.
- The EPC contract was signed after having obtained the legal permits for the 12.58 MW solar power plant project. Field work has got underway.
- Work was completed on ensuring the Bio-diesel blending project met legal requirements.
- Petrocoke sales got underway from the Kırıkkale Refinery.
- Work on the investment of the Plant 5450 New Waste Water Stripping Unit (with a capacity of 80 m³/hr) and the Plant 1970 New Sulfur Unit (with a capacity of 169 tonnes / day) got underway.
- Basic engineering work on the ASA Recovery Unit, which will reduce raw water consumption in the refinery, got underway.
- Work on the EU-supported EPC-Eqtech Caustic Neutralization Unit Project got underway at the Plant 5120 ASA Unit, with the work planned to be completed in 2023.
- With the optimization activities carried out by the Team Aqua group, established to reduce the consumption of natural resources at the refinery, savings of 10% (429,000 m³) were achieved in the refinery's total raw water consumption compared to the previous year.
- Within the scope of digitalization studies, a digital twin of the Plant 1100 HP Unit was created in order to raise efficiency of unit operations, while the Energy Mirror application was activated to perform online tracking of the EII account.
- CEI (carbon emission index) calculations were performed for close monitoring of carbon emissions, with infrastructure established for online tracking.
- The process study of a 20 MW green hydrogen production facility, able to produce approximately 2,000 Nm³/h of hydrogen, was carried out. A detailed engineering study is planned to be carried out in 2023.
- Quick Win energy projects paved the way for energy savings of 34,643 Gcal/year. The equivalents of the total savings projects were -0.98 EII and 8,083 tonnes/year of CO₂, or 19,643 trees/year.
- Work on the GAMMA steam line to eliminate steam bottlenecks was completed.
- The oil condensate degreasing coalescer system was completed and brought into operation.
- The DCS system in the Oil Movements Unit was renewed and a new ESD system installed within the scope of the Tank HAZOP Project.
- A second level transmitter was installed on all tanks, increasing reliability.
- The K-2601 A air compressor was renewed and brought into use.



“

With the optimization activities carried out to reduce the consumption of natural resources at the Kırıkkale Refinery, savings of 429,000 m³ were achieved in the refinery's total raw water consumption year-on-year.



BATMAN REFINERY



Semi-finished products produced at the Batman Refinery and ready-to-sell diesel and gasoline products produced at the Kırıkkale and İzmit Refineries are transported in either direction by rail.



The first refinery in Turkey

Commissioned in 1955 with a crude oil processing capacity of 330,000 tonnes, the Batman Refinery was the first refinery to be founded in Turkey. The capacity, which reached 1.1 million tonnes after the commissioning of the second crude oil processing unit in 1972, reached 1.4 million tonnes / year with the expansion investments completed in 2019, and production continued with the same capacity in 2022.

With the advantage of its geographical proximity to Turkey's own domestic heavy crude oil resources, Batman Refinery is structured in a simple configuration to process this crude oil. The Refinery has a Nelson Complexity Index of 1.83. A total of 674,000 tonnes of crude oil were processed at the Batman Refinery in 2022, with 640,000 tonnes of product sales realized.



The process of installing a 5 MW Licensed Solar Power Plant project got underway. The tender process for the project is ongoing, with the project, already pre-approved by TEİAŞ, expected to be approved by the board of EMRA.





Major projects carried out during the year:

- The process of installing a 5 MGW Licensed Solar Power Plant project got underway. The tender process for the project is ongoing, with the project, already pre-approved by TEİAŞ, expected to be approved by the board of EMRA.
 - Work on the F-101 Furnace Logic Revision and Instrument Deficiencies Project got underway and was completed in 2022.
 - The tender process for the project to establish a Reverse Osmosis System was completed and the project is planned to be completed in the second quarter of 2023.
 - A Radiant Heating System was installed in the Maintenance and Welding Workshop,
- supporting efforts to reduce consumption of steam in the refinery.
 - Work continues on the installation of hot oil lines to replace the steam lines in the filling islands, which will provide a significant contribution to reducing the steam consumption in the refinery.
 - Within the scope of the work to remove odors
 - » The Hydrogen Peroxide Injection System in the Plant 100 Unit was rendered safe for operation.
 - » Work on the project to Cover ASA Pools with GRP Profiles was largely completed and work on the ASA deodorization project was initiated.
 - Infrastructure work on the Terminal Automation System project was completed.

The refinery capacity of Batman Refinery is 1.4 million tonnes.

1.83

Nelson Complexity Index

429

employees at year-end

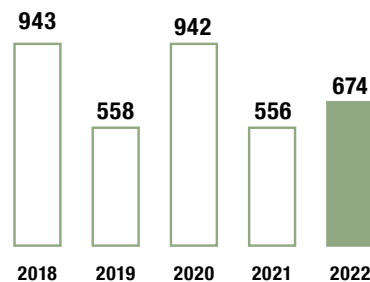
299 thousand m³

The storage capacity of the Batman Refinery

674 thousand tonnes

The total production of the refinery increased by 21.2% in 2022.

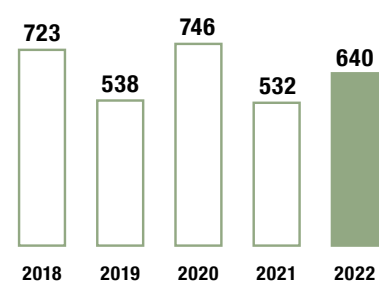
PROCESSED CRUDE OIL
thousand tonnes



640 thousand tonnes

The refinery's total sales increased by 20.4% in 2022.

TOTAL SALES
thousand tonnes



TUPRAS TRADING LTD

The main purpose of Tupras Trading Ltd, a 100%-owned subsidiary of Tüpraş and based in London, is to raise Tüpraş's commercial competencies to a higher level by evaluating market opportunities.

Commencing its operations as a London Trading Office in 2018, Tupras Trading Ltd. maintained its positive contribution to Tüpraş's operations through the trade of fuel oil, light and mid distillate and crude oil products. Tüpraş carries out futures market derivatives transactions through Tupras Trading Ltd in order to manage stock price risks.

In addition to the tender method, Tupras Trading Ltd also aims to achieve price optimization through the one-to-one negotiation method, as well as freight optimization by converting imports to an FOB basis and exports to a CIF basis.

Tupras Trading Ltd continued to diversify its supply chain thanks to its experienced trading teams in 2022, a time when the industry was beset by many uncertainties and volatility.

Tupras Trading Ltd served a major purpose for TUPRAŞ by allowing Tüpraş to continue its operations without interruption in the crude oil and intermediate product supply chain, enabling Tüpraş to export its products to new regions in the most profitable manner and creating commercial flexibility, thus allowing optimization of refinery system. Tupras Trading Ltd also played an active role in third party trading, paving the way for significant new revenues.

Against the backdrop of sharp price volatility in 2022, Tupras Trading Ltd significantly contributed to both Tüpraş and Tupras Trading Ltd by using new instruments to hedge price risk and taking timely actions.



The main purpose of Tupras Trading Ltd, a 100% owned subsidiary of Tüpraş and based in London, is to raise Tüpraş's commercial competencies to a higher level by evaluating market opportunities.

In 2022, over 8 million tons of fuel oil, light and mid distillate products were traded and more than 10 million tons of spot crude oil connections were carried out through Tupras Trading Ltd to meet the needs of Tüpraş's refineries

Effective management of market risks and operational risks, which are a natural part of Tupras Trading Ltd.'s business model, is crucial in ensuring sustainable profitability. The monitoring, management and reporting of these risks is carried out within the scope of the relevant risk policies. Identification of the risks which the Company may be exposed to, taking additional measures deemed necessary and developing policies are carried out by the Risk Management Committee.

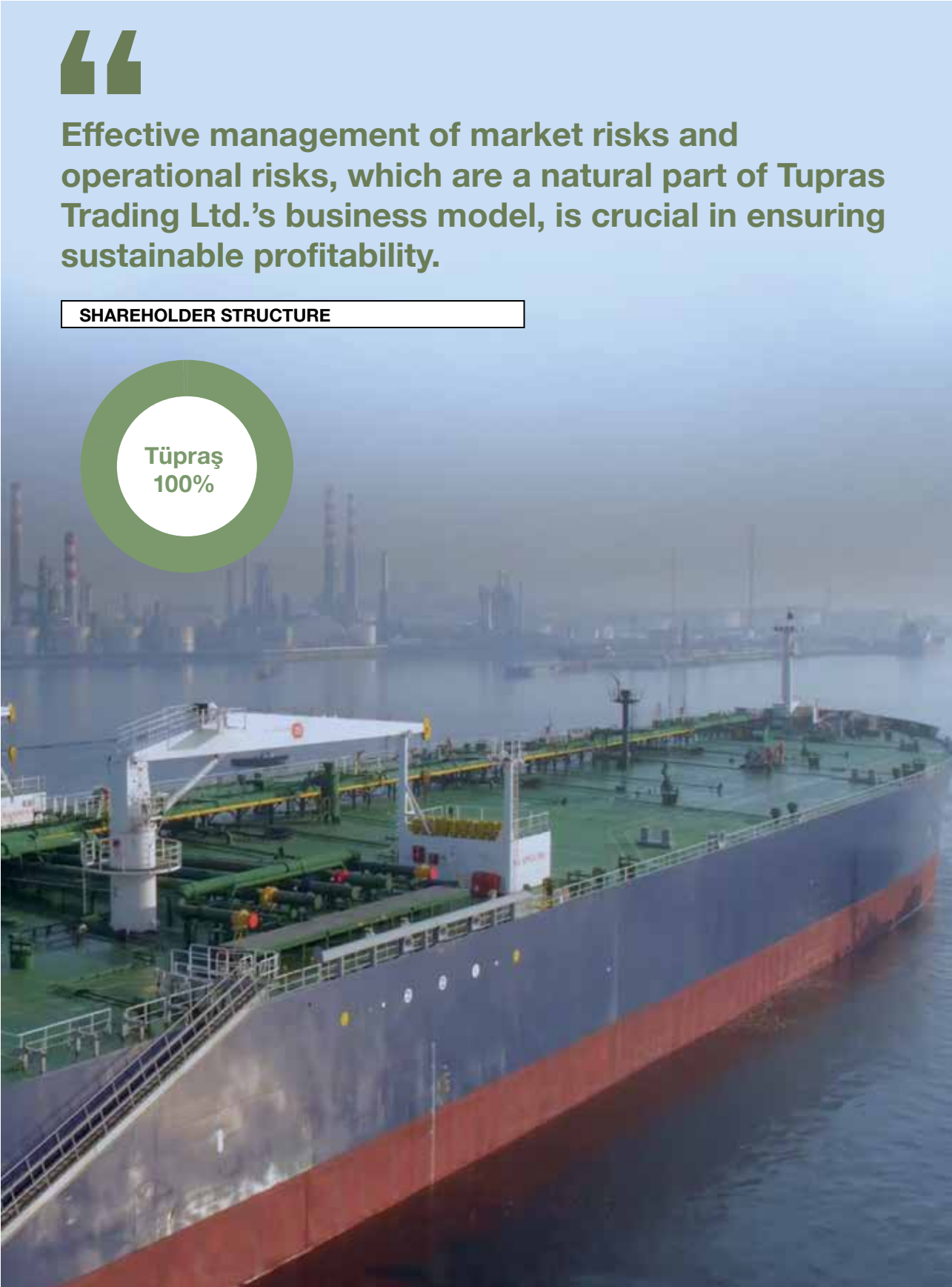


“

Effective management of market risks and operational risks, which are a natural part of Tupras Trading Ltd.'s business model, is crucial in ensuring sustainable profitability.

SHAREHOLDER STRUCTURE

Tüpraş
100%



DISTRIBUTION-OPET

Opet provides superior products and services to its customers through its distribution network of 1,857 stations.



3rd in white products with 18.9% market share

1st in black products with 31.4% market share

Established by the Öztürk Family in 1992, Opet has been managed by the Öztürk Group and the Koç Group since 2002. The Company operates in the fuel distribution sector via retail sales, commercial and industrial fuel sales, storage and international product trade. With more than 1,000 employees, 1,857 stations including the Sunpet brand and 1.1 million m³ of storage capacity, Opet manages an extensive service network throughout Turkey with 5 terminals and provides high-quality products and services to its customers.

Opet manufactures and markets mineral oil through its subsidiary Opet-Fuchs, a 50-50% partnership with the German mineral oil company, Fuchs; supplies and sells jet fuel via THY-Opet, a 50-50% partnership with Turkish Airlines, and EV charging station operation via WAT Mobilite in which it holds 24% stake. The company is engaged in gas station operation via Opet Market ve Akaryakıt İstasyon İşletmeciliği A.Ş.

Opet ranks third in white products and first in black products.

In 2022, Opet increased its sales parallel to the market growth.

THY-Opet, which serves a number of domestic and international airlines in all airports throughout Turkey, reached jet fuel sales of 765,360 m³ in 2022.

Opet Fuchs manufactures automotive and industrial lubricants and auto care products in its brand new production facility in Aliağa, İzmir; the company reached 40,998 tonnes of mineral oil sales at the end of 2022.

Leading the way with its social awareness projects

Regarding social responsibility projects a part of its job, Opet aims to produce permanent solutions to issues with its initiatives that it refers to as “Conscious Society Projects”. Among the key projects run by Opet are the “Clean Toilet Campaign” that has been ongoing for 22 years, the importance of which has been even better understood during the pandemic, the “Green Road Project” commenced in 2004, the “Model Village Project” initiated in 2005, the “Traffic Detectives Project” ongoing since 2013, the “Women Power Project” started in 2017 and designed to increase women’s employment at Opet stations and eliminating gender stereotyping in workplaces. Launched in 2021 in collaboration with the Union of Chambers and Commodity Exchanges of Turkey (TOBB) Women Entrepreneurs Council and Ministry of National Education Directorate General of Lifelong Learning, the “Clean Business Project” targets to result in increased hygiene capacities and preference for businesses through free-of-charge training programs offered to business owners wishing to establish enhanced hygienic standards and to their employees.

An extension of Opet’s “Model Village Project”, the “Respect for the Nature Project” covers redevelopment efforts for villages hit by the wildfires of 2021. Under the “Respect for the Nature Project”, restoration, rehabilitation and education activities are being carried out in Osmaniye and Bayır in Marmaris, Çökertme, Gökbel and Bozalan in Milas, and Otmanlar in Köyceğiz that were affected by the wildfires.

The “Spotless Future Begins at Schools Project” co-launched by Opet and the Ministry of National Education in November 2022 is intended to raise increased awareness of cleanliness and hygiene among students, employing various training modules offered starting from nursery class through the 12th grade.

Forward-looking expectations

Opet targets to grow above the sector without compromising profitability, while remaining adhered to its main priority to maintain customer satisfaction and leading digital transformation.

For 2023, the company plans to consider renewable energy projects and execute new projects geared towards the establishment of electric vehicle charging stations via its new investment, WAT Mobilite Çözümleri.

In line with the Carbon Transition Program, which was launched by Koç Holding to become carbon-neutral by 2050 and which covers concrete and feasible steps for combating the climate crisis, Opet takes the necessary actions within the scope of this project.

Financial Indicators (TL million)

	2021	2022
Total Revenues	56.007	179.988
Operating Profit/(Loss) ⁽¹⁾	1.996	3.184
Profit/(Loss) Before Tax	1.720	914
Net Profit/(Loss) ⁽²⁾	1.544	979

⁽¹⁾ Excluding FX gains/losses and credit finance income/expenses on trade receivables and payables.

⁽²⁾ Net profit/loss attributable to the equity holders of the parent.



MARINE TRANSPORTATION-DİTAŞ

Providing operational and cost advantages to Tüpraş with more than 45 years of experience, Ditaş transported 10.5 million tons of crude oil and 6.3 million tons of petroleum products in 2022.



96.5% of both crude oil and petroleum product shipments were carried out in line with the needs of Tüpraş refineries.

Ditaş Deniz İşletmeciliği ve Tankerciliği A.Ş. (Ditaş), was established on 16 March 1974 by the Turkish Petroleum Corporation (TPAO), İpraş, and the Turkish Naval Foundation to purchase, build or charter marine tankers and use them for the marine transportation of crude oil and petroleum products.

A 29% stake in Ditaş, held by İpraş, was transferred to Tüpraş in 1983, the year the Company was established. In October 2002, Tüpraş purchased 50.98% of the shares in Ditaş held by the Directorate of Privatization Administration, after which it held a total of 79.98% of the shares in Ditaş.

Ditaş entered a process of restructuring and growth after 2006. Within the framework of this process, 15 companies were established, with 100% of the capital belonging to Ditaş.

The Company provides shipping line operations, brokerage/ ship leasing, guidance, tug operations, inspection and agency services. Ditaş carries out crude oil transportation in line with the needs of Tüpraş, and carries out the transportation of petroleum products by taking the needs of Tüpraş and other suppliers into consideration. Ditaş carries out these services with its own tankers as well as tankers leased on a time and expedition basis.

Providing operational and cost advantages to Tüpraş with more than 45 years of experience, Ditaş transported 10.5 million tons of crude oil and 6.3 million tons of petroleum products in 2022, with 96.5% of Tüpraş refineries. In 2022, Ditaş also provided product transportation services for THY Opet (%1.0 of all operations) and other distribution companies (%2.5 of all operations).

Port and marine agency services

Ditaş charters domestic and foreign tankers to intermediate between ship owners and the exporters and importers of crude oil and petroleum products. Ditaş also provides agency services in ports and straits.

Ditaş carried out its activities with a total of 13 tankers and a fleet with a capacity of 536,279 DWT during the first half of 2022 and 14 tankers and a fleet with a capacity of 542,879 DWT during the second half of 2022. On June 30, 2022, the Ocean Angel, a 6,600 DWT tanker built in 2017 and registered in Hong Kong, was purchased and renamed T.Cumhuriyet.

As of 2022 year-end, Ditaş operates two 314,906 DWT crude oil tankers, four asphalt tankers with a combined capacity of 61,450 DWT, eight product carriers with a combined capacity of 166,523 DWT, as well as 12 tugs, seven mooring vessels, three service vessels and one pilot vessel for the tug and mooring services needed in İzmit and Aliğa ports.

Ditaş was granted the International Safety Management (ISM) Code, the ISPS Code (International Ship and Port Facility Security Code), and the MLC (Maritime Labor Convention) compliance certifications for its vessels. In addition, the company holds the ISO 9001: 2015 Quality Management System and ISO 14001: 2015 Environmental Management System certificates for the company's offices, ships and terminals.

The Company was awarded the ISPO (International Standard for Pilot Organizations) certification for pilotage services in the İzmir Terminal; Ditaş was the first company in Turkey and the 11th company in the world to hold this coveted designation.

TMSA compliance studies, which serve as an important reference in tanker operations and are requested by oil companies, have progressed and a TMSA Office Review was carried out by a key oil company in 2022. Work on the transition to change the Sire system (Sire 2.0) has been completed. Embracing its responsibilities as a good corporate citizen, Ditaş is also a member of KalDer (the Turkish Quality Association), TURMEPA (the Turkish Marine Environment Protection Association) and Baltic and International Maritime Council (BIMCO).

Targeting full regulatory compliance

Ditaş closely follows all applicable domestic and international laws, rules and regulations, and fulfills all compliance requirements in a timely manner in order to deliver high quality, safe and eco-friendly services. Additionally, the Company provides all training programs required by Law No: 6331 on Occupational Health and Safety and applicable regulations. The Company's occupational safety specialist and on-site physicians fulfill legal requirements such as risk assessment, emergency action plans and periodic health checks. Work on achieving compliance with Koç Holding OHS Standards was carried out during the year.

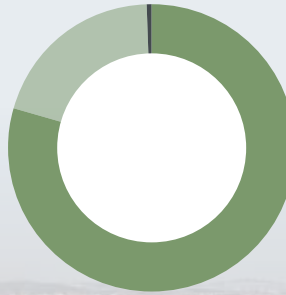
The Corporate Cyber Incident Response Team (CIRT) continues its activities in accordance with national legislation, since the maritime sector was designated a critical sector in terms of cybersecurity. As part of Company's activities on digitalization and sustainability, a new software program used for tanker

management on ships and in the office was introduced. A system was put into operation in which competency assessments are carried out online before the recruitment and participation of ship personnel on board. In order to improve the professional competence and safety culture of the ship's personnel, studies are carried out jointly with an international company which is a leader in the industry in digital training for maritime activities. Safety and emergency training was provided by the training inspector on board the ship, thereby raising safety awareness among the personnel.

Since 2009, Ditaş has provided loading master services to ships arriving in Tüpraş's marine terminals in order to increase safety. In 2010, Ditaş also started to check and report on the compliance of incoming ships with domestic and international regulations, as well as with Tüpraş's standards. In this context, a total of 33 ships were provided with inspection services at İzmit and İzmir terminals in 2022, and XX ships were provided with loading master services.

SHAREHOLDER STRUCTURE

%



■ Tüpraş 79.98%
■ Turkish Armed Forces Foundation 20.00%
■ Aygaz-Akpa-Demir Export 0.02%



MARINE TRANSPORTATION-DİTAŞ

THE AFFILIATES OF DİTAŞ DENİZ İŞLETMECİLİĞİ VE TANKERCİLİĞİ A.Ş.

COMPANY	VESSELS OWNED
Üsküdar Tankercilik A.Ş.	T. Sevgi Tanker
Kadıköy Tankercilik A.Ş.	T. Gönül Tanker
Beykoz Tankercilik A.Ş.	T. Sadberk Tankerleri
T. Damla Denizcilik A.Ş.	Tugboats and Mooring boats
Sarıyer Tankercilik A.Ş.	T. Suna Tanker
Karşıyaka Tankercilik A.Ş.	T. Leyla Tanker
Kartal Tankercilik A.Ş.	T. Esra Tanker
Maltepe Tankercilik A.Ş.	T. Aylin Tanker
Karaköy Tankercilik A.Ş.	T. Caroline Tanker
Çengelköy Tankercilik A.Ş.	T. Nevbahar Tanker
Bakırköy Tankercilik A.Ş.	T. Semahat Tanker
Pendik Tankercilik A.Ş.	T. Adalyn Tanker
Tuzla Tankercilik A.Ş.	T. Elinor Tanker
Göztepe Tankercilik A.Ş.	T. Fatma Tanker
Salacak Tankercilik A.Ş.	T. Cumhuriyet Tanker ^(*)
Kuruçeşme Tankercilik A.Ş.	T. Aframax Tanker ^(**)

T. Cumhuriyet (Blue Ship) tanker registered in the assets of Beykoz Tankercilik A.Ş. was sold and delivered to its new shipowner on 23 December 2021.

^(*) On June 30, 2022, the Ocean Angel, a 6,600 DWT tanker built in 2017 and registered in Hong Kong, was purchased and renamed T.Cumhuriyet.

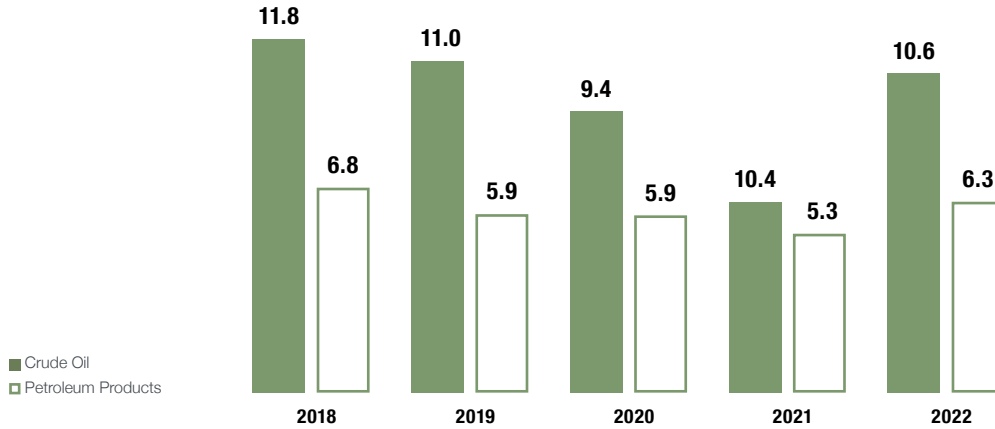
^(**) Kuruçeşme was registered on 30 June 2022. The tanker is planned to be received in April.

FINANCIAL INDICATORS (USD million)	2018	2019	2020	2021	2022
Net Sales	213.5	213.2	199.1	182.3	237.3
Operating Profit	69.1	70.8	80.4	66.4	67.7
Net Profit	49.6	52.2	59.7	60.8	60.9

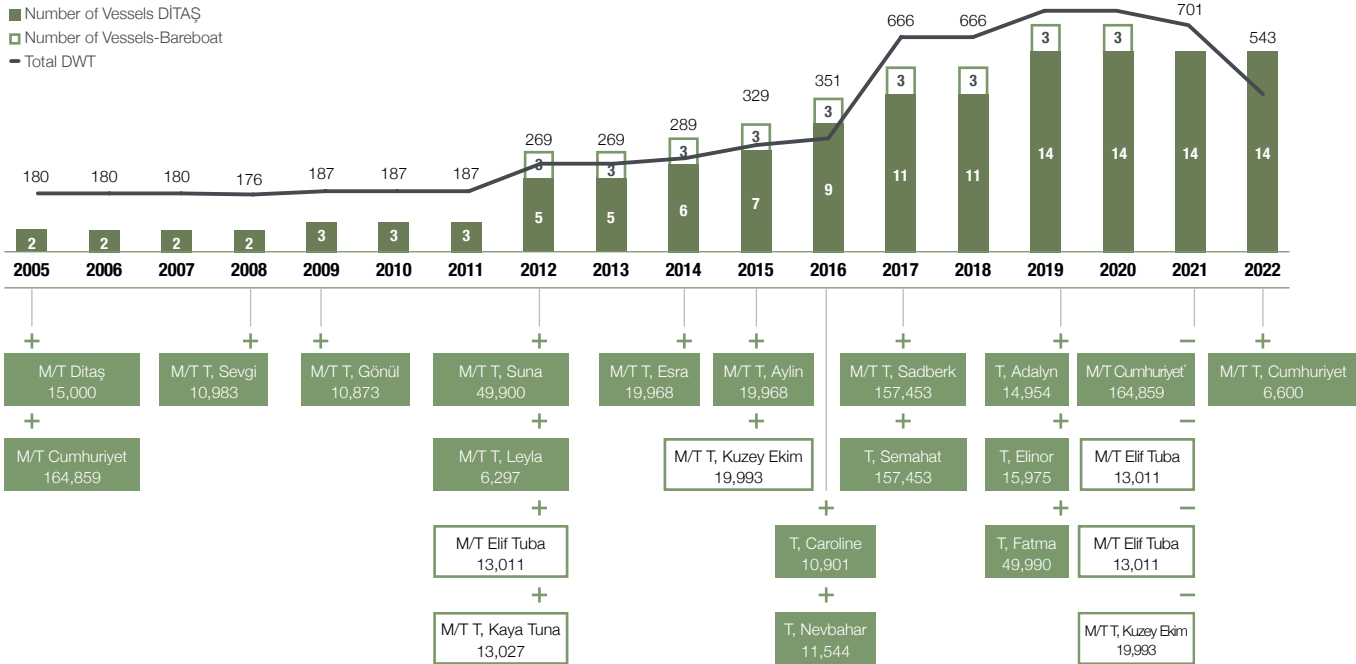
Environmental Performance	2018	2019	2020	2021	2022
Total Grey Water Consumption (million m ³)	0.03	0.03	0.02	0.02	0.02
Total Water Consumption (million m ³)	0.05	0.08	0.04	0.03	0.02
Raw Water Usage Rate per Cargo (m ³ /tons)	0,002	0,002	0,001	0,001	0,001
Total Amount of Solid Waste (tons)	16,168	22,089	15,397	11,679	16,145
Hazardous Wastes (tons)	16,104	21,980	15,267	11,573	15,995
Non-Hazardous Wastes (tons)	64	109	131	106	150
Total Spending on Environmental Investments and Operating Expenses (TL million)	2.6	50.0	53.3	1.7	10.86

CRUDE OIL AND PETROLEUM PRODUCTS TRANSPORTED

(million tons)



NUMBER OF VESSELS AND CARRIAGE CAPACITY



- Vessels added to the fleet
+ Vessels removed from the fleet

MARINE TRANSPORTATION-DİTAŞ

Ditaş-Owned Tankers



M/T T. Sevgi

Tanker Type	Oil Product/Chemical
Built in	2008
DWT	10,983 tons
Length	131.85 m



M/T T. Gönül

Tanker Type	Oil Product/Chemical
Built in	2009
DWT	10,873 tons
Length	131.85 m



M/T T. Caroline

Tanker Type	Oil Product/Chemical
Built in	2009
DWT	10,901 tons
Length	131.85 m



M/T T. Nevbahar

Tanker Type	Oil Product/Chemical
Built in	2009
DWT	11,544 tons
Length	130.12 m



M/T T. Leyla

Tanker Type	Oil Product/Chemical
Built in	2011
DWT	6,267 tons
Length	121.62 m



M/T T. Suna

Tanker Type	Oil/Chemical
Built in	2012
DWT	49,990 tons
Length	183.31 m



M/T T. Esra

Tanker Type	Asphalt/Chemical
Built in	2014
DWT	19,968 tons
Length	156.50 m



Ditaş carried out its activities with a total of 13 tankers and a fleet with a capacity of 536,279 DWT during the first half of 2022 and 14 tankers and a fleet with a capacity of 542,879 DWT during the second half of 2022.

**M/T T. Fatma**

Tanker Type	Asphalt/Chemical
Built in	2014
DWT	49,990 tons
Length	183.11 m

**M/T T. Aylin**

Tanker Type	Asphalt/Chemical
Built in	2015
DWT	19,928 tons
Length	156.50 m

**M/T T. Sadberk**

Tanker Type	Crude Oil
Built in	2017
DWT	157,453 tons
Length	277.17 m

**M/T T. Semahat**

Tanker Type	Crude Oil
Built in	2017
DWT	157,453 tons
Length	277.17 m

**M/T Adalyn**

Tanker Type	Asphalt/Chemical
Built in	2019
DWT	14,954 tons
Length	153.9 m

**M/T Elinor**

Tanker Type	Oil Product/Chemical
Built in	2019
DWT	15,975 tons
Length	153.63 m

On June 30, 2022, the Ocean Angel, a 6,600 DWT tanker built in 2017 and registered in Hong Kong, was purchased and renamed T.Cumhuriyet.

**M/T. Cumhuriyet***

Tanker Type	Asphalt/Chemical
Built in	2017
DWT	6,600 tons
Length	109.7 m

* Joined the fleet on 30 June 2022.

KÖRFEZ ULAŞTIRMA A.Ş.

On the back of Körfez Ulaştırma's performance in 2022, the share of highway transportation in total highway and rail transportation was reduced by up to 4%, having stood at 38% in 2017.



In 2022, Körfez Ulaştırma used a total of 519 fuel wagons and 35 platform wagons in transportation, including the 75 new fuel wagons which it commissioned during the year.

Providing flexibility and convenience to Tüpraş with its growing fleet, Turkey's first private railway operator, Körfez Ulaştırma A.Ş. was established as a company wholly owned by Tüpraş, and the Company started its operations as a Railway Train Operator (RTO) in December 2017.

In addition to the transport of fuel oil which the company has carried out through DTI on the İzmit-Kırıkkale, Kırıkkale -Batman and Kırıkkale-Mersin railway lines throughout 2022, the company also carried out the transport of iron ore from June 2020 on the Sivas-İskenderun railway line with the organizer's certificate and capacity. The number of companies carrying out diesel transportation between İzmit and the Ankara Güvercinlik facility increased to three as part of the Tüpraş's transportation of DAP. In addition, the transportation of gasoline between the Kırıkkale refinery and the Mersin Ataş facility started from November 2022 within the scope of Tüpraş DAP transportation.

Körfez Ulaştırma increased the volume of fuel products and intermediate products which carries from 1.7 million tonnes to 2.5 million tonnes in 2022, with 100% of this amount realized using its own trains. The amount of iron ore carried by Körfez Ulaştırma with its operator role was 250,000 tonnes in 2022.

In 2022, Körfez Ulaştırma used a total of 519 fuel wagons and 35 platform wagons in transportation, including the 75 new fuel wagons which it commissioned during the year. In addition to other products, Tüpraş's petcoke product started to be transported on the İzmit-Kırıkkale railway line in 2022.

As of the end of 2022, 81 train drivers were working on the trains operated by Körfez Ulaştırma. The Company employed 40 personnel on a salary in the locomotive workshop and warehouse within the Istanbul and Ankara offices and the Tüpraş Kırıkkale Refinery.

Workshops

Work continued on the refurbishment of 249 wagons in accordance with the 2022 refurbishment program in Turkey's most comprehensive wagon maintenance and repair workshop, located in the Kırıkkale Refinery, with work proceeding in accordance with the targets and in line with ECM standards. The necessary investments for wheel fastening activities were completed entirely with domestic resources, and 250 wheel sets were prepared during the year. Also in the Kırıkkale Refinery, the locomotive workshop investment was completed for the maintenance activities of the locomotives owned by the Company and the requisite ECM certificate was obtained for locomotive maintenance. The servicing and periodic maintenance of the locomotives is carried out by Körfez personnel in the workshop. The investments in the workshops and warehouses required for the storage of materials have been completed.

Record fall in road transportation

On the back of Körfez Ulaştırma's performance in 2022, the share of highway transportation in total highway and rail transportation was reduced by up to 4%, having stood at 38% in 2017. In addition to the economic benefit provided, through the reduction of fuel tanker traffic on the highways also brought environmental and social benefits.

Locomotive and wagon investments

Seven hybrid locomotives (which are able to work in either diesel or electric modes), which Körfez Ulaştırma ordered from the Swiss company Stadler in 2019, continued their commercial services using the electric operation mode without interruption from the beginning of 2022.

The delivery of 75 new fuel wagons was also completed in 2022.

Körfez Ulaştırma presses ahead with its investments in locomotives and wagons and aims to:

- To increase third party railway transportation in addition to Tüpraş's total railway transportation of 2 million tonnes per year,
- As well as being the largest rail transporter of fuel in Turkey, to expand its contribution to the country's goals of developing rail transport by carrying out non-fuel transportation as well

Greener transportation

Transporting 1 tonne of products a distance of 1 km by diesel locomotive generates one quarter the volume of emissions as it would be road, while an electric locomotive generates just one eighth of the emissions as it would by road. With the operation of hybrid locomotives on electric lines in 2022, Tüpraş achieved a reduction of approximately 6,500 tonnes in its CO₂e emissions under its Scope-1 emissions compared to the previous year, and the emission intensity value decreased by 50%. The operation of hybrid locomotives paved the way for a reduction of 3,200 tonnes of CO₂e in total emissions (Scope-1 and Scope-2). When compared to the transportation of the same products by road, the reduction in CO₂e emissions stands at 30,500 tonnes.

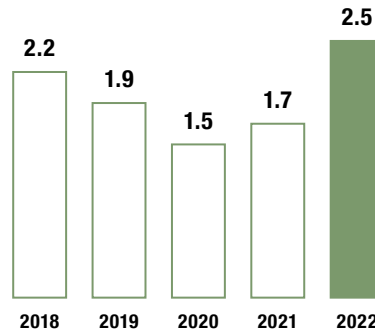
Within the scope of the "Carbon Neutral 2050" target, efforts are being carried out to reduce greenhouse gas emissions from activities by tracking them. In this vein, the company targets a 45% reduction over the base year in the Scope-1 emission intensity associated with its activities in 2030.

2.5 million tonnes

Fuel product and intermediate product

TOTAL AMOUNT OF FUEL PRODUCTS AND INTERMEDIATE PRODUCTS CARRIED*

million tonnes



Körfez Ulaştırma increased the volume of fuel products and intermediate products which carries from 1.7 million tonnes to 2.5 million tonnes in 2022, with 100% of this amount realized using its own trains.

(* Including DAP deliveries on behalf of Tüpraş.

Within the scope of the "Carbon Neutral 2050" target, efforts are being carried out to reduce greenhouse gas emissions from activities by tracking them.

SHAREHOLDER STRUCTURE

Tüpraş
100%

Körfez Ulaştırma

ENTEK ELEKTRİK ÜRETİMİ A.Ş.

Entek aims to expand in the field of renewable energy, not only in Turkey but also abroad. While continuing to take advantage of the opportunities offered in our country, it also has an interest in renewable energy projects in the operational and development stages in priority markets with the aim of spreading to different regions and diversifying risks.

As one of Turkey's first private sector autoproducers, Entek was established in 1995 to supply electricity and steam, and started actual production in December 1998. Entek has a total installed capacity of 442 MW with a total of eight hydroelectric power plants (HPPs) located in Kahramanmaraş, Karaman, Samsun and Mersin with a combined installed capacity of 264 MW; a wind farm with an installed capacity of 66 MW located in Edirne; and a natural gas cycle power plant with an installed capacity of 112 MW, located in Kocaeli.

Menzelet Kılavuzlu Elektrik Üretimi A.Ş., which is currently producing is a wholly owned subsidiary of Entek operating in the wholesale electricity sales field, includes the Menzelet and Kılavuzlu hydroelectric power plants which were acquired through privatisation. Eltek and Süloğlu Elektrik Üretimi A. Ş. acquired through share transfer, are wholly owned subsidiaries of Entek. Furthermore, Entek holds 0.05% of the shares in Enerji Piyasaları İşletme A.Ş., which was established to operate the Energy Stock Exchange.

The Kılavuzlu HEPP, which is included in the portfolio, is eligible to benefit from the YEKDEM mechanism, which provides foreign currency indexed income, until the end of 2023, while the Süloğlu wind farm is eligible to benefit from the mechanism until the end of 2025.

Work taken in the field of Zero-Carbon Electricity

Entek aims to expand in the field of renewable energy and diversify its hydroelectric resource-weighted portfolio. Entek increased its installed wind capacity to 66 MW with the license amendment carried out in August for the Süloğlu wind farm, which was established in Edirne in 2022. At the same time, the application for a hybrid solar power plant with a capacity of 20 MW was submitted for the Süloğlu wind farm on 16 November 2022. In addition, preliminary license applications were submitted for a total of 22 projects with a capacity of 1,461.5 MW, including solar power plants with a with a total capacity of 190 MW and a wind farm with a capacity of 1,271.5 MW, with the commitment to establish a storage facility. These steps are considered important for Tüpraş's growth strategy in zero-carbon energy sources.

In May 2022, Entek became a 10% partner of WAT Mobilite Çözümleri Teknoloji ve Ticaret A.Ş., a Koç Group company established for the rollout of electric vehicle charging stations in Turkey.

In 2022, Entek recorded sales of approximately 2.7 billion kWh and generated TL 7,529 million in consolidated revenue. Renewable energy resources provided 1.5 billion kWh of this sales amount with renewable energy resources accounting for 1.2 billion kWh of the consolidated revenues.

Forward-looking expectations

In order to reach a balanced portfolio structure and increase its market share in the coming period, Entek plans to press ahead with its investments in power plants based on renewable energy resources through asset purchases and project development methods, as well as seizing opportunities in emerging technologies in the field of energy and retail sales.

Entek aims to expand in the field of renewable energy, not only in Turkey but also abroad. While continuing to take advantage of the opportunities offered in our country, it also has an interest in renewable energy projects in the operational and development stages in priority markets with the aim of spreading to different regions and diversifying risks.

Tüpraş announced its Strategic Transition Plan and commitment to be carbon neutral by 2050 last year. The renewable energy company, Entek, is undertaking an important investment in the field of "Zero-carbon electricity", which is one of the four strategic business lines which Tüpraş will focus on. Entek has taken the necessary steps in this context.

Awards and Achievements:

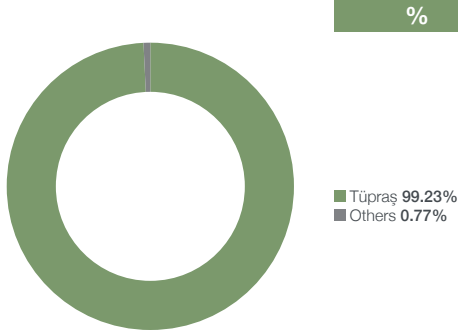
Entek was placed second in the "M&A/Acquisition Finance Deal of the Year" category at the Bonds & Loans Turkey awards in recognition its Süloğlu Elektrik acquisition financing package.

Entek won the "Best E-Transformation Project" award at the Digital Experience Summit' 2022, which was organized by Mechsoft.

Entek was rewarded with the "HPP Commissioning / Decommissioning with Artificial Intelligence" project in the "Digitalization" category at the Common Future (Ortak Yarınlar) awards.

Entek was selected as the "Best Workplace" in the Kincentric Best Employer research.

SHAREHOLDER STRUCTURE



The renewable energy company, Entek, is undertaking an important investment in the field of “Zero-carbon electricity”, which is one of the four strategic business lines which Tüpraş will focus on. Entek has taken the necessary steps in this context.

Entek Elektrik Üretimi A.Ş. Installed Capacity 442 MW



8

HYDROELECTRICITY
POWER PLANTS

1

NATURAL GAS
CONVERSION
POWER PLANT

1

WIND
FARM

ENTEK ELEKTRİK ÜRETİMİ A.Ş.



Renewable Energy Portfolio (MWh)

GWh	2018	2019	2020	2021	2022
Wind Farm					
Süloğlu	225	212	222	215	230
Hydroelectricity Power Plant					
Damlapınar	62	71	66	50	68
Kepezkaya	82	115	100	63	99
Kumköy	68	98	79	43	65
Azmak	49	102	84	61	45
Kılavuzlu	144	276	235	178	179
Menzelet	309	664	577	458	475
Total	940	1,539	1,364	1,070	1,160

Financial Indicators (TL million)

	2021	2022
Total Revenues	1,760	7,529
Operating Profit ^(*)	296	1,270
EBITDA	365	1,365

(*) Excluding FX gains/losses and credit finance income/expenses on trade receivables and payables.

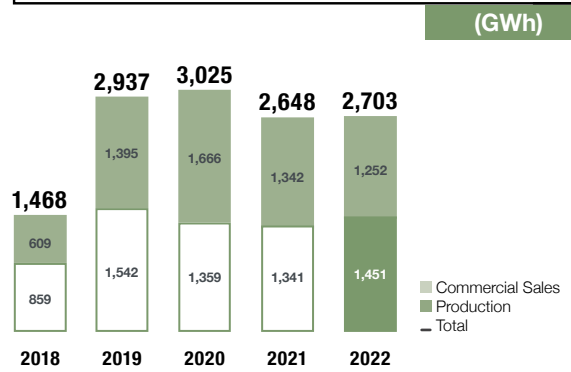


Entek aims to increase the rate of female employees in corporate and managerial positions to 50% by 2026.

2,703 (GWh)

Entek's total sales amounted 2,703 GWh in 2022.

SATIŞ MİKTARI



Production and sales of Kocaeli Natural Gas Conversion Power Plant and commercial sales of Entek's trading company Eltek are also included in the table.





Based on figures provided by Türkiye Elektrik İletim A.Ş. (TEİAŞ), Turkey's installed electricity capacity stood at 103.8 GW in 2022, marking an increase of 4%.

Developments in the Electricity Sector

Based on figures provided by Türkiye Elektrik İletim A.Ş. (TEİAŞ), Turkey's installed electricity capacity stood at 103.8 GW in 2022, marking an increase of 4%. Private sector generation facilities operating in the free market accounted for the highest share (68%) of this total. The share of publicly owned generation power plants, meanwhile accounted for 20% of the total, while unlicensed power plants accounted for a 8% share of the overall capacity. Power plants operating with the Build-Operate and Build-Operate-Transfer models comprised 3% of the total capacity.

Hydroelectric power plants command a 30% share of the installed power mix and natural gas plants a 24% share, followed by coal-fired power plants with 21%, wind farms with 11%, solar power plants with 9% and other renewable and thermal power plants with 4%.

The limit that applied for the Last Resource Supply Tariff was reduced from 3 million kWh to 1 million kWh from July 2022. The decision was taken to apply a limit of 1 million kWh/year for 2023. In addition, the free consumer limit was reduced from 1,100 kWh to 1,000 kWh following the decision taken at the end of 2022.

The upper limit on the market clearing price at Enerji Piyasaları İşletme A.Ş. (EPİAŞ), introduced in October 2020, was revised from two times the average price of the last 12 months to three times the average, starting two months in advance as of mid-October 2021. However, this practice was terminated with the board decision number 31794 published in the Official Gazette dated 30 March 2022. The decision was taken to regulate the upper limit application on a monthly basis and the ceiling price for December 2022 was determined as xx TL/MWh.

The Resource-Based Support Mechanism, which has an important bearing on the electricity market, entered effect on 1 April 2022. The Maximum Settlement Price (MSP) was

determined separately for imported and domestic resources within the scope of the mechanism put in place and the resource-based ceiling price application thus entered effect. Following the decision taken by the EMRA Board dated 1 October 2022, it was announced that the mechanism would continue for a further 6 months.

With the legislative amendments published in the Official Gazette on 19 October 2022, legal entities which promise to establish an electricity storage facility were granted the right to apply for a preliminary license for the establishment of a wind and/or solar power generation facility up to the installed capacity of the electricity storage facility that they promise to establish. In addition, legal entities which hold a wind and/or solar power based electricity generation license and which promise to establish an electricity storage facility were granted the right to apply for a capacity increase, provided that the power supplied to the grid at the time of operation would not exceed the installed capacity specified in their licenses.

The Unlicensed Electricity Generation Regulation allows companies to develop renewable power plants to meet their own consumption. With the amendment tabled to the relevant regulation on 11 August 2022, all consumers may apply in the region of their choice, regardless of the borders of electricity distribution regions and organized industrial zones. The sale of surplus electricity to be produced at the facilities is limited to the extent of the consumption of the relevant company in the previous year. It was stated that the portion exceeding this amount would be transferred to the Electricity Market Renewable Energy Resources Support Mechanism (YEKDEM) free of charge. In accordance with the amendment made on 1 October 2022, it was announced that legal entities with an existing application in a region may apply in a different region with effect from 1 January 2023.

ENTEK ELEKTRİK ÜRETİMİ A.Ş.



Azmak Hydroelectricity Power Plant

Location Mersin

Began Operational in 2010

Installed Capacity 24.4 MW



Damlapınar Hydroelectricity Power Plant

Location Karaman

Began Operational in 2010

Installed Capacity 16.4 MW



Kepezkaya Hydroelectricity Power Plant

Location Karaman

Began Operational in 2010

Installed Capacity 28.0 MW



Kılavuzlu Hydroelectricity Power Plant

Location Kahramanmaraş

Began Operational in 2012

Installed Capacity 54.0 MW



Kocaeli Natural Gas Conversion Power Plant

Location Kocaeli

Began Operational in 1998

Installed Capacity 112 MW



Kumköy Hydroelectricity Power Plant

Location Samsun

Began Operational in 2011

Installed Capacity 17.5 MW



Menzelet Hydroelectricity Power Plant

Lokasyon Kahramanmaraş

Began Operational in 2012

Installed Capacity 124.0 MW



Süloğlu Wind Farm

Lokasyon Edirne

Began Operational in 2015

Installed Capacity 66 MW

TÜPRAŞ ENERJİ GİRİŞİMLERİ A.Ş. TUPRAS VENTURES

Tüpraş established Tupras Ventures in September 2022 to undertake direct investments in start-ups by furthering the open innovation work which it has been actively pursuing since 2017.



In today's rapidly changing energy sector, Tüpraş, the leading company of the sector, has assumed another leading role by signing a cooperation agreement with Emerald Industrial Innovation Fund, the industrial innovation fund of Emerald Technology Ventures.



SHAREHOLDER STRUCTURE



Tüpraş aims to be an early adopter of solutions by seeking innovative solutions for all kinds of operational needs within the company and to establish strategic partnerships for new growth areas in the energy transformation. In this vein, intensive cooperation processes have been carried out with a number of national and international initiatives in recent years, including participation in domestic and international start-up programs. Within the scope of the cooperation with Emerald Technology Ventures, ten of investment were undertaken through the Emerald Industrial Innovation Fund in 2022.

Tüpraş established Tupras Ventures in September 2022 to undertake direct investments in start-ups by furthering the open innovation work which it has been actively pursuing since 2017.

Tupras Ventures aims to invest in domestic and international technology initiatives in all areas of smart information technologies, Industry 4.0, green energy and natural resources, energy efficiency, the environment and recycling, waste management and robotic solution technologies, and in particular on priority issues such as bio-based products, hydrogen, zero carbon electricity, carbon management and related sub-sectors. In addition, Tupras Ventures aims to create a strategic competitive advantage while also gaining knowledge and insight from the market.

It is envisaged that Tupras Ventures will create strategic value for Tüpraş by establishing dynamic connections with start-ups which offer innovative solutions by closely following start-ups around the world in the company's areas of focus, especially the enterprise ecosystems in Turkey, Europe and America, by developing joint projects and undertaking investments.



About Emerald:

Emerald is a globally recognized strategic innovation partner and Venture Capital investment firm with offices in Zurich, Toronto and Singapore. It is a trusted open innovation partner for multinationals benefiting from deep industry expertise and a rich stream of global deals in the fields of energy, water, industrial IT, advanced materials, mobility and robotic agriculture. Founded in 2000, the company has so far collected five venture capital funds and completed more than 100 venture investments.

SUSTAINABILITY AT TÜPRAŞ

While producing Turkey's energy, Tüpraş adopts a sustainability-based production approach with an awareness of its responsibility to society and the environment, and takes the United Nations 2030 Sustainable Development Goals (SDGs) as a guide in the development of its applications.

The approach to sustainability at Tüpraş and activities carried out in 2022

While producing Turkey's energy, Tüpraş adopts a sustainability-based production approach with an awareness of its responsibility to society and the environment, and takes the United Nations 2030 Sustainable Development Goals (SDGs) as a guide in the development of its applications.

In 2021, Tüpraş launched the "Strategic Transition Plan" in order to lead the transformation of the energy sector in our country by investing in new areas which support an understanding of sustainability, to increase the competitiveness and profitability of refineries, to maintain a balanced and diversified clean energy portfolio and to become a leading carbon neutral energy company.

In the first period, which will cover the period between 2022-2035 within the scope of the plan, Tüpraş plans to invest around USD 350 million per year in projects with investments in;

- Energy efficiency and decarbonization projects which increase operational efficiency and reduce Scope 1 and Scope 2 emissions to ensure sustainable refining,
- Green hydrogen production facilities,
- Biofuel production facilities, especially Sustainable Aviation Fuel (SAF),
- Wind, solar energy and other zero-carbon electricity generation facilities,

Tüpraş has set out its plan to invest USD 5 billion during this period. In the second phase of the investment plan, which covers the period between 2035 and 2050, the Company plans to invest an average of USD 300 million per year, with total investment spending of USD 5 billion. Thus, Tüpraş plans to invest USD 10 billion within the scope of the entire Strategic Transition Plan by 2050.

The transition plan sets out the targets of a 27% reduction in Scope 1 and Scope 2 emissions from production activities by 2030, a reduction of 35% by 2035, a 49% reduction by 2040 (using 2017 as a basis), and to be carbon neutral by 2050.

In a critical year dominated by concerns over supply and costs, with the global energy crisis triggered by the Russian invasion of Ukraine and a transition to different fossil fuels on the back of soaring natural gas prices, it is estimated that there was an increase in global greenhouse gas emissions. Meanwhile, the increase in business volumes to pre-pandemic levels led to an increase of 8.9% in Tüpraş's total Scope 1 and Scope 2 greenhouse gas emissions compared to the previous year, although this short-term increase will not impact Tüpraş's long-term goals. With the ongoing activities to reduce emissions and promote energy efficiency in accordance with the company's 2050 Carbon Neutral roadmap, there was a 12.1% decrease in Scope 1 and Scope 2 emissions when compared to the 2017 base year.

In 2021, Tüpraş launched the “Strategic Transition Plan” in order to become a leading carbon neutral energy company by investing in new areas which support an understanding of sustainability.

Acting as a responsible manufacturer, Tüpraş achieved CO₂ emission reductions of 73,199 thousand tonnes, energy savings of 315,515 GJ through 52 energy efficiency projects in 2022, and has reduced CO₂ emissions by 2.6 million tonnes in total since 2008. The energy intensity index value, which is used to measure the energy efficiency performance of refineries around the world, was 94.9 in 2022, thus marking an improvement of 24 percentage points since 2008.

Focusing on water efficiency, Tüpraş has recovered approximately 89 million cubic meters of wastewater over the past five years and reused it.

Digital transformation, R&D, enterprise and open innovation strategies within the organization are being managed in a holistic manner, and trends and developments in global industry are closely monitored. In this context, we continue to make a difference by focusing on developing new environmentally friendly products and production technologies.

Tüpraş unwaveringly continues to develop a safe working environment and to train the qualified workforce of the future.

Tüpraş also works to improve the environmental and social impacts of supply chain and logistics operations, which are an important component of the value chain. Ditaş invested in a scrubber for 4 tankers as part of its work to comply with the revised sulphur ratio of less than 0.5% in marine fuels as set by the International Maritime Organization.

Transportation activities were carried out with a total of 12 locomotives in 2022, including 7 hybrid locomotives, which can operate in diesel/electric modes. The locomotives were ordered by Körfez Ulaştırma from the Swiss Stadler company.

Transporting one tonne of products a distance of one kilometer by diesel locomotive produces a quarter of the emissions as it would by road transportation, while this ratio is just one eighth for electric locomotives. In 2022, Tüpraş succeeded in reducing its CO₂ emissions by approximately 6,500 tonnes compared to the previous year thanks to the transportation with hybrid locomotives on electrified lines. Körfez Ulaştırma Scope-1 emissions from activities are targeted to fall by 45% in 2030.



SUSTAINABILITY AT TÜPRAŞ

Tüpraş continues to contribute to social development with the projects it carries out in the fields of education, the environment, culture and the arts and gender equality.



Tüpraş continues to contribute to social development with the projects it carries out in the fields of education, the environment, culture and the arts and gender equality. Having signed the UN WEPs United Nations Women's Empowerment Principles in 2017, Tüpraş acts with the goal of being an inclusive and equitable workplace with a perspective which stands out from the energy sector, while working to promote equal representation of women in the field. With this approach, it has recruited women to work as field operators and technicians. In 2022 period, Tüpraş continues to support the HeForShe Movement, initiated in 2018 in cooperation with the Fenerbahçe Sports Club and the United Nations Women's Unit, with the aim of raising public awareness of gender equality in society.

Sustainability Management

As part of its efforts to manage its sustainability activities to the highest level, Tüpraş reports its activities in this area to the Board of Directors through the Corporate Governance Committee in accordance with the Sustainability Principles on Compliance reporting.

Within the scope of the Strategic Transition Plan, Tüpraş manages climate-related risks and opportunities with the Risk Committee within the body of the Board of Directors. The Risk Committee is regularly informed of climate-related risks and opportunities. The Strategy and Sustainability Directorate, which reports to the General Manager, is responsible for the implementation of the strategy and the coordination with different units within the company. Seeking to build an effective

sustainability management model, Tüpraş acts with an awareness of its economic, social and environmental impacts in the regions where it operates. While managing these effects, Tüpraş strives to follow its adopted principle of "creating value".

Tüpraş regularly reviews its Materiality Analysis in line with its current strategies in line with global sustainability trends and by taking into account of stakeholder expectations. In its reports, Tüpraş includes the materiality issues determined in the ESG (Environmental, Social, Governance) areas and the SDGs (Sustainability Development Goals) to which Tüpraş serves in materiality issues, its contributions in the field of sustainability to the SDGs, and the key performance indicators and targets in the ESG areas. Within the scope of the Materiality Analysis, it is aimed to renew the external stakeholder survey in 2023.

Tüpraş Sustainability Committee was established in September 2022 in order to determine materiality issues in the field of sustainability for the following purposes.

- setting targets for the development and monitoring sustainability performance,
- ensuring alignment between strategic goals and materiality issues in the field of sustainability,
- creating predictability,
- providing a comprehensive response to stakeholders' expectations regarding sustainability activities and related compliance requirements with a holistic perspective

The Sustainability Committee serves to coordinate the sustainability efforts of the Tüpraş units, to discuss developments in the field of sustainability and to decide on and guide the Tüpraş ESG policies.

The Sustainability Committee is chaired by the General Manager, who is also a member of the Committee. The other members of the Sustainability Committee include Deputy General Managers, Refinery Managers and the Investor Relations Manager.

The Strategy and Sustainability Directorate carries out the coordination and secretariat duties of the Committee. In addition to the senior management, the Risk Management and Audit



Having signed the UN WEPs United Nations Women's Empowerment Principles in 2017, Tüpraş acts with the goal of being an inclusive and equitable workplace.



Manager, Corporate Communications Manager, R&D Manager, Innovation Manager, General Managers and Sustainability Officers of Körfez Ulaştırma, Ditaş, Tupras Trading Ltd and Entek companies attend the Committee meetings.

A total of five sub working groups have been formed which work under the Committee in accordance with the Strategic Transition Plan and by taking stakeholder expectations into account. These sub working groups include the Value of Life, Carbon Neutral, ESG Excellence, Transformation Together with People and Society and Sustainable Technologies. Representatives from the companies and refineries participate in the working groups. The leaders and group members of the sub working groups have been determined, with sub working groups expected to convene at least once a month. The Tüpraş Sustainability Committee, which will convene at least four times a year, held its first meeting in December 2022.

Tüpraş is included in a number of indices such as the FTSE4Good, MSCI ESG Rating, BIST SE (Refinitiv), Sustainalytics, Vigeo Eiris (Moody's) and the Bloomberg GEI. Tüpraş continues to work to consolidate its position in the ESG areas and to continuously improve its sustainability performance.

Tüpraş plans to disclose new ESG metrics and increase transparency in reporting through gap analysis studies which will be carried out with sustainability assessment institutions, as well as the activities carried out within the scope of the committee.

Tüpraş aims to strengthen its performance in the field of sustainability through sustainability performance analytics and digital data infrastructure systems, which are currently in the establishment phase.

Tüpraş's ESG policies have been approved and put into effect by the Board of Directors, and the policies announced through the Public Disclosure Platform are available on the Company's corporate website. In addition to the policies implemented in 2021 by the Board of Directors in order to ensure more effective management of the Company's risks in the field of compliance and to better respond to the expectations of local and international stakeholders in the field of compliance, the "Notice", "Discipline" and "Personal Data Protection Framework" policies were approved in 2022 and published on the Public Disclosure Platform and the Company's corporate website.

In the coming period, the necessary studies will be carried out taking into account the developments in the regulations and practices in order to comply with the principles. Business procedures are in place to monitor the effective implementation of these policies. Tüpraş's main indicators related to the ESG are regularly monitored and shared with the public.

SUSTAINABILITY AT TÜPRAŞ

In 2022, Tüpraş started to report in line with the Global Reporting Initiative (GRI), Climate-related Financial Disclosure Task Force (TCFD), Sustainability Accounting Standards Board (SASB) and Carbon Disclosure Project (CDP).

Sustainability Reporting

Tüpraş prepares its practices in the field of sustainability in accordance with defined standards and frameworks. Having evaluated global sustainability reporting standards and frameworks, in 2022 Tüpraş decided to expand the scope of its reporting. In addition to the Global Reporting Initiative (GRI), the Task Force on Climate-related Financial Disclosure (TCFD) and the SDGs (Social Development Goals), Tüpraş started to report in line with the standards of the Sustainability Accounting Standards Board (SASB) and the Carbon Disclosure Project (CDP) in 2022. Tüpraş updated the reporting methods and plans to publish two reports as an annual report and an integrated report in 2022. It plans to switch to an integrated annual report as a single report in 2023.

The shared sustainability performance data covers the activities of Tüpraş in Turkey between 1 January 2022 and 31 December 2022.

Under the CMB Sustainability Principles Compliance Framework published in 2020, the basic principles which are expected to be explained by public companies while conducting environmental, social and corporate governance activities are shared. Attaching importance to transparent, balanced and holistic reporting, Tüpraş sets out its approach and practices in respect of these principles through its Sustainability Reports and website content, which is published publicly. Moreover, the content of the Annual Report has been expanded in this direction, with efforts continuing to fully comply with the principles. Studies conducted within the scope of the principles are shared in the relevant sections of the report.

In this section, areas found to be in compliance with the principles in the CMB Sustainability Principles Compliance Framework prepared under the “comply” or “explain” approach are set out in detail, and evaluations regarding the principles where full compliance has not yet been reached are included in the Sustainability Principles Compliance Statement in the Corporate Governance section.

Communication with Stakeholders

Within the framework of the management approach based on stakeholder participation, Tüpraş encourages various forms of stakeholder participation in decision and implementation processes. Various stakeholder communication mechanisms have been established to enable stakeholders to convey their opinions and suggestions.

The frequency of stakeholder communication is determined in accordance with the quality, expectations and needs of the target audience. In this regard, the issues, communication methods and frequency of contact with key stakeholders will vary and are included in the Company’s sustainability/integrated reports.

While the communication methods determined specifically for the stakeholder group serve to inform stakeholders of the activities carried out by Tüpraş and the impacts arising from the activities, they also contribute to the enrichment of decisions and practices in line with stakeholder views.

The current version of the Tüpraş Information Policy, which sets out Tüpraş’s communication practices with stakeholders, especially investors, can be accessed on the website.

The Company has taken the necessary measures to comply with the principles regarding stakeholders and to strengthen the communication with the stakeholders as specified in the Corporate Governance Principles. In this context, employee engagement surveys are used to receive employee evaluations regarding applications and measure their loyalty and satisfaction.

In 2022, the Tüpraş Customer Relations Policy was updated by placing priority on current issues such as the “2050 Carbon Neutral Strategy”, the “Innovative and Agile Approach”, the “Digitalized Customer Experience”, “Ethical Principles and Compliance Policies” and “Sustainability”.

In this policy, Tüpraş emphasizes the importance of sensitivity to customer satisfaction, a seamless and high-quality service, open and transparent communication, being customer-centric and a sensitive approach to the ecosystem. The New Customer Relations Policy at Tüpraş is aimed to serve as a guide to ensure continuity in satisfying customers, who are among the most important stakeholders of the 2050 Carbon Neutral Strategy.



Under the policy, the main activities of Customer Relationship Management and other marketing functions are managed, customer satisfaction is measured and disclosed to the public in order to increase customer satisfaction, improve customer relations, meet customer demands and expectations to the highest level and as rapidly as possible, and necessary work is carried out in areas requiring improvement. Customer Notification Management and the Tüpraş Solution Center were brought into use in 2018. Tüpraş holds the ISO 10002-2014 Customer Satisfaction and Complaint Management Certificate.

Tüpraş aims to ensure continuity in customer satisfaction with digital platforms such as the “Customer Notification Management System”, “Customer Portal” and “Driver Portal”, striving to improve the customer experience by digitalizing processes. Tüpraş is undertaking projects to provide faster and more efficient service by performing customer registration processes with robotic automation, with the “Land Filling Contactless Sales Project” and the “Delivery Appointment System” implemented to digitalize the customer experience. The projects are rolled out on a refinery-by-refinery basis and by product group.

Tüpraş plans to draw the experience journey of the customer, which is the most important stakeholder for Tüpraş, on an end-to-end basis with its “Customer Experience Map” project, which was launched in 2022. Accordingly, the company plans to take actions which will offer permanent solutions by designing the ideal processes.

Tüpraş also aims to reinforce sensitivity to customer satisfaction through digital training videos under the theme of “Being the Customer’s Hero”.

Tüpraş has adopted the Supplier Code of Conduct within the framework of the Supplier Management Policy and has offered the Tüpraş Supplier Portal app in this vein. In addition, sustainability priority topics and projects are measured in a reputation survey held every two years for all internal and external stakeholders, especially employees, customers, suppliers, business partners, wider society, NGOs, public institutions and organizations, as well as investor institutions.

Employee loyalty, customer satisfaction, supplier satisfaction and contractor satisfaction and reputation surveys are measured and improvement targets are determined in view of their results.

Universities, public institutions, NGOs and international organizations are among the stakeholders which have developed subject-oriented business associations in the management of Tüpraş’s sustainability priorities. Within the scope of cooperation, regular communication with institutions is facilitated and joint solutions and projects are developed for sustainability issues. Senior executives at Tüpraş take part in the work of business organizations both on a sectoral and issue-oriented basis, and offer their opinions.

SUSTAINABILITY AT TÜPRAŞ

Tüpraş is continuing its long-term efforts to tackle the climate crisis and pressing ahead in its transition to a low carbon economy in line with the vision set out by the Koç Group.

Detailed information on the cooperation with different stakeholders can be found in the sustainability/integrated reports and the corporate website under the heading “Communication with Stakeholders” under the Sustainability tab.

Tüpraş is a signatory to the principles of the UN Global Compact.

The Company also supports the IPG-Business World Plastics Initiative, of which Koç Holding is a signatory, and takes part in the sub-working groups of the World Economic Forum (WEF), which Koç Holding is a member of.

Having set out its goal of becoming carbon neutral by 2050, the Koç Group launched its transformation program, which includes a concrete and workable roadmap in this direction. Tüpraş is continuing its long-term efforts to tackle the climate crisis and pressing ahead in its transition to a low carbon economy in line with the vision set out by the Koç Group.

In accordance with the Koç Group’s climate change strategy, Group companies conduct climate change studies in order to effectively monitor and report greenhouse gas emissions, as well as reducing emissions under certain conditions. Tüpraş has been calculating and reporting Scope 1 and Scope 2 emissions regularly for many years, and in 2021 its Scope 1 and 2 greenhouse gas emissions were verified by an independent third-party organization within the framework of the ISO 14064-1 standard on the Verification and Reporting of Greenhouse Gas Emissions. In addition, studies are ongoing with a specialized consultancy firm in the sector to calculate the Scope 3 emission. Verification activities for the Scope 3 emissions also got underway within the framework of ISO 14064-1.

In addition, Tüpraş joined other companies in providing support to the TCFD in early 2022. It aims to manage the risks and opportunities arising from climate change within the framework of the TCFD, regularly disclosing them to its stakeholders and spread them to its ecosystem.



Considering in detail the 32 priority issues announced in the 2021 Sustainability Report, Tüpraş management re-evaluated the importance of each issue in the light of the developments experienced during the year. Another input that shaped the study was the GRI Oil and Gas Industry Standards (GRI 11) that will be effective from January 1, 2023, and double materiality. As a result, 6 of the 32 priorities for 2021 were determined as the core values guiding Tüpraş's actions and formed the basis of the priorities. The 9 issues identified as priority in 2021 were no longer a priority as they were Tüpraş's responses to the impacts. The remaining issues are clustered under 8 priorities.

2022 Priorities

GHG emissions	Climate adaptation, resilience, and transition	Air Emissions	Water and effluents	Anti-Corruption	Employment practices	Biodiversity	Waste
Reducing Greenhouse Gas Emissions	Energy efficiency Transition to a Low Carbon Economy	Air Quality	Waste Water Treatment Water Quality and Responsible Water Management	Effective Ethics and Integrity Management Integrity and Accountability	Employee Training, Talent and Career Development Protecting Employee Rights and Improving Employee Welfare Including Employee Opinions	Biodiversity Loss and Deforestation Related Risks	Responsible Waste Management
Responsible Investments	Utilizing New Low Carbon Technologies						
Structuring Sustainable Supply Chain Processes	Climate Related Physical Risks						

Basic Values

Health and Safety
Process Security / Process Safety
Business Ethics and Compliance
Tüpraş Brand Value and Reputation
Compliance with Human Rights
Inclusion, Equality, Diversity

Impacts on Sustainable Development Goals



ETHICS AND COMPLIANCE

Tüpraş's Ethical Principles include the Company's responsibilities to its customers, employees, shareholders, suppliers and business partners, competitors, society and humanity.



Tüpraş agrees to comply with the laws, international conventions to which the Republic of Turkey is a party, the United Nations Universal Declaration of Human Rights and the United Nations Global Compact, and to adhere to honesty, responsibility, trust and respect as its primary values in all of its business and transactions. Tüpraş acts in accordance with the Ethical Principles and Compliance Program which it has determined within this framework in its relations with all stakeholders.

Tüpraş's Ethical Principles are issued to the Company's employees and business partners including suppliers, customers, contractors and all representatives acting on behalf of Tüpraş, in order to ensure a more effective management of the Company's compliance risks and to better respond to the compliance expectations of local and international stakeholders, subcontractors and consultants and other third parties with whom Tüpraş carries out business. The Ethical Principles were updated and shared on Tüpraş's website in 2021 to serve as a guiding set of principles. In addition to its legal responsibilities, the Ethical Principles include the Company's responsibilities to its customers, employees, shareholders, suppliers and business partners, competitors, society and humanity.

Whistleblowing mechanisms established for the purpose of voicing concerns and notifications regarding such an obligation are included in the Ethical Principles, and the disciplinary rules and sanctions to be applied in the event of any violation are also included in the Disciplinary Policy which is prepared separately.

Tüpraş has adopted the United Nations Declaration of Human Rights and strives to ensure that its Ethical Principles and related policies are compatible with these principles. Employees act in accordance with the Ethical Principles published by the Koç Group and Tüpraş as well as the legal regulations in place in the countries where the company operates or has business relations. The company and all of its employees resolutely take all measures necessary to tackle corruption and bribery in accordance with the United Nations Global Compact. Every task and every decision undertaken by the company and its employees is performed in accordance with the highest ethical standards, and care is taken to avoid any situation where there may be conflicts of interest which might prevent them from being impartial, which would provide benefits for themselves or their relatives or which would create such an impression.

Tüpraş complies with the relevant legislation in all its transactions, especially in the areas of ethics, human rights, tackling bribery and corruption, preventing money laundering, international sanctions, the Personal Data Protection Law (KVKK) and the competition law, and its employees comply with the relevant codes of conduct. A comprehensive and constantly evolving Compliance Program is in place to ensure that the Company and its employees act appropriately. The Compliance Program ensures that the corporate compliance culture and standards written throughout Tüpraş are implemented with the participation of all employees. Tüpraş's obligations under the Compliance Program are not only limited to compliance with mandatory regulations or contractual obligations, but also cover organizational standards such as Tüpraş's policies and procedures and its voluntarily assumed compliance commitments.

In 2021, it was announced that Tüpraş's Legal and Compliance Counselor was authorized to report to the Board of Directors and the General Manager through the Risk Committee. Accordingly, Tüpraş's Legal and Compliance Consultancy monitors the compliance activities carried out across Tüpraş subsidiaries and subsidiaries, aims to identify compliance risks which may affect Tüpraş in general, takes necessary measures and implements the Compliance Program effectively, equitably and consistently throughout Tüpraş.

In this context, the Compliance Department is responsible for periodically conducting compliance risk assessments with the

A total of 3,327 employees participated in the ethics training programs in 2022 with 5,121 employee hours of training provided.

business units and accordingly analyzes the compliance risks which the activities, employees and/or business partners may be exposed to. After these studies are completed, additional policies and procedures are prepared where necessary and adapted to Tüpraş, current documents and workflows are updated, and compliance training is provided regularly in areas identified as being risky. In this vein, Systematic Compliance Risk Analysis studies started to be carried out of 2022 and actions taken to identify and reduce compliance risks to a minimum were followed effectively.

An Ethics Committee is in place within the Company to investigate any transgressions related to the Ethical Principles. The Ethics Committee consists of the General Manager, Assistant General Manager, the Human Resources Director, the Corporate Communications Manager and General Legal and Compliance Counsel. Tüpraş receives consultancy from the Compliance Committee, which was established to increase the effectiveness of its compliance structure, for its activities within the scope of the Compliance Program and reports its activities to the General Manager.

Tüpraş expects its employees who witness, directly or indirectly, any unlawful activity or unethical incidents related to an employee or a business partner, who possess knowledge of such a situation through legal means, or who suspect such a situation to express their concerns and encourages its stakeholders to also act in this direction. To this end, an Ethics Line is in place, which includes Koç Holding and its subsidiaries, for the use of Company stakeholders. The reporting mechanism (Ethics Hotline) may be used by all Tüpraş stakeholders to report any violations of the current legislation, Ethical Principles and other Compliance Policies. The Ethics Line provides services in more than 50 countries, in 34 languages online and in 19 languages by telephone. The Ethics Line, which is managed by independent service providers, provides services 24 hours a day, 7 days a week.

The Ethics Line protects the confidentiality and anonymity of those who submit reports. It is crucial that any employee reporting any contravention feels comfortable and safe and assured that their professional life will not be adversely affected provided they act

honestly and in good faith. Tüpraş will not tolerate any acts of retaliation taken against the individual submitting the report. Tüpraş protects the people who make a report even if the accuracy of the report cannot be proven by the investigation, provided that the notification is submitted in good faith and with reasonable grounds and not made with the aim of causing harm or providing personal benefit. All incidents of ethical violations reported to Tüpraş are evaluated by the Risk Management and Audit Department, and all investigations into any allegations are carried out as soon as possible after notification.

In 2022, the Ethics Committee convened immediately on issues which would require the Ethics Committee to be convened within the scope of the Ethics Line or otherwise related Company policies, and the Company took actions in accordance with the relevant policies.

- There were a total of 46 notifications under the title of violations of the Code of Ethics which were received and reviewed by Tüpraş during 2022.
- The Ethics Committee convened a total of six times in 2022.

No administrative or judicial sanctions or fines were imposed by public authorities against the Company or members of the management body during 2022 in regard to practices related to corruption. All Tüpraş employees and business partners are informed of ethical and compliance rules by public authorities and encouraged to act in accordance with them. Accordingly, all employees are informed of the Company's compliance policies, including Tüpraş's Ethical Principles, Anti-Bribery and Anti-Corruption policy, and they commit to follow these policies. Tüpraş provides compliance training on ethics, human rights, tackling bribery and corruption, prevention of money laundering, international sanctions, KVKK and competition law in an online environment through the Human Resources Directorate in order to raise awareness among its employees, and regularly monitors the completion status of the training and, where deemed necessary, arranges for it to be repeated at regular intervals. A total of 3,327 employees participated in the ethics training programs in 2022 with 5,121 employee hours of training provided. For 2023, in addition to online ethics and compliance training programs for employees working at Tüpraş's affiliates and subsidiaries, the Company plans to offer in-class training and online ethics and compliance training for third parties.



Notifications can be made from the web address "koc.com.tr/ihbarbildirim" on the Ethics Line or from the telephone numbers available at the relevant address.

ETHICS AND COMPLIANCE

Tüpraş adopts all of the principles set out in the UN Global Compact, which Koç Holding is a signatory to, including the principle of “standing against all forms of corruption”, and expects all employees and business partners to also act in accordance with these principles.

Within the scope of the Compliance Program, Tüpraş conducts scans of third parties and due diligence activities in accordance with the legislation covering third party acceptance processes. In this context, Tüpraş is constantly aware of the business partners it is working with, and fully complies with applicable national and international legislation in force, the Koç Group Ethical Principles, the Tüpraş Ethical Principles and related policies, takes the necessary actions to ensure the accuracy of financial and commercial records and information and that they are kept up to date, and records all activities in a safe and secure manner.

Tüpraş queries the information acquired from third-party scans and due diligence studies in the sanction scanning engines, which are specially expanded for Koç Group and differentiated according to the nature or purpose of the work, and meticulously carries out the relevant inquiry process prior to the General Legal and Compliance Counsel. After the relevant checks and determination studies, the documents required for the registration process are completed and recorded in the Company systems as third parties. Since the company systems are integrated with the sanction scanning engine, third parties in the system are scanned on a daily basis ahead of the legislation of the sanctions. Accordingly, the status of third parties within the framework of compliance, bribery and corruption and any legislation on sanctions is effectively monitored throughout the business relationship.

In 2022, the Personal Data Protection Policy was prepared within the framework of harmonization with the KVKK and the data processing inventory was updated. Requests from personal data owners are evaluated and responded to within statutory periods. Clarification and consent texts regarding the processing of personal data and the provisions of the contract or undertaking are prepared or updated according to the requirements. An independent institution audits the compliance of the updated personal data inventory, legal texts and the practices of Tüpraş's Personal Data Protection Compliance Program with the law and the decisions of the Personal Data Protection Board.

Training programs on competition law were provided to employees of Tüpraş and its subsidiaries, Ditaş and Körfez Transportation within the framework of compliance activities in accordance with the Competition Law. Guidance and meetings

were held to provide information on how business units with activities which may fall within the scope of competition law should act during on-site inspection processes. Service procurement, inspections and reporting were carried out in this vein. Evaluations were carried out when opinions were sought in regard to the Company's new business, project and areas of activity which may be important within the scope of competition law. Studies related to Competition law compliance were reviewed with a systematic risk analysis approach, and the views and needs of business units were taken into account and responded to.

Technical vocational training is provided to employees responsible for compliance at Tüpraş. Likewise, the Risk Management and Audit team receives periodic training from training companies within the framework of continuous professional development and compliance with International Internal Audit Standards.

Anti-Bribery and Anti-Corruption

Tüpraş adopts the basic principle of carrying out all of its activities in accordance with the highest ethical standards. In this respect, Tüpraş adopts all of the principles set out in the UN Global Compact, which Koç Holding is a signatory to, including the principle of “standing against all forms of corruption”, and expects all employees and business partners to also act in accordance with these principles. In its Anti-Bribery and Anti-Corruption Policy, Tüpraş follows anti-corruption guidance and all applicable national and international laws, while complying with all applicable anti-bribery laws, including local laws in all countries where it is active.

As set out in its company policies, a zero-tolerance approach in respect to Tüpraş, its employees and business partners is taken with regard to providing or receiving any Bribes, taking part in acts Corruption or encouraging acts of corruption, unlawful benefit, facilitating or expediting payments and inappropriate gifts. In the event of an offer or a request for any bribe, employees may consult their senior manager or report the matter to the Risk Management and Audit Department, the General Legal and Compliance Office, the Human Resources Directorate or the Ethics Line. All financial records reflect expenditures completely and transparently.



Tüpraş also includes the third parties it works with in the anti-bribery and anti-corruption processes. In this context, suppliers may start working by accepting Tüpraş's Supply Chain Policy, which includes articles such as tackling bribery and corruption, prevention of money laundering, conflicts of interest and declaring that they will act accordingly.

Within the scope of the Anti-Bribery and Anti-Corruption Policy, regular risk assessments started to be carried in of 2022 in order to minimize the risk of bribery and corruption, and risk assessments will continue to be carried out in 2023, including in other compliance areas.

Under the Anti-Bribery and Anti-Corruption Policy, regular risk assessments and audits are carried out to minimize the risk of bribery and corruption. Bribery and corruption risks are assessed and kept under control through checks to establish the status with respect to third parties, gifts and entertainment and donations, as well as determining rules to be observed in relations with public officials and continuous training and monitoring activities.

No administrative or judicial sanctions or fines were imposed against the Company or the Members of the Board of Directors by public authorities due to any infringements related to corruption or bribery.



At Tüpraş, the Risk Management and Audit team receives periodic training from training companies within the framework of continuous professional development and compliance with International Internal Audit Standards.

Policies Implemented at Tüpraş

Details regarding the policies adopted by the Board of Directors in order to ensure more effective management of the Company's risks in the field of compliance and better respond to the expectations of local and international stakeholders in the field of compliance may be accessed from the web links and/ or appropriate sections in the report.

- Ethical Principles
- Disclosure Policy
- Pricing Policy
- Donation and Sponsorship Policy
- Profit Distribution Policy
- Human Rights Policy
- Anti-Bribery and Anti-Corruption Policy
- Board Diversity Policy
- Competition Law Compliance Policy
- Supply Chain Compliance Policy
- Sanctions and Export Controls Policy
- Gift and Hospitality Policy
- Social Investment Policy
- Compliance Policy
- Personal Data Protection Framework Policy
- Notice Policy
- Diversity Equality and Inclusion Policy
- Disciplinary Policy



INVESTMENTS

Sustainability projects and investments in sustainability were the key focal points for Tüpraş in terms of investments, with 50% of its investments undertaken in 2022.

Tüpraş Pressed Forward Unwaveringly in its Investment Activities in 2022.

After the transfer of Tüpraş to the Koç Group, an array of strategic investment decisions were taken with a focus on technological development, change and transformation by improving product quality, operational excellence, efficiency, occupational safety, legal requirements and sustainability. Strategic investment decisions continue to be taken in these areas. Tüpraş's investments during the last seventeen years have reached USD 7.2 billion, of which USD 6.5 billion has been allocated to refining.

Sustainability projects and investments in sustainability were the key focal points for Tüpraş in terms of investments, with 50% of its investments undertaken in 2022.

In 2022, Tüpraş undertook a total of USD 122 million in ESG-oriented investments on an unconsolidated basis.

In the same period, when evaluated together with its subsidiaries, Ditaş, Körfez Transportation and Entek, the consolidated investment spending reached USD 173 million.

The total sum of regional and large-scale incentive certificates obtained for various ongoing projects in the Tüpraş refineries stood at TL 4.56 billion.

Tüpraş focused on areas such as the installation of renewable energy units, the renewal of flue gas emission units and sulphur recovery in 2022, with 60 new and 183 ongoing investment projects carried out in 2022 with the aim of achieving significant contributions to the continuity, efficiency and profitability of Tüpraş. The major investment projects are presented below.



Tüpraş Sustainability Investments Standards:

Below are considered as ESG focused investments:

- Sustainable Refining Investments in Process Improvement, Energy Efficiency, HSE and Environment projects
- Investments in the fields of Sustainable Aviation Fuel, Zero Carbon Electricity and Green Hydrogen
- HSFO scrubber investments for electric train wagons and ships

Refinery	Project	About the Investment	Amount of Investment	Developments in 2022
İzmit	Propylene Sales Lines Plant	New product ranges have recently come under evaluation due to variable product profitability. In this context, the company plans to sell propane and propylene by separating the propane and propylene stream from the LPG stream exiting the FCC Unit.	USD 12 million	The company continued equipment procurement and site installation activities.
İzmir			USD 52 million	Preliminary engineering studies were completed. EPC (Engineering, Procurement and Construction) tender activities continued.
İzmit	Propylene Splitter Unit Plant	With the investments to be carried out in the first phase, Tüpraş aims to produce "refinery quality propylene" with a purity of 65-85% from the refinery. The company then aims to produce "polymer quality propylene" with a 99.5% purity with the propane-propylene splitter columns which are planned to be installed. The project envisages the production of approximately 145,000 tonnes of propylene per year from the İzmit/ Kocaeli Refinery and approximately 90,000 tonnes of propylene per year from the İzmir Refinery.	USD 68 million	Preliminary engineering studies were completed. EPC tender activities continued.
İzmir			USD 46.1 million	
İzmit	Renewal of Tank Site Switch Systems	The company aims to renew the switch systems/transformers/cables of the switch rooms feeding the refinery tank area.	USD 4.6 million	Site installation activities were completed, and the project was completed in October 2022.
İzmir	Capacity Increase of the CCR Platformer Unit	Tüpraş aims to increase the capacity of the U-9200 Platformer Unit from 160 m ³ /hour to 225 m ³ /hour and process all heavy naphthas within the process and thus derive high added value products such as platformate and hydrogen.	USD 31.6 million	Detailed engineering studies were conducted, equipment procurement activities were carried out and site work got underway on the project. Work on construction and installation in the project continued in 2022.
İzmir	Refurbishment and capacity increase of Flue Gas and Energy Recovery in the FCC Unit	Energy recovery and reactor efficiency improvement work will be carried out in the FCC Unit.	USD 81 million	Engineering work and equipment procurement activities were completed. The contract for the work on construction and installation for the project was signed in 2022 and site work got underway.

INVESTMENTS

Refinery	Project	About the Investment	Amount of Investment	Developments in 2022
İzmir	Construction of New Flue in the U-7000 Crude Oil Unit	The U-7000 Crude Oil Unit, which was commissioned in 1978, has a 90 m high concrete flue in place. In addition to increasing the operational reliability, the decision was taken to construct a new flue at a height which was more appropriate for the emission values.	USD 6.8 million	Detailed engineering studies were completed. The contract for the construction and installation work was signed in 2022, and site work got underway.
İzmir	Installation of a Crude Oil Injection System	Evaluations carried out to seek greater benefit from advantageous crude oils identified a need to expand the existing crude oil injection system at the İzmir Refinery. Through the project carried out to meet this need, the company aims to feed controlled charging to the crude oil units through the injection system of crude oils, offering significant opportunities.	USD 3.9 million	Detailed engineering studies were completed. Equipment procurement activities continued in 2022. The contract for the construction and installation work was signed and site work got underway.
İzmir	Installation of Wind Power Plant (WPP)	Demand for electricity at the İzmir Refinery Power Plant is met by gas turbines and steam turbines with condensers. The company purchases electricity from TEİAŞ to meet the increased demand for electricity following the capacity increase at the refinery. The projects are aimed at meeting some of the refinery's electricity needs through renewable energy sources without generating emissions, in line with the carbon neutral target.	USD 20 million	Preliminary engineering studies and permit activities were completed and the EPC tender preparation activities were carried out.
	Installation of Solar Power Plant (SPP)		USD 2.7 million	Work continued on determining the potential, preliminary engineering studies and permit activities.
İzmir	Construction of New Tower in place of the 2,500°C Cooling Tower	Following an examination conducted by a specialist institution, the decision was taken to refurbish the tower.	USD 21.5 million	Preliminary engineering studies got underway.
Kırıkkale	Installation of New Sulphur Units	A need for new capacity in the sulphur unit has emerged as a result of crude oil unit charge recaching its maximum limit and the processing of alternative crude oil containing high sulphur. Accordingly, the decision was taken to establish a new sulphur unit.	USD 71 million	The company signed an EPC contract and work got underway.
Kırıkkale	Installation of New SWS (Sour Water Stripping) Unit	Under the project, all polluted water flows in the refinery will be directed to SWS units with separate lines with the aim of better control of unit charges, treatment of all existing polluted water streams at the desired level and treatment of all polluted water by ensuring SWS units back each other up when necessary.	USD 22 million	Detailed engineering studies were completed. Work continued on equipment procurement and construction and installation tender preparation.
Kırıkkale	Project to Improve Fire Fighting Systems	Existing firefighting systems to be reviewed and modernized.	USD 31.6 million	Site work continued.

Refinery	Project	About the Investment	Amount of Investment	Developments in 2022
Kırıkkale	Project to Modernize the CWTP (Cooling Water Treatment Plant) Unit	The CWTP Unit meets the refinery's demineralized water needs. With the old demineralized water unit equipment approaching the end of its working life, thus requiring more frequent maintenance, the production of demineralized water as required by the refinery has been subject to interruption. To avoid such problems and to prevent discharge problems, a raw water pre-treatment plant and new demineralized water unit is to be established with a capacity of 250 m ³ /h. A condensate polishing system, which will direct condensate returning from the refinery to the existing strong anion and mixed bed resins, is also planned.	USD 17.5 million	Site work continued.
Kırıkkale	Installation of Solar Power Plant (SPP)	Currently, electricity generation from the refinery is carried out with a backpressure steam turbine and a gas turbine. The study carried out to determine the potential for renewable energy found that a Solar Power investment could be carried out, which would be envisaged to be 12.58 MW in the first phase. An application has also been submitted to the relevant institution to install an additional 54.4 MW of capacity.	USD 32.4 million	Preliminary engineering studies and permit activities were completed for the installation of a Solar Power Plant with a capacity of 12.58 MW. Site work got underway.
Batman	Installation of Solar Power Plant (SPP)	The electricity needs of the Batman Refinery are met through the TEİAŞ Batman 2 transformer center. The refinery receives electricity from the transformer center through an overhead line. It holds a generation license as a distribution system user. Within the scope of zero carbon energy generation, it is envisaged that with the GES installation, which has an installed capacity of 2 MW, a total of 3.64 million kWh of electricity will be generated annually, with 22.5% of the Batman Refinery's electricity needs thereby met from renewable resources.	USD 1.5 million	Preliminary engineering studies and permit activities had been completed in 2020. Site work was completed in 2021 and the solar power plant was commissioned.
		The study carried out within the scope of determining renewable energy potential found that a limited investment could be undertaken in the solar power plant.	USD 5.5 million	Preliminary engineering studies and permit activities got underway for the additional 5 MW in capacity.

R&D

Milestones of the R&D Center

2010

The Tüpraş R&D Center was officially established.

2011

The EU-supported CitInES project was implemented and the first patent application was made.

2012

Tüpraş registered its first international brand, HExMon.

2013

The first projects “Asphaltgen” and “Heroes” were implemented within the scope of the international R&D support program, “EUREKA”.

2014

A new R&D Center campus consisting of a design building, laboratory building and pilot plant Building was opened.

2015

In the European Union Horizon2020 program, Tüpraş’s first projects “SafeAST” and “Indus3Es” began.

2016

SPIRE (Sustainable Process Industry Through Resource and Energy Efficiency) platform membership was realized.

2017

A trial process started with high-quality modified bitumen developed by the R&D department

2018

In the EU Horizon2020 Program, Tüpraş was awarded wthe highest amount of incentive received by any Turkish industrial company with a single project with the BAMBOO project.

2019

It ranked first in the list of the most successful Turkish industrial organizations in the EU Horizon2020 Program.

2020

The commercialization studies of two new products developed in R&D have been successfully completed.

2021

The R&D Center has evolved into an agile organizational structure by blending many functions and competencies in order to increase the value it adds to the Company.

2022

Signed up to Hydrogen Europe and Water Europe platforms.

The Tüpraş R&D Centre prepares Tüpraş for the future through innovative solutions and technologies in new investment areas within the framework of its Strategic Transition Plan while implementing the projects that will increase profitability.

In order to increase the effectiveness of R&D activity in refinery operations with a focus on sustainable refining, work is conducted in the fields of pilot plants, material technologies, catalyst technologies, charge and product characterization and the development of digital solutions for production and operations. In terms of environmental sustainability, work is carried out in the fields of carbon dioxide capture, carbon capture and conversion, green hydrogen, renewable fuel, water and waste management, energy efficiency and digitalization through national and international collaborations.

Horizon 2020 was the EU’s funding programme for research and innovation. Backed by the experience gained by Koç Group companies in Horizon 2020, the “Horizon Europe Private Sector Awareness and Mentoring Program” was launched in cooperation with Koç Holding, TÜBİTAK and the EU Presidency in order to increase the private sector’s participation in the Horizon 2020 Europe Program. At the closure of Horizon 2020, Tüpraş was the most successful Turkish industrial organization, and it participated in the program with its mentors.

In 2022, Tüpraş spent TL 73.3 million on R&D activity.

A total of 43 researchers, 14 of whom are postgraduate with eight holding a doctorate, two support personnel and 16 laboratory technicians work at the R&D Centre.

Eight researchers are continuing their doctorate studies and nine researchers are continuing their graduate studies.

The R&D Centre works in harmony with the refinery teams within the framework of common goals and with strong collaborations of both a national and international nature. The R&D Centre works on the following focus areas.

Carbon Capture, Utilization and Storage

In line with the strategy, the R&D Centre Carbon aims to develop the Capture, Utilization and Storage (CCUS) technologies and bring the developed technologies to Tüpraş. Two Horizon 2020 projects, two TÜBİTAK supported projects and one project in collaboration between industry and academia are being carried out on the CCUS issues in order to reduce emissions, a key part of Tüpraş’s journey to become a carbon neutral company.

Pressure swing adsorption (PSA) is a common method of purifying hydrogen in a refinery by removing other hydrocarbon gases. In the “PSA-to-Fuels” project initiated in cooperation with KÜTEM (the Koç University Tüpraş Energy Centre), laboratory scale testing activities are carried out in order to transform the refinery process gases containing high levels of CO₂ into products with high added value using innovative catalysts.

The R&D Centre follows the electrolyser technologies to be established in the refineries and takes initiatives in the green hydrogen focus area in order to create the ecosystem along the green hydrogen value chain.

Green Hydrogen

The R&D Centre follows the electrolyser technologies to be established in the refineries and takes initiatives in the green hydrogen focus area in order to create the ecosystem along the green hydrogen value chain.

Green hydrogen technologies are among the investment areas which Tüpraş has prioritized in its Strategic Transition Plan. In the field of green hydrogen technologies, the R&D Centre supports TÜBİTAK and similar public research institutions in setting out road maps regarding the green transformation and green hydrogen, which is a burgeoning area in Turkey. It also supports these public institutions in regard to the technological steps which need to be taken to advance cooperation between industry and academia. Thus, the R&D Centre leads the establishment of a national project resource and funds which will support ventures in the field of green energy in Turkey. It also aims to be present in national call applications.

As the consortium coordinator, with the ETERNITY project, Tüpraş applied to the Clean Hydrogen focused “Hydrogen Valley” call of the Horizon Europe program, which is the 9th Framework Program of the European Union. This application, which includes 21 stakeholder organizations from four countries, has an important role in creating the value chain for Turkey’s first hydrogen valley.



Renewable Fuel

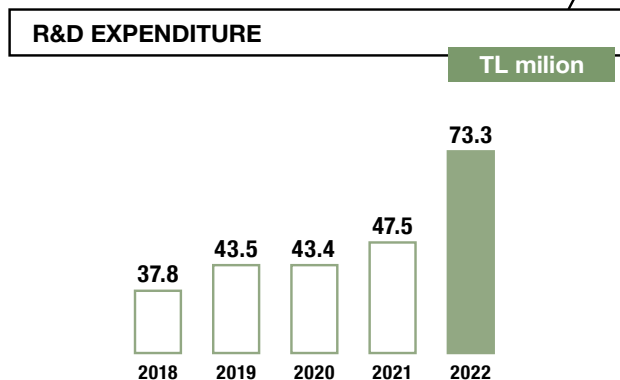
Different sources of raw materials and conversion technologies are closely followed in the area of renewable fuels. The company is involved in two important projects for biofuel production.

The **EBIO** project, supported under the Horizon 2020 program, will examine the improvement in the properties of biomass-based liquids and the use of the obtained products as intermediate and final products in the refinery. Tüpraş will focus on SAF maximization by determining the conditions necessary for the production of renewable jet fuel from bio-oils.

The project is a micro-jet project, supported within the scope of TÜBİTAK ARDEB 1003 program, which Tüpraş is participating in jointly with a number of key organizations such as Boğaziçi University, Koç University, Turkish Airlines, THY-Teknik and THY OPET. Tüpraş will play a role in the standardization of the bio-jet fuel to be obtained by using appropriate microalgae biomass in the project.

TL 73.3 milion

Tüpraş's R&D expenditures in 2022 amounted to TL 73.3 million.



R&D

Work is carried out to reduce the use of clean water through the recovery of waste waters, to evaluate the usage of refinery wastes in different industries through industrial symbiosis.



The Circular Economy

Work for a circular economy is carried out in line with objectives of reducing the use of clean water through the recovery of waste waters, the evaluation of the usage of refinery wastes in different industries through industrial symbiosis, the recovery of precious products included in the wastes and optimum utilization of wastes by using innovative technologies. There are three projects ongoing in this context, one of which is being carried out with Tüpraş's equity and two being funded by European Commission under the Horizon 2020 project.

Energy Efficiency

In line with the sustainable refining strategy, work continues on the following projects, which focus on energy efficiency and which will increase refinery profitability.

The **BAMBOO** project is supported under the Horizon2020 programme. Tüpraş carries out work to analyse the energy efficiency solutions developed in the **BAMBOO** project with Tüpraş data from a technical and economic aspect.

FLEXIndustries, the first project undertaken by Tüpraş to be funded in the Horizon Europe program, aims to implement the most appropriate energy efficiency management and process flexibility practices in energy intensive industries. Tüpraş will participate in replication studies in the flexible use of energy and integrated energy methods.

Sustainable Refining

Tüpraş focuses on the solutions and improvement work to increase operational efficiency in line with its sustainable refining strategy. Some of the work carried out in this area is set out below.

Within the scope of the evaluation of the Processability of Crude Oil and Alternative/Imported Charges at the refineries, one atmospheric and one vacuum distillation unit, which will accelerate the most critical stage in making decisions of crude oil processing, were established and the units entered operation. In line with the digitalization strategy, data pool work for the True Boiling Point (TBP) reports has reached the final stage. Work on the development of methods to reduce the limits in the determination of organic chlorine, an important safety factor in refinery operations, has also reached the final stage.

Under the Delayed Coking Unit project, the "Laboratory-Scale Coking Unit" was established in the R&D Centre with the aim of ensuring that the Coking Unit, which is one of Tüpraş's of the most profitable units, can continue its operations in a sustainable and safe manner. Work on commissioning the Laboratory-Scale Coking Unit continued. Studies also continued to examine the effects of the commercial unit charge properties on products and operations.

Work continued on comparing commercial catalysts in hydro-processing units through the hydro-processing pilot plant studies on a peer-to-peer basis in the purchasing processes, and to investigate the effect of the operating conditions on the catalyst performance.

In the field of material technologies specialization, studies are performed into innovative catalyst design, shaping and large-scale production and recycling of various refinery wastes. The **ACHIEF** project, work on which continues in the Horizon 2020 program, aims to develop a coating which will increase resistance to corrosion and to monitor this with sensors. The pipe-sensor system was designed in accordance with the refinery and the refinery site was prepared.



Work on the MACBETH project has been continuing with high-performance catalyst support material design and shaping studies for the conversion of propane, a component in LPG, into propylene, a more valuable chemical.

Innovative Process Technologies

Two Horizon2020 projects, which aim to transform refinery intermediate or final products into valuable chemicals and fuels through innovative and environmentally friendly process and material technologies, will serve Tüpraş's sustainable transition goal.

Work on the **MACBETH** (Membranes and Catalysts Beyond Economic and Technological Hurdles) project has been continuing with high-performance catalyst support material design and shaping studies for the conversion of propane, a component in LPG, into propylene, a more valuable chemical.

The **BIZEOLCAT** (Bifunctional Zeolite based Catalysts for Sustainable Hydrocarbon Transformation) project is aimed at the development of innovative catalysts and processes for the conversion of LPG components into valuable aromatics. Tüpraş supported the development of a catalyst in the project, which was completed by 2022, and carried out scale-up studies at the TRL 7 level with its pilot-scale reactor system.

Smart Production and Operation

Within the scope of smart production and operation, holistic and informatics solutions are offered for safe, sustainable and responsible production. Work is carried out with a focus on digitalization in order to support refinery processes at all points from the tanks to the process and to the sales. In this vein, digitalization processes are supported with R&D projects that include optimization of crude oil processes, quality analysis and estimation decisions in gasoline blending processes, optimization and management of the LPG product pools, data-based control applications, fault detection in the process and equipment, and the application of safety-oriented robotic technology.

Commercial Solutions

Commercial solutions focus on the management of the commercialization processes of the project outputs such as materials, products, fuels and digital solutions which are developed for refineries or various industrial organizations within the scope of R&D projects, in a manner compatible with the Company's strategy and which will increase the Company's profitability.



The "Niche Fuel" project was rolled out with the aim of developing formulations for gasoline, kerosene and diesel fuels whose specifications are in a certain niche fuel category, and adding them to the Tüpraş product portfolio and contributing to the Company's profitability. Within the scope of the "Niche Fuel" project, a total of 3,280 litres of products were sold with diesel and gasoline formulations, which had been developed in response to demand from automotive companies.

Innovative and domestic products are developed in the studies carried out to expand the portfolio of bitumen products within the scope of the sustainable refining strategy. The "Development of Alternative Products for Insulation and Coating Applications" project has reached the final stage in the formulation of two products as an alternative to the existing products which are used in the asphalt, insulation, industrial oil and printing markets.

The "Development of Ceramic Based Heat Insulation Materials for Refinery Applications" project was carried out within the scope of cooperation between industry and academia between 2018 and 2021. Work to create a business model for the material, which was developed at the TRL 5 level and for which a pilot field application was carried out, along with commercialization work, is continuing.

R&D



The Horizon Europe Programme

The EU 9th Framework Programme, Horizon Europe, aims to strengthen the EU scientifically and technologically, increase its capacity for innovation, its competitiveness and employment, meet the priorities of society and maintain Europe's socio-economic model and values.

Tüpraş took part in 14 project applications as a project partner within the scope of Horizon Europe. In one project, in which the company took part as a coordinator, the company carried out one of the most comprehensive applications from Turkey for an EU project.

Tüpraş takes part in the **CCUS-ZEN** project as a "Networking Partner". The project is aimed at establishing a network for researching CCUS integration with partners in different sectors which already have the CCUS implementation projects and facilities, with the target of developing CCUS projects more rapidly and to identify potential.

Collaborations

Tüpraş has benefited from the opportunity to develop cooperation with more than 150 stakeholders from 26 countries with the projects it has carried out both with its own resources and with national and international support. Thanks to the business network developed with some of the world's leading universities, research centres, leading industrial organizations and SMEs, new technologies and scientific developments can be closely monitored, while offering fertile ground for new opportunities for cooperation.

Tüpraş plays an active role in the creation of the EU's R&D and innovation roadmap, which is prepared with the aim of creating a carbon neutral Europe by 2050. In this context, Tüpraş has become a member of a number of platforms, including **A.SPIRE**, which contributes to the resource-efficient process industry, the **Hydrogen Europe** platform, which was established to direct green hydrogen studies and create consortia and the **Water Europe** platform, established to collaborate with Europe's water providers and water users in the areas of research and innovation and to seek solutions to global issues.



Tüpraş ensured the continuity of its membership in the **SPRINT Robotics** initiative in 2022. The **SPRINT Robotics** initiative promotes the development, availability and application of robotic technology for inspection and maintenance in capital-intensive facilities such as refineries.

In 2017, Tüpraş ensured the continuity of its membership in the "Delayed Coking Project" carried out under the coordination of Tulsa University in the USA.

Turkey's first privately supported energy centre, KÜTEM, is focused on developing domestic and environmentally friendly alternative fuel technologies, digital transformation work, reducing foreign dependency in technology and solving the energy deficit problem.

Joint studies continue with the Eskişehir Technical University within the scope of the long-term **TUBITAK 2244 Industry-PhD Program**, which will continue between 2020 and 2028. The project serves the objective of training qualified personnel for the sector and our country by supporting doctorate students in critical material production technologies, which are determined in line with Tüpraş's needs and developments in the sector.



With its agile organizational structure, the R&D Centre aims to maximize the value it offers through correct prioritization in terms of interaction with stakeholders by continuing to develop its research infrastructure and technical competencies in our constantly changing and highly competitive world.

Patents and Scientific Publications

Within the framework of Tüpraş's intellectual rights studies, two patent applications (one Turkish national patents, one PCT (Patent Cooperation Treaty) were filed in 2022. This took the total number of patent applications filed since the commissioning of the R&D Center to 103, of which 73 are national and 30 are international. Tüpraş applied for a national trademark in 2022. Currently, there are a total of 53 trademark applications pending, eleven of which are registered internationally (4 EU, 1 WIPO) and 42 of which are registered nationally.

The Tüpraş R&D Center published 34 national and international scientific publications (10 articles and 24 presentations) in 2022, taking the total number of such publications since it commenced operation to 386.

The R&D Agile Organization Structure

With its agile organizational structure, the R&D Centre aims to maximize the value it offers through correct prioritization in terms of interaction with stakeholders by continuing to develop its research infrastructure and technical competencies in our constantly changing and highly competitive world. Long term tasks and projects are carried out in value-oriented teams which are cross-functional and autonomous, while the values and goals are managed in parallel with Tüpraş's strategy. Expertise and competency development are managed in the areas of expertise which offer the same competencies with the aim of developing competency.



INNOVATION



Tüpraş deems in-house enterprise, open innovation programs, start-up integration activities and start-up investments as critical components in achieving its vision. Since 2017, innovation activities have been carried out in the focus areas determined in line with the Company's strategies.

Enterprise is encouraged through the Idea Unit In House Enterprise Program, which aims to spread a climate of innovation and enterprise throughout the company and create value in a sustainable way. Internal and external communication and training activities are carried out to support the cultural transformation, systematically generate value and increase competence. News in the areas of innovation and enterprise, both in our country and from around the world, along with innovative applications, innovation studies conducted by Tüpraş and in-house enterprise project studies are shared regularly through the Idea Unit Portal, Inowhatif E-Bulletin and Enterprise Newsletters prepared within the company.

Open innovation activities are actively carried out with the aim of collaborating with entrepreneurs where such collaboration is compatible with Tüpraş's strategies, developing them together and adding value by integrating into the domestic and international enterprise ecosystem. In addition to a pool of more than 15,000 start-ups, domestic and international networks are constantly scanned and the relevant units of the Company and entrepreneurs carry out different collaborations.

The venture capital company, "Tupras Ventures", was established in 2022 in order to seize opportunities and advance new technologies by investing in line with the focus areas in the entrepreneurship ecosystem, especially in Turkey, Europe and the Americas, and to implement new business models and potential collaborations.

Spreading the Innovation Culture with the "Idea Unit Portal"

The Idea Unit portal, which was commissioned in 2017, is a platform aimed at spreading the culture of innovation, where employees with innovative ideas are able to share their ideas within the Company, and where various contents on enterprise are accessible.

Converting Raw Ideas into Value with the "Idea Unit In-house Entrepreneurship Program"

The Idea Unit's In-House Entrepreneurship Program is a process in which those who produce new ideas from Tüpraş validate, develop and implement their ideas using design-oriented thinking, lean entrepreneurship and agile project management methods. Within the scope of the program, Tüpraş employees implement the commercialization of their creative and innovative ideas with enterprise methodologies. In-house entrepreneurs who take part in the projects and teams which will create new growth areas and new markets are supported through intensive training on enterprise methodologies, venture mentoring and top management sponsorships.



Internal and external communication and training activities are carried out to support the cultural transformation, systematically generate value and increase competence.



Five campaigns have been conducted within the scope of the Idea Unit In-House Enterprise Program, which has been ongoing since 2017 and 150 in-house entrepreneurs have had the opportunity to work on a total of 44 projects using the lean entrepreneurship method. Four of these projects have been commercialized and two more projects are planned to be commercialized in 2023.

Innovation Volunteers

The “Innovation Volunteers” teams, consisting of employees at various levels who provide support for innovative ideas to be part of the corporate culture and to promote a perspective of in-house enterprise throughout the Company, continued their activities. All employees wishing to support the studies on open innovation and take part in the in-house enterprise project teams may become an Innovation Volunteer through the Idea Unit portal.

Inowhatif Talks Event Series

The Inowhatif Talks Series, which started with the motivation to keep the entrepreneurial climate alive, continued in 2022 with speakers from among company employees offering inspiring content about innovation, technology, and new business models. Information and experiences are also shared during the talks on the specified subjects, regardless of the specializations within the company.

Internal Mentoring Program

Employees selected from in-house entrepreneurs support in-house and external enterprise projects as internal mentors. In addition to being involved with in-house events, the idea generation workshops and all processes carried out by the Idea Unit Enterprise Program, they also participate in ecosystem events as panelists or speakers.

Corporate Entrepreneurship Awards - In-House Entrepreneurship Category

The “Protrack/SecureLogistics” project won third best “Intrapreneurship Project” in the “Corporate Entrepreneurship Awards” held for the fourth time by Özyeğin University, the Entrepreneurial Institutions Platform and Fast Company Turkey. Protrack, the domestic hardware and software product developed by Tüpraş, shares instant location information with logistics companies which carry out the transportation of valuable fluid, providing security at every stage from filling to unloading. Accordingly, it offers solutions to the problems of undesired loss, leakage and location tracking in transportation.

The project, which started in 2018 within the scope of the Idea Unit In-House Enterprise Program, established a specially allocated workshop infrastructure and space in the Kırıkkale Refinery. Electronic card designs, designs of hardware products in accordance with ATEX certification and embedded software were prepared by the relevant team, and the commercialization process of the project got underway in 2022.

INNOVATION

Tüpraş continued to take part in the Entrepreneurial Institutions Platform Turkey which was established with the aim of developing learning between institutions, raising awareness over best practices and spreading the systematic applications of in-house enterprise.

Open Innovation Work

Enterprise and open innovation activities are carried out to meet the needs of the present and the future in a way that supports sustainable growth and continuity in line with the Company's strategies. In addition to seeking innovative solutions to the Company's needs, these activities are aimed at finding new growth areas by applying and jointly developing new technologies through open innovation studies. Open innovation studies also support increasing agility in new business development and in-house enterprise.

The enterprise channels pave the way for interaction with over 500 initiatives each year, both domestic and from abroad, providing access to 15,000 initiatives. Initiatives with viable solutions for innovation focus areas offer the opportunity to seek solutions to real needs and specialized staff in Turkey's largest industrial enterprise have the opportunity to verify application scenarios, develop their solutions together and develop cooperation in different models. In this context, processes were carried out in more than 30 units from four Refineries and the Headquarters, and PoC/demo studies were carried out with more than 150 stakeholders from within the company.

In addition to being the customer of the enterprises which conduct PoC/demo work, all cooperation models are evaluated. Depending on the stage of the initiatives, collaborations are considered from different perspectives, all the way from conducting PoC / demo studies to becoming an investor.

Inowhatif 360 Program

The aim of the Inowhatif 360 Program is to provide operational benefits as an early implementer of initiatives which may serve as solutions to the needs and problems in the field processes related to refinery sustainability and efficiency, and to rapidly meet Tüpraş' needs with innovations in the sector.

The Inowhatif 360 Evaluation Team has been established with representatives from all locations of the Company for the dissemination of the Inowhatif 360 Program and effective cooperation processes. The team supports implementation and joint development processes to roll out innovative solutions for operational processes.



Tüpraş has announced that it will allocate USD 50 million to the field of venture capital by 2030, mainly new technologies and business models in energy transformation, within the scope of Strategic Transition Plan.

Detailed interviews were conducted with a number of domestic and foreign initiatives in cooperation with the Inowhatif 360 Evaluation Team and related business units regarding operational processes in 2022. PoC scenarios were created and cooperation process were carried out with 15 initiatives in a range of different fields including "Image Processing", "Sensor Solutions", "Waste Heat Solutions", "Waste Water Technologies" and "Robotic Solutions".

Emerald Technology Ventures Investment

In 2020, Tüpraş signed a long-term cooperation agreement with the Emerald Industrial Innovation Fund, an international venture capital fund, to invest in new tech companies in the USA and Europe, and became an investor. In this context, it has initiated investments with LP status through Emerald. Investments have so far been undertaken in 10 initiatives with an exit from one initiative.

Corporate Venture Capital Studies - Start-up Investments

Tüpraş has announced that it will allocate USD 50 million to the field of venture capital by 2030, mainly new technologies and business models in energy transformation, within the scope of Strategic Transition Plan. Long-term partnerships in the field of venture capital will be established, first of all to carry out co-investment (co-invest) and direct investments.

Against this backdrop, Tüpraş Enerji Girişim Yatırımları A.Ş. (Tupras Ventures) was established and meetings were initiated with a wide array of start-ups and investors in the areas of green

The Innovation unit at Tupras prepares and presents the content of innovation programs such as Innovation in Young Minds and the Women Enterprise Program with its experience and knowledge gained over the years.

hydrogen, carbon capture, use, conversion, renewable energy and fuels, carbon management, robotics, sensor technologies and waste management. In 2022, an investment has been undertaken in a start-up in the field of green hydrogen.

Here2Next Platform

Tüpraş was a founding institution of the “Here2Next” platform, which was set up to draw attention to the added value of corporate-start-up collaborations. In a bid to raise awareness of the added value of corporate-start-up collaborations in Turkey and in the global arena, and to ensure that good practices and knowledge is shared and disseminated in the ecosystem, nine leading institutions in the sector came together and implemented the Here2Next platform. The platform is aimed at encouraging and contributing to the organizations which work with start-ups or have the potential to work with start-ups and to organize their internal awareness activities, business processes and methods in line with the needs of the start-ups.

The Entrepreneurial Institutions Platform Turkey

Tüpraş continued to take part in the Entrepreneurial Institutions Platform Turkey which was established with the aim of developing learning between institutions, raising awareness over best practices and spreading the systematic applications of in-house enterprise.

TÜSİAD Working Groups

Tüpraş takes part in the TÜSİAD Entrepreneurial Ecosystem Working Group, and In-House Entrepreneurial Working Group.

Promotion and Cooperation Development Studies

Tüpraş participates in many events for early and advanced stage start-ups and candidate entrepreneurs within the scope of integration studies with the enterprise ecosystem, organizes programs and provides mentoring support to entrepreneurs. Thousands of students and entrepreneurs have been reached through sharing about enterprise, innovation, Tüpraş’s innovation studies as panelists or speakers at the universities and events of student clubs at universities, and by providing mentorship support in acceleration programs, competitions and other enterprise activities.

Innovation in Young Minds and Women Enterprise Program

The Innovation unit at Tupras prepares and presents the content of innovation programs such as Innovation in Young Minds and the Women Enterprise Program with its experience and knowledge gained over the years. Details regarding the program are provided under the “Social Responsibility” heading of the report.



DIGITALIZATION, WORK ON FUTURE PROOFING AND THE DEVELOPMENT OF DIGITAL TALENT PROGRAMS



Tüpraş dijitalleşme çalışmaları kapsamında veriden değer yaratacak veri analitiği ve yapay zekâ destekli projeleri hayata geçirmeye devam etmiştir.

“The Future of Work” - The Working Life of the Future

Tüpraş pressed ahead with its innovative and pioneering practices in 2022 with the aim of achieving compliance with its digital strategies as published within the framework of the Strategic Transition Plan.

In this context, Tüpraş initiated steps to strengthen its organizational structure. Tüpraş established the “**Digitalization Platform**” in order to implement digital strategies and identify initiatives which will most efficiently adapt to the future of work.

Digital officers have been determined from all business units. The **Digitalization Platform** consists of Information Technologies (IT) representatives and digital officers. The purpose of the platform is to manage digitalization work across the business units and operations in a holistic manner and to prioritize digitalization initiatives such that they are in line with the digital strategies and road map by taking into account of these initiatives' impact on all business units. The team will utilize agile working methods and execute Tüpraş's digital transformation in the most effective way. Moreover, the team will keep the created digital strategies and road map up to date to take account of changing technologies, work requirements and social trends, and ensure that progress is achieved in line with the determined strategies and road map. Another benefit of the platform is that it will minimize work repetition in the field of digitalization with different business units working together and maximize the efficiency of valuable resources.

Representatives from the Digitalization Platform business unit will act as a link between the operations and IT side under a “Business-led IT” approach. They will prioritize digitalization initiatives in their authority domains and improve the digital projects that are being executed by monitoring their impact on operational and business results. Another responsibility of the representatives

is to spread awareness of digitalization throughout Tüpraş and foster the creation of a digital working culture.

In addition, a total of 10 projects have been carried out within the scope of R&D with a focus on digitalization value. These projects are classified in the focus areas of smart production, smart quality, smart business solutions and smart technologies. Collaboration with various stakeholders is established in these projects, which include technological development and implementation work in the specified focus areas. Two of these projects are supported by Horizon 2020 - one of which is supported by Horizon Europe - while two of the projects are supported by TUBITAK programs and five of the projects are carried out with the company's internal resources.

Details of all of Tüpraş's digital strategies and the technologies it is focusing on are available on the corporate website:

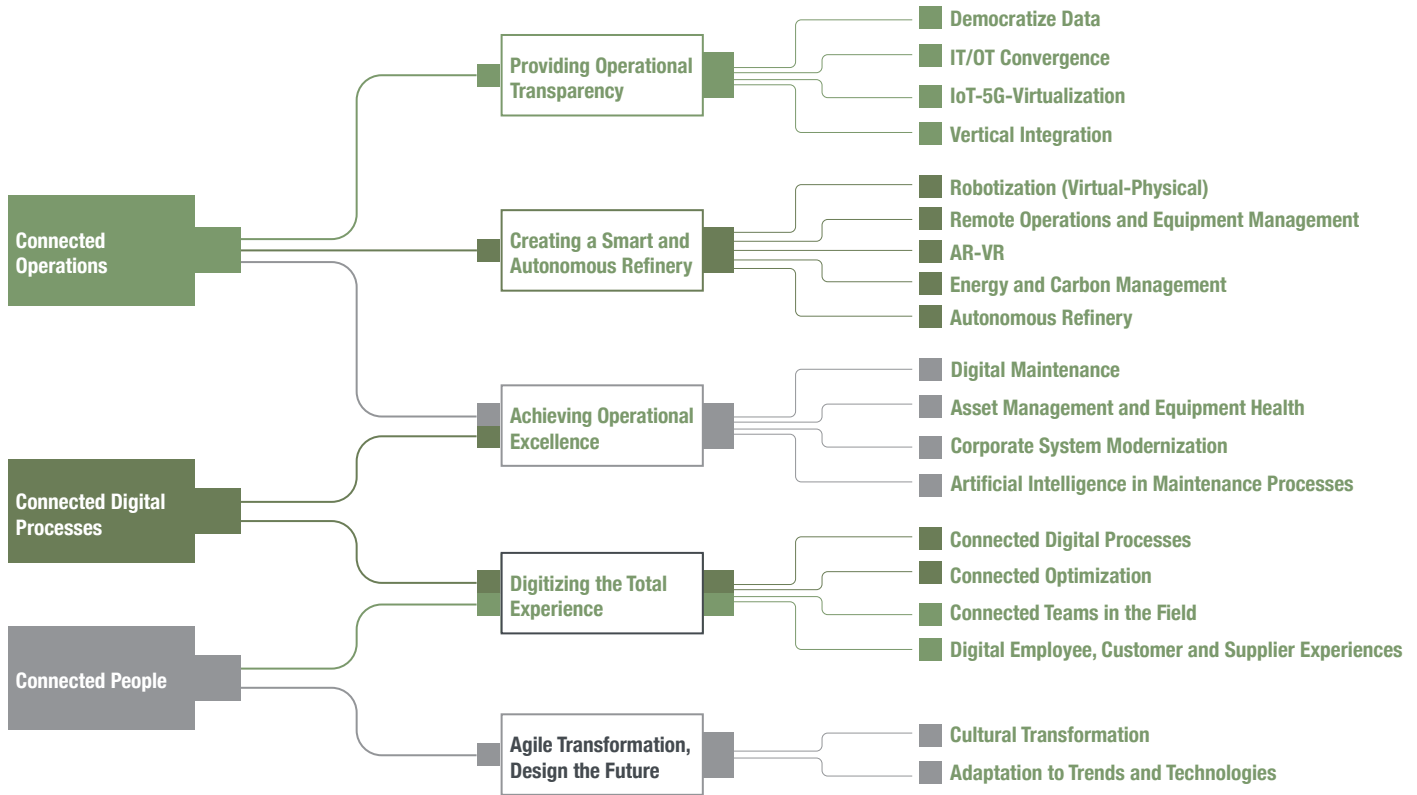


DIGITALIZATION WORK

Data Analytics and Artificial Intelligence

As part of its digitalization efforts, Tüpraş continued to implement data analytics and artificial intelligence supported projects that will create value from data. Field staff in all refineries developed energy efficiency and EII instant monitoring work, which had got underway in 2020 and carried out the coding. In 2022, daily energy monitoring of all units was opened for access. Data based digital energy twins for some equipment were established in the Izmit and Kırıkkale Refineries. In the established modelling structure, there was an increase in the equipment with digital energy twins. At the same time, the work on determining energy inefficiencies accelerated.

In order to gain a competitive advantage in financial and commercial operations, end-to-end applications from demand forecasting and product price estimation to optimization of crude oil payments, analytical applications that analyze foreign trade opportunities and smart hedge decision support systems which can manage financial risk were implemented. The resulting artificial intelligence systems were combined under the **FINTEL** platform, which then had an impact on the decision-making stages.



Data Governance

The main purpose of the data governance work undertaken at Tüpraş is to create value from data and create a data culture which will strengthen the common point of view by rendering the data understandable, shareable, manageable and protected within the organization. In this context, work on DACAMA was first carried out with KoçDigital, with Tüpraş's strengths as well as areas open to improvement being reported. Data owners and data officers were determined in the selected pilot units in order to establish the organizational structure of data governance, which is one of the important building blocks in data governance. Data governance awareness training was provided to the 22 determined individuals.

The Tüpraş Data Governance Policy was created and published such that it could be accessed by all Tüpraş employees. Moreover, a data governance committee organization was established which convened for the first time, attracting wide participation. The Data Governance Data Quality Policy was prepared and finalized.

Work on Robotics

The Tüpraş Robotics Team continued to work on projects to develop advanced technologies and to make use of robotic technologies in the production areas in 2022. Periodical checks of oil storage tanks got underway in 2021, and pilot trials of robotic technologies in measurements and high-risk parts of the refinery complex during the periodical checks were rolled out in the Izmit, Izmir and Batman Refineries. The technologies subsequently started to be deployed in 2022. The RUVI OilDiver (Floor Control Robot in Live Tank) project involves the lowering of a robot to the bottom of the tank, with equipment located in the tank with the application specific robot technology developed for the first time in Turkey and one of the few such examples in the world. After being lowered into the tank, the robot is guided by the pilot and carries out the measurements and controls of the tank bottom sheet. The project is ATEX certified under the "Call for the Support of SMEs for Order Based R&D Projects" published by TÜBİTAK.

DIGITALIZATION, WORK ON FUTURE PROOFING AND THE DEVELOPMENT OF DIGITAL TALENT PROGRAMS



The Spot robot is a smart four-legged robot manufactured by the US-based robot company Boston Dynamics, and can also be remotely controlled. Tüpraş previously completed test applications with the Spot robot in its production areas. Under the recent collaboration, Tüpraş completed trials of the Tracked Robot, which will provide a significant advantage when it comes to autonomous observation work in the field in areas with uneven ground such as tank yards and offsites.

Contactless and Scheduled Sales & Terminal Automation System (TAS)

Tüpraş, which accelerated its work on the “Contactless Sales Platform” in its medium-term planning due to the pandemic, commissioned the Scheduled Sales processes on a product basis in mid-2021. In this context, customers are able to book appointments for tanker filling order processes online, and related tanker drivers are able to monitor and manage the entire process digitally with the “Tüpraş Driver Portal” mobile application. The rollout of the application, which is the first in its industry, to the land filling process of all refineries was completed in 2022.

On the other hand, Terminal Automation System (TAS), which is a filling and sales systems project, will pave the way for the transfer of all work processes on the sales systems based on shipping, pipeline and land, wagon filling and scrap to digital media.

AR-VR-XR Based Work

“Furnace Control” and “Fire Fighting Vehicle Introduction and Extinguishing” scenarios were prepared by using Extended Reality (XR), Augmented Reality and Virtual Reality technologies. Maintenance work in the refining sector, where indoor area density is high, is especially challenging in many respects.

Virtual reality applications are deployed in order to increase the experience and competencies of the employees in this area with training provided in enclosed areas so employees can completely review all control steps in a short space of time.

Work on Asset Management

Production and process systems at Tüpraş contain a wealth of data, especially on equipment assets. Tüpraş aims to offer a platform for this data in terms of maintenance, planning and asset strategy management. Monitoring the status of equipment to ensure the continuity of production operations and conducting analysis and estimates based on process/field data is vital to increase operational efficiency. Accordingly, pilot projects have been initiated at the İzmit, Kırıkkale and Batman refineries with industry leading technology suppliers. The pilot projects will offer an opportunity for gains in terms of energy costs, maintenance costs and operational efficiency.

Field Mobilization and Electronic Work Permit System

Tüpraş continued its work in rolling out industrial tablets in the field in 2022. With mobile solutions for the needs in different scenarios, applications which will ensure the sustainability of the uninterrupted working environment in the field have been deployed.

With the “Electronic Work Permit System” project, the company aims to manage simultaneous work management and related permits, use dynamic electronic platforms, activate the key performance indicator, use the tracking and monitoring option and provide easy accessibility with the option of archiving. The selection of the technology and companies were completed in 2022. Pilot studies and roll out activities will be carried out in 2023.

Terminal Automation System (TAS), which is a filling and sales systems project, will pave the way for the transfer of all work processes on the sales systems based on shipping, pipeline and land, wagon filling and scrap to digital media.

FACTLOG - (Energy-aware Factory Analytics for Process Industries)

FACTLOG is a project supported within the scope of the Horizon2020 Research and Innovation Program, with the aim of minimizing the use of energy by optimizing the Izmit LPG pool. This project also conducts estimations of C2, C5 and sulphur parameters, which the company uses to monitor in the units. This project aims to prevent the production of LPG which fails to meet the specified values thus avoiding the cost of reprocessing and thereby improving customer satisfaction. The alarm system will facilitate monitoring by engineers before sub-specification LPG enters the tank. This will pave the way for standardization with suggestions of corrective action in the event of any abnormal situations.

Optimization of Crude Oil Processes

Software is being developed to provide digital decision support to planners by integrating different data sources regarding the reception of incoming crude oil cargoes into tanks at the Izmir Refinery, their transfer from tanks to other tanks and units, and the preparation of crude oil tank composition estimates. This will increase operating profit by minimizing demurrage costs, ensure operational security in inventory tracking, and help achieve operational excellence in terms of sustainable refining. The software will equip the planners with the ability to take fast and effective action.

Advanced control in waste water treatment units and their optimization

The project, which seeks to achieve performance monitoring and optimization of waste water treatment units and thus improve its energy efficiency and environmental sustainability, is being carried out in cooperation with KUTEM (Koç University Tüpraş Energy Centre). Advanced machine learning methods such as physics-informed neural networks have been used in this project in order to enable predictive modelling of complex physical systems and overcome the limitations of purely data driven models.

New Digital Technology Trials

Tüpraş continued to carry out its innovative and pioneering practices in 2022 to ensure compliance with the digital strategies it published within the framework of the 2050 Strategic Transition Plan, which Tüpraş created with the aim of “generating the energy of the future”. Tüpraş associates all initiatives in its strategies with

the keyword of “Interconnected” and Tüpraş has, accordingly, created the concept of “Interconnected People”, “Interconnected Operations” and “Interconnected Digital Processes”. In line with this concept, Tüpraş has prioritized work which will yield a high benefit from artificial intelligence and mobility, operational transparency, high automation, employee productivity and experience which directly supports the main goals of the company such as operational excellence, efficiency, sustainability, low carbon and technical and cyber security.

In this context, pilot trials (PoCs) of over 50 technologies were conducted in 2022 with the GIS (Geographic Information System), Shop floor Management, APM (Application Performance Management Tools), Quantum Computing and Kubernetes & Dockerization technologies determined as technologies which are mature and would yield favorable results in refinery conditions. Design and engineering work for the required scenarios is ongoing.

Within the scope of Creating a Smart and Autonomous Refinery, an isolated LTE network with a frequency especially allocated from the Information Technologies and Communications Authority (BTK) was established for trial purposes at the Izmit Refinery. The push-to-talk radio service was also successfully tested.

Digital Talent Development Programs

In addition to its digitalization efforts, the democratization of data, with its use at every point of the decision-making mechanism, and placing the ‘single and same’ data at the heart decision-making at every level is part of the company’s mission. In this context, Tüpraş launched the “Analytical Tüpraş Training and Project Program” and the “RPA Coaches” program, where coaches will manage the RPA (Robotic Process Automation) activities in 2021 so all company employees benefit from data and digital solutions in their work processes, in addition to data analysts and IT teams. Tüpraş continued these programs, achieving a further increase in the number of participants in 2022. With the analytics program, more than 110 employees gained Data Citizenship (Citizen Analyst) capability. With the 155 RPA coaches which were trained and more than 200 robotic processes developed, Tüpraş accelerated the repetitive tasks and work processes, thus yielding efficiencies amounting to 16,208 employee days.

DIGITALIZATION, WORK ON FUTURE PROOFING AND THE DEVELOPMENT OF DIGITAL TALENT PROGRAMS



A new “Data7 Literacy Program” was launched this year in order to increase data literacy throughout the company.

In order to spread the culture of creating value from data to all business processes, one of the most important Objectives and Key Results of the Tüpraş company management is to increase the number of people who are data literate. To this end, a new “Data Literacy Program” was launched this year in order to increase data literacy throughout the company. The Data Literacy Program allows all employees to receive graphic design, data visualization, basic statistics, Power BI and digital awareness training to equip them with the ability to effectively use and analyze data. The Program also allows employees to access portals where they can be informed of data-oriented projects carried out in the company. Moreover, the Program allows employees seeking to develop themselves in the fields of analytics and robotic processes to enhance their digital competence with mentors in special training programs.

In the last link of these efforts, a program was launched for employees who are willing to develop their application needs in their own domain as a stakeholder in the digitalization efforts with the “Citizen Developer” approach, under the banner of “Tüpraş Trains Software Developers”. In this respect, it is envisaged that employees who graduate from the program will offer more agile and increased business value to Tüpraş through the applications they develop on the “Low-Code” based platform determined within this scope. The “Low Code (No Code)” platform allows those without a background in coding to develop applications without the use of code. The platform allows employees to take advantage of the applications and automation opportunities, which can provide holistic benefits to the companies they work for, as well as their own work and activities, with advanced reporting programs such as “Analytics” solutions, “RPA” solutions and “Data Visualization Tools”.

The first work within this scope was the “Hack Your Job” hackathon organized jointly with the cooperation of Koç Holding under the banner of “Koç employees are redesigning their work at Tüpraş”. The hackathon attracted tremendous interest from both field and office staff. In the event, a total of 37 teams, each consisting of three people, submitted project proposals. Nine teams which passed the technical/idea evaluation pre-selection created their own business solutions, and the three winning projects were awarded.

Within the scope of work on Information Security and Compliance, actions set as targets for employees, suppliers and customers were completed in 2022 in line with the awareness program determined annually.

Cyber Security Strategy

Within the scope of work on Information Security and Compliance, actions set as targets for employees, suppliers and customers were completed in 2022 in line with the awareness program determined annually. By addressing cyber-security trends in a risk-based approach, the company broadened the coverage of security as remote working become a part of the new normal. The company increased its maturity with new and more sophisticated techniques with a proactive approach to cyber incidents by grasping the importance of responding quickly to increasing attacks.

In regard to cyber incident and according to architectural and legal compliance processes, an increasing level of security consultancy was provided to all relevant stakeholders in the field of IT/OT. Production, operation and change processes were integrated and arrangements were carried to ensure that any damages which could arise from cyber threats were handled within the scope of process safety as well as from a material,

operational and legal aspect. Reputational risk remained the most important factor in spreading the cyber security culture and in promoting efforts to raise awareness in this area.

System and infrastructure change/transformation projects in cyber operations and response processes, and the follow-up and integration of new generation security products played a major role in combating cross border threats. Cyber intelligence management has been prioritized by taking into account of the extent of the effects of the attacks on the production sector and the threats to the environment and human health.

Cyber-attack monitoring and defence have been shaped according to the zero-trust approach. Meanwhile, pre-detection with threat hunting and continuous attack simulation has enabled correct and timely incident responses. The company has updated its strategies and initiatives accordingly.



HEALTH AND SAFETY PRACTICES

Tüpraş Health and Safety targets; In addition to secondary indicators such as lessons learned and the findings of audits in past years, holistic way with new developments and trends are determined as a whole by the Koç Holding and the Tüpraş Senior Management.

The health and safety of its employees is a top priority for Tüpraş, with the philosophy of occupational safety being an indispensable value at the heart of all of its activities. Tüpraş Health and Safety targets; In addition to secondary indicators such as lessons learned and the findings of audits in past years, holistic way with new developments and trends are determined as a whole by the Koç Holding and the Tüpraş Senior Management. These targets are periodically audited by certification and rating agencies, as well as by the Koç Holding and the General Manager of Tüpraş. Sectoral comparison tables and related actions are periodically reported to the senior management of Koç Holding and Tüpraş, and the values are also presented to the public along with corporate reports, including international rating agencies.

The General Manager of Tüpraş reports to Koç Holding regarding the performance of Health and Safety practices. The health and safety performance of Tüpraş is included in the remuneration system and practices in the evaluation of individual and collective targets.

Occupational Health and Safety (OHS) activities at Tüpraş are technically systematized, planned, and operated by the Technical Safety Directorate (TED), which reports to the General Manager, and are periodically reported to the senior management with Basic Performance Indicators.

During the process of receiving, processing, storing and in the sale of raw materials and auxiliary products in the highest risk class refineries, practices are developed by providing resources with the aim of ensuring the health and safety of employees in all operations, maintenance and administrative activities and developing them with each passing period.

Tüpraş identifies risks stemming from its operations and aims to eliminate or reduce risks to locally and internationally accepted standards. The Tüpraş Health and Safety system has been based on and certified with the ISO 45001 standard. National legislation, relevant international standards and best practices constitute the basis of the management system, and the practices customized for Tüpraş are built on this basis. To this end, all employees of the Company as well as solution partners are expected to strictly adhere to Health, Safety and Environment (HSE) and Process Safety standards. In this context, all contractors are provided with

Occupational Health and safety training prior to the start of the work process.

In addition to these training programs, the technical training provided to employees include sections which explain activity-based risk assessments, issues which need to be considered and methods to follow when things do not develop as planned.

At Tüpraş, it is accepted that the concept of safety is not the duty of a certain group, but an obligation that everyone must comply with. It is expected that there should be no activities which would go against the safety culture.

A range of opinions, including those of business partners and suppliers, are collected and evaluated in order to ensure employee participation at every stage of the management system. The feedback is also used to determine what action to take and the methods to be applied. Communication channels and two-way dialogues have been established in order to ensure employee participation and these performances have been tracked with metrics.

Labor representatives and union representatives attend monthly meetings as natural members of the legally established OHS Board and convey their opinions and complaints about the OHS Management System. All members of the OHS Board receive training on their roles, powers and responsibilities. In addition, union representatives may convey their views to the OHS in collective bargaining agreements and other meetings.

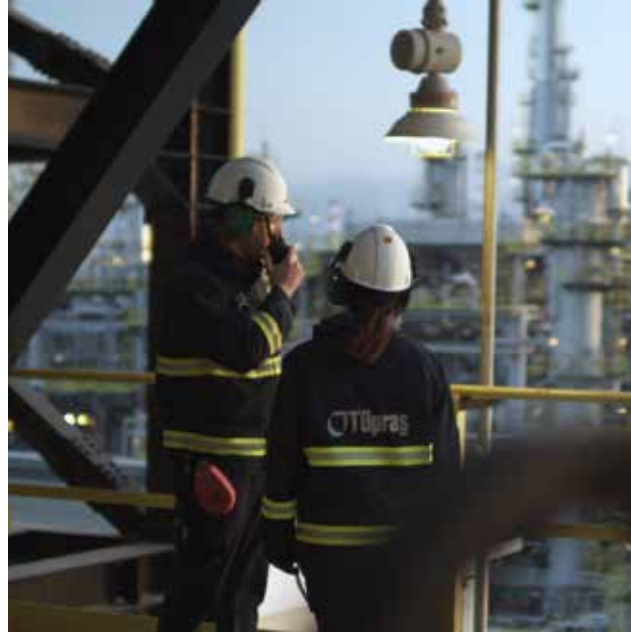
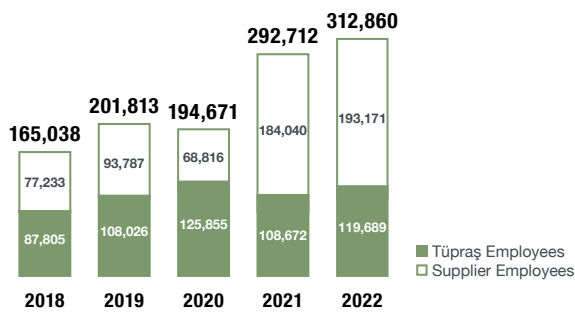
Tüpraş's Occupational Health and Safety (OHS) mission is to ensure employees return home, healthy, at the end of each working day, while its vision is to ensure employees return home in an even healthier manner with more awareness. In line with this mission and vision, it incorporates all kinds of applications and technologies so that each individual considers the safety first and foremost of themselves and then of the others and the facilities around them, and takes the necessary actions, in terms of both health and OHS.

312,860 people x hours

In 2022, a total of 312,860 people x hours of OHS training was provided to Tüpraş's and its contractors' employees.

TOTAL OHS TRAININGS

people x hours



An investigation of OHS accidents over the last five years found that the use of inappropriate personal protective equipment or the use of inappropriate tools, or using tools which are not for their intended purpose, was a more important cause of accidents than the first three technical steps in the risk management hierarchy. In order to address this and achieve the goal of zero corporate accidents (Zero Target), emphasis has been placed on the technical training of employees, with field inspections widely being carried out by responsible supervisors as well as OHS units.

The following measures were taken within the aim of improving general OHS performance, creating a safer working area and raising awareness among employees in 2022;

- By moving to the second phase in the contractor management system, more competent and specialised OHS personnel have been employed in the refineries. This has ensured that contractors meet administrative and technical OHS requirements.
- A risk assessment-based approach has been provided for planned stoppages with a special work permit system, while some steps in normal business practice have been redesigned and a more effective and safe working system has been developed. Thus, the time allocated to the work has been safely increased with field supervision and safety guidance capabilities enhanced at all stages from the planning of the work to its completion.

- The tender was completed within the scope of the digitalization of the work permit system, which is one of the most important steps of the control of work (CoW) system, has been completed and the final preparations for its implementation at the Izmit Refinery have been completed. The digital work permit allows activity-based risks and controls to be simpler and more specific, while uniform documents which can be read and understood have been created. The integration of maintenance planning, smart P&iD, stock control and competence systems will generate synergies in the creation of a clearer and more regular flow by supporting the work permit system.
- The digitalization of control forms, KPI and reporting pages is ongoing, thus providing a platform that can be accessed and easily interpreted at any time.
- Within the scope of safety culture efforts, individual and team development activities were carried out in order to raise awareness among employees.
- Investments have been undertaken in technical measures to tackle noise, vibration, lighting, dust and working positions, which are industrial hygiene factors that can lead to stress, within the scope of managing the issue of "Stress at Work", one of the reasons behind employee accidents and loss of working days. In this context, business planning and

HEALTH AND SAFETY PRACTICES

In order for Tüpraş to achieve its goals in its strategic transition journey in a healthy and safe manner and for employees to fulfil their duties competently for new production areas, necessary plans have been made, and work on the road map continues.

administrative planning for situations that require intensive or continuous movement have also been put into practice.

- Within the scope of the activities carried out with the aim of protecting employees from stress, in addition to industrial psychologist support provided by Tüpraş, employees undergo examinations of their mental state during periodic health examinations, while meetings, coffee breaks and field tours are also organized with the participation of the senior management where employees can share their ideas regarding their work.
- Measures such as surveys and one-to-one communication are organized where employees may easily convey their opinions.
- Opportunities such as social events, sport competitions and events have been organised for employees to allow them to relax spiritually by getting away from the monotonous work environment.
- Studies on human factors and human performance optimization will continue in 2023.

The findings of the audit conducted by the Ministry of Labor, the BSI (British Standards Institution) and Koç Holding were evaluated. Most issues were resolved quickly while additional risk assessments were conducted for the actions expected to take some time. Hazards which were identified were brought under control until the main actions were completed.

Health Risk Assessment (HRA) studies continue in all of the refineries. As part of the HRA studies, all area-specific (units, workshops, laboratories, warehouses) risk factors, including chemical, physical, biological, ergonomic and psychological, are evaluated in detail. Technical and administrative measures are taken to eliminate employees' exposure to these factors or to reduce their exposure to within acceptable limits. The results obtained are monitored through periodic controls. Stress Management activities and the development of a safe and peaceful working environment will continue in order to prevent stress-induced health issues and workforce losses.

OHS issues are also considered and evaluated for new projects and operations or changes planned. While determining new sources of danger that may affect employees, the measures to be taken are put into the program and followed while still in the design and manufacturing phase.

In order for Tüpraş to achieve its goals in its strategic transition journey in a healthy and safe manner and for employees to fulfil their duties competently for new production areas, necessary plans have been made, and work on the road map continues.

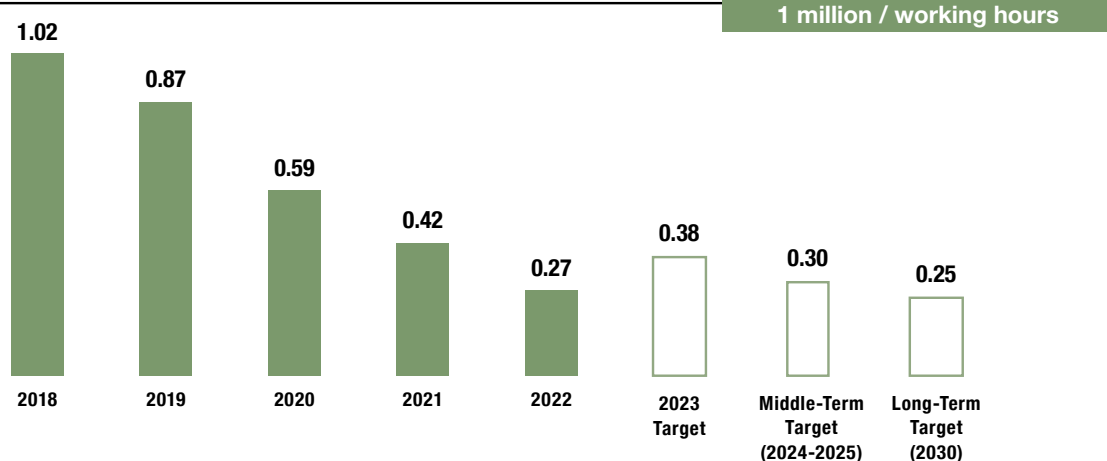
A structure has been established in order to respond to prepare for and reduce the impact of all emergency situations that may occur in the refineries, where support will be received first from the unit, refinery and other refineries, depending on the magnitude of the incident. The Tüpraş management ensures that Tüpraş is fully prepared in emergency situations, that the competence of the teams is at the desired level and that the crisis management team is established on the basis of the incident command system consisting of authorized and competent personnel. Tüpraş performs studies after each event and ensures that the necessary actions are taken to prevent recurrence of the incidents and follows up with monitoring.

Interventions in Emergency Situations

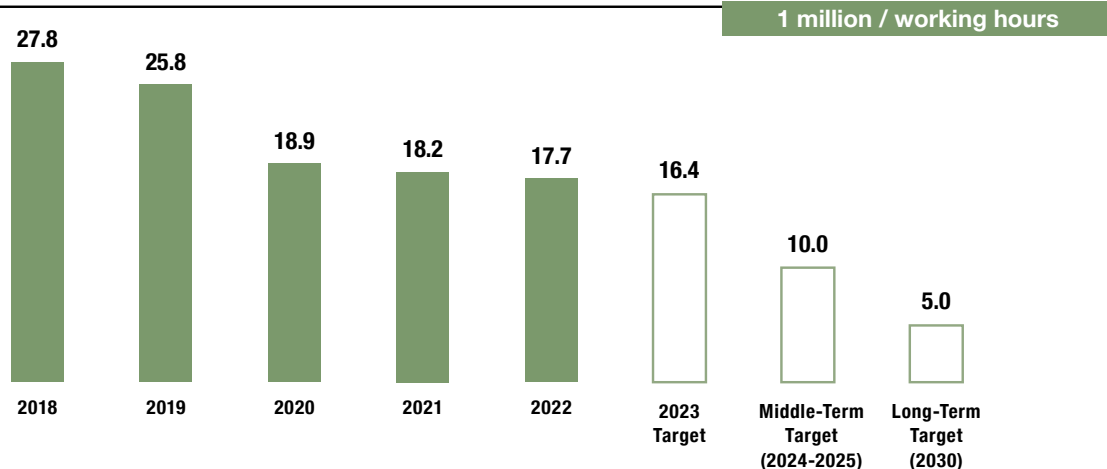
Tüpraş carries out its interventions in emergency situations with competent teams and high-capacity modern equipment, which is primarily within its own structure and whose primary tasks concern emergency preparedness and response. As external support, it may also call on expert personnel of solution partners serving in the field for assistance depending on the class of the incident that has occurred.

The technical safety team established for emergency response in refineries consists of employees, each of whom is specialized in their field. There are also trained support teams in different units that provide support during emergency situations. The fire response teams include rope access specialists, able to rescue victims who may be trapped in industrial environments such as closed areas and similar, and HAZMAT specialists to deal with chemicals and oil spill response.

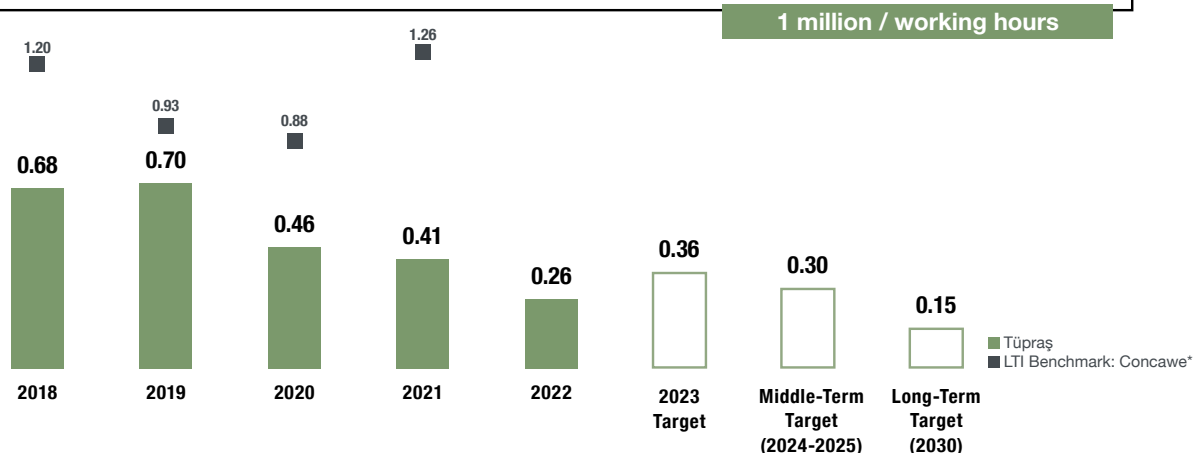
PROCESS SAFETY ACCIDENT FREQUENCY



LTI Severity - OSHA*



LTI - OSHA*



*40 companies operating oil refineries in the European Economic Area. Data for 2022 are not available as of the publication date of this report.

HEALTH AND SAFETY PRACTICES

In addition to the use of safe systems to prevent spills that may occur in maritime transportation and sea filling, resources are constantly available to keep the effects of any spills to a minimum.

National and international standards (NFPA, IMO, IRATA, etc.) are taken as a basis in the training provided for the modernization of emergency protection and response systems, as well as in continuous improvements and increasing the competence of its teams. In order to prevent the occurrence of emergency situations and reduce their effects, firefighting, fire and gas detection, and passive systems are used in an established manner, they are constantly updated, improved, and modernized in accordance with the needs and developing technologies.

In order to minimize the risks that may arise in emergencies, to prepare for emergencies and increase awareness and to intervene with methods that reach the target, high-level emergency, fire, search and rescue, hydrocarbon cloud / toxic gas emission, chemical and hydrocarbon spill drills are carried out in all refineries.

In accordance with the schedule determined every year, while the drills are monitored under the KPIs and necessary actions taken.

In order to prepare for high-level incidents, increase the capacity of joint work and response on a regional level, neighbouring facilities along with public institutions and organizations (such as AFAD, UDEM and UMKE) participate in the drills conducted by Tüpraş as stakeholders, with their teams and equipment.

In addition to the use of safe systems to prevent spills that may occur in maritime transportation and sea filling, resources are constantly available to keep the effects of any spills to a minimum. Agreements are in place with expert solution partners in order to prevent and reduce the effects of marine spills, while the necessary equipment, materials and trained teams as well as continuous service is provided to ensure 24/7 coverage.

Competent teams equipped with fighting equipment and materials to deal with any spills that occur in railway transportation, with the equipment kept ready in designated areas. The teams work with authorized response solution partners.



Efforts to increase the capacity of active response systems (fire and gas detection, fireproofing, fire water lines, etc.) and equipment modernization (fire engines) projects continue in the refineries within the scope of fire protection and fire safety. Tüpraş continuously improves and develops its emergency response processes and preparations through internal and external audits, following and applying the latest technological advances and international good practices.

Work continued on the establishment and implementation of the Road and Traffic Safety system, with activities to improve traffic safety by raising awareness. Tüpraş takes necessary measures to avoid traffic accidents which may cause material damage or personal harm on the highway and in the refinery. Tüpraş manages traffic risks by providing training to drivers, improving physical road conditions through engineering solutions and monitoring driver behaviour with the assistance of appropriate technological support.

16 Process Safety preliminary and after-basic performance indicators, which are prepared in accordance with international standards and applications (API754, CCPS etc.), are monitored on a monthly basis. The aim is to take measures before accidents occur and to prevent a repeat of accidents by learning lessons from the accidents that have happened.

16 Process Safety preliminary and after-basic performance indicators, which are prepared in accordance with international standards and applications (API754, CCPS etc.), are monitored on a monthly basis.

In this context, the Process Safety KPIs followed are as follows:

- PS KPI-1 - Number of Process Safety Incidents
- PS KPI-2 - Process Safety Incident Investigation Actions Delays
- PS KPI-3 - Timely Completion of Process Safety Incident Investigations (% Completed)
- PS KPI-4 - Planned Process Hazard Analysis-PTA (HAZOP, SifPro, FTA/ETA) studies completion status
- PS KPI-5 - Process Hazard Analysis-PTA (HAZOP, SifPro, FTA/ETA) studies actions follow-up
- PS KPI-6- Process Safety Critical Equipment Mechanical Integrity Tests/Technical Controls tracking
- PS KPI-7- Number of Primary Content Loss
- PS KPI-8 - Emergency Drills
- PS KPI-9 - Emergency Drills Action Tracking
- PS KPI-10 - ESD (Emergency Shut Down) Trip By-Pass
- PS KPI-11 - IPF Failures/Errors That Result in Danger
- PS KPI-12 Number of Process Safety Critical Equipment That Fails Periodic Tests
- PS KPI-13 - Alarm Management
- PS KPI-14 - Monitoring of Change Management System Actions
- PS KPI-15 - Change Management System -Process Hazard Analysis Completion Rate
- PS KPI-16 - Monitoring of Pre-Start-up Safety Review (PSSR) Actions

KPI evaluations are carried out on an annual basis with detailed analysis and benchmark company/ institution/ organization reports within the scope of process safety. The past year is evaluated At the beginning of each year, with focus issues and actions to be taken for the new year determined and presented to the senior management and distributed to all refineries. In Tüpraş's Refineries, the Process Safety Management System consisting of 14 main titles aimed at Operational Discipline and Operational Excellence is implemented on the basis of management leadership and ownership with the CCPS and OSHA reference. With the Process Safety Management System, all areas such as maintenance and

control activities, operating procedures, change management, process hazard analysis, training and competence, and contractor management that may lead to process safety accidents are evaluated together within the scope of Tüpraş's safety requirements.

The internal audit process, which was implemented in order to review the relevant topics and identify areas requiring improvement within the scope of the Process Safety Management System, was reviewed in 2022 and control forms were prepared, and reporting got underway in the digital environment through the SAP Audit Management for systematic follow-up and analysis.

Risks arising from operations are monitored under HAZOP (Hazard and Operability) studies, which are reviewed every 2 years and renewed every 4 years. Considering the developing and changing processes and potential threats in the world, in our country and in the refineries, cyber security and start-up risk assessment studies have also been integrated into the processes.

In the process hazard analysis conducted under the change management system, the effects and hazards of newly added equipment, facilities and processes on existing systems are evaluated and managed.

Internal trainings, including major accident scenarios, are implemented both in-class and online, in order to raise awareness among employees and improve their competencies, especially in process safety. In addition to classroom training, online training on the Process Safety Management System topics are prepared as repetition training and it is ensured that related users receive the required training.

In addition to the digitalization studies, projects (such as alarm management, digitization of SU/SD procedures, digitalization of DYS and PSSR field control forms) are carried out on the management of process safety risks and the continuous monitoring of the effectiveness of barriers online.

Evaluation of possible risks in cyber security and process safety and work on regulating the cyber security standard is carried out in cooperation with the Process Safety Department and the Cyber Security Department.

QUALITY MANAGEMENT SYSTEMS

Internal audits of the Integrated Management System were carried out at the Headquarters and refineries in 2022.

Tüpraş carries out all of its activities within the framework of the Integrated Management System, consisting of

- the ISO 9001 Quality Management System,
- the ISO 14001 Environmental Management System,
- the OHSAS 18001 Occupational Health and Safety Management System and
- the ISO 50001 Energy Management System.

Internal audits of the Integrated Management System were carried out at the Headquarters and refineries in 2022. The standards of the processes of each unit were evaluated and issues affecting the process were reported on during the course of the audits.

The following Integrated Management System external audits were realized;

- At the Batman Refinery on 25-29 July 2022,
- At the Izmit Refinery on 15-19 August 2022
- At the Head Office on 17-19 October 2022

New certification was provided until 2025 for the ISO 50001:2018 Energy Management System Standard.

All of Tüpraş's Refinery laboratories passed the TS EN IEC/ ISO 17025 standard audits in 2022, which is the certificate of international recognition and acceptability of the laboratories by the Turkish Accreditation Agency.



- EN 12591 (coating class) and EN 15322 (coat-back bitumen) and their inspections were realized in the Batman Refinery in February 2022 and the İzmir Refinery in March 2022
- EN 13808 (cationic bitumen emulsions) and EN 14023 (polymer modified bitumen) inspections were realized at the R&D Center on May 26-27, 2022

The validity of CE certificates was extended for one year.

The Customer Satisfaction Management System certification audit was conducted on 29-30 November, 2022, and the ISO 10002 and ISO 10002:2018 certification was extended for another one year.

Scan QR codes to access management system documentation:



ISO 9001
Quality Management System



ISO 14001
Environmental Management System



OHSAS 45001
Occupational Health and Safety Management System



ISO 50001
Energy Management System



ISO/IEC 27001
Information Security Management System



ISO 10002
Customer Satisfaction Management System

ENVIRONMENTAL MANAGEMENT

Tüpraş continues to carry out R&D efforts to reduce the environmental impact of refinery processes and to develop alternative fuel technologies.

Tüpraş adopts a responsible and respectful approach to the environment by focusing on improving its environmental performance and reducing the environmental impacts of its activities. The Company implements projects which reduce and continuously improve the environmental impact in production processes while fulfilling its responsibilities within the scope of environmental obligations. Technology and process choices are made in accordance with EU standards in the design of projects, taking into account all environmental impacts.

Tüpraş has set out a commitment to reduce the carbon emissions from its operations by 27% by 2030 compared to the 2017 level and to be carbon neutral by 2050 as part of its strategic transition process which it embarked on with the goal of “Carbon Neutral by 2050” for a sustainable world.

Tüpraş continues to carry out R&D efforts to reduce the environmental impact of refinery processes and to develop alternative fuel technologies.

The company follows the requirements of ISO 14001 Environmental Management System Standards in all of its operating facilities and carries out certification studies at regular intervals.

Environmental performance at Tüpraş undergoes constant monitoring based on the specified goals and objectives, and the requirements of national environmental legislation are checked during the internal audit process. Environmental risks and opportunities are identified. On the other hand, environmental practices and Tüpraş’s performance in this area are subject to the Koç Group Environmental Audit process, as well as audits carried out by institutions and independent organizations authorized by the Ministry of Environment, Urbanization and Climate Change. Thus, the monitored systems and the results obtained are evaluated by a large number of organizations both inside and outside the company. Any issues identified are resolved by drawing up a “Corrective Remedial Action” form based on the findings obtained from environmental audits. All results are presented to the senior management at the annual Management Review Meetings, and the work targets for the following year are determined.

Activities Within the Scope of Emission and Life Cycle

The flue gas emissions in the refineries have been monitored online by the Ministry of Environment, Urbanization and Climate Change in 31 chimneys and all national legislation requirements were met. Studies are carried out to ensure flue gas emissions are harmonious with the EU legislation. Best available techniques are followed and the highest standards are applied to minimize emissions from operations. Emission values are well below the national limit values, and were even within the internationally accepted limits according to a number of sources.

The gases from flaring out are recovered and used as fuel in the furnaces. This contributes to the reduction of resource consumption and emissions.

Use of Clean Fuels: Energy required for the processes is provided from natural gas and refinery gas to the maximum extent possible, thus achieving reductions in SO₂ and particulate matter emissions.

Reducing NO_x Emissions: New technologies and plant conditions are controlled by using burners that will ensure low NO_x emissions in the energy generation activities necessary for refinery operations, and NO_x emissions are reduced.

Reduction of Volatile Organic Carbons (VOC): As part of the efforts to reduce VOC emissions, proactive measures are being taken to prevent possible leaks and ensure that possible sources of VOC leaks are brought under control through the use of leak detection and repair (LDAR) technologies. Closed sampling systems are becoming more popularized and double-walled floating ceilings are being used to reduce VOCs caused by the tanks. The investment includes the establishment of Vapor Recovery Systems to reduce emissions from filling. As of the end of 2022, work continued to put the vapor recovery units into operation at the İzmir and Kırıkkale Refineries.

Emission values are well below the national limit values, and were even within the internationally accepted limits according to a number of sources.

Tüpraş established a mass emission declaration methodology in line with the EU E-PRTR (European Pollutant Release and Transfer Register) Directive in order to more effectively manage its non-GHG (Green House Gas) emissions.

In line with the Sustainable Development Goals, Sustainability and Life Cycle Analysis (LCA) studies continued to manage the environmental impacts arising from operations and planned investments under a holistic approach.

The activities carried out in 2022 in this context are summarized below:

Training sessions were held during the year to raise awareness about life cycle thinking and analysis. The purpose of this training was to ensure that all process teams adopted the life cycle thinking, and to widen this approach.

The projects proposed to the investment program within the scope of Tüpraş's internal practices include an "environmental opinion" requirement, and "control criteria and warnings" documents have been drafted and brought into use in order to employ the opinions set out in the pre-feasibility and feasibility stages of the investment program in order to evaluate the opinions given on an equal basis in all refineries. Thus, with the life cycle idea in the projects in the investment program, the consumption of resources and environmental burdens resulting from the projects will be evaluated in a standardized approach.

"Environmental Cost Tables" have been created and are used to meet the minimum GRI (Global Reporting Initiative) criteria, in order to reveal the environmental costs incurred throughout the year.

Investment requirements were determined within the scope of compliance with emission limits in line with EU directives 2010/75 EED and 2015/2193 MCPD.

Within the scope of Sustainable Refining, models were created for the LCA (life cycle analysis) with the contribution of the process-environment and energy teams of a total of 12 units, including eight at the Izmit Refinery, three at the Kırıkkale Refinery and one at the Batman Refinery. Analytical studies were completed for the specified time duration. The LCA determined the points requiring improvement from an environmental perspective. This work contributed to the efforts to support sustainable refining.

The company followed up on developments within the scope of the EU Green Deal, the impact of the Russia-Ukraine war on global efforts to tackle climate change and potential legislation regarding the EU Green Deal which has been proposed by the EU Commission, and the technical teams were kept up-to-date.

The following steps were taken in line with Tüpraş's objective of "sustainable refining", in order to ensure environmental sustainability;

- The LCA work was carried out for existing units. The work determined all environmental impacts arising from the activities and the sub-processes behind these impacts, and improvement activities continued.
- An "Environmental Sustainability Index", specific to Tüpraş, was created for new investments. With this index, economic indicators and environmental impacts will be taken into account in an integrated manner within the scope of evaluating important projects in terms of their investment potential.

ENVIRONMENTAL MANAGEMENT

The contribution to the circular economy, which is one of the most important components of environmental sustainability, is achieved with the responsible production and consumption approach to waste management in refineries.

Activities within the Scope of Waste Management

Thanks to the industrial symbiosis and the recovery activities carried out, the waste recovery rate increased to 86% in 2022 and the waste was brought into the circular economy.

The contribution to the circular economy, which is one of the most important components of environmental sustainability, is achieved with the responsible production and consumption approach to waste management in refineries. By achieving reductions at the source, recovery at the source and with the industrial symbiosis processes established, work which will be among the best practices on an international scale has been implemented at Tüpraş.

All Tüpraş refineries hold the Basic Level Zero Waste Certificate. Tüpraş will submit an application for the Qualified Certificate when the Ministry publishes the Qualified Certificate criteria. The company applied for the Basic Level Zero Waste Certificate for the new Headquarters Building in 2022.

In 2022, new industrial symbioses were established and refinery process wastes were brought into the circular economy. A composting machine was commissioned at the İzmit Refinery for the composting of food waste. The machines are also planned to be rolled out in the other refineries, depending to performance data. Waste generation and recovery figures for 2022 were verified by an independent company, PwC Bağımsız Denetim ve Serbest Muhasebeci Mali Müşavirlik A.Ş..

Koç Holding, a member of the Business Plastics Initiative (IPG), is committed to phasing out single-use plastics by 2023. The initiative to reduce the consumption of single-use plastics, which was first rolled out in 2021 at Tüpraş, continued in 2022.

Recycling of catalysts, activated carbons, wastes, sand blasting sand wastes, absorbents, sewerage sludge, the spent lye and evaluation studies as a secondary raw material are supported by R&D activities and new business units are being established.

Tüpraş obtained the hazardous waste export permit to send used catalysts containing precious metals such as Co, Mo, Ni, W, Pt and Re, which cannot be recovered in Turkey, to be recycled instead of being disposed of in landfill sites.

In order to spread the “Zero Waste” perspective in all operations and activities, training and optimization studies are ongoing.

Activities Within the Scope of Biodiversity

In 2021, Tüpraş prepared the Biodiversity Guide within the framework of the United Nations Convention on Biological Diversity. Following the preparation of the Tüpraş Biodiversity Guide, a team from different disciplines was formed to monitor this issue which examined international case-studies. After the benchmark study was completed, a discussion took place regarding the place of biodiversity in the Company’s priority assessments and the need for a separate policy on biodiversity, as well as which projects should be carried out. Going forward, biodiversity work will be handled and followed up in the Value of Life Sub-Working Group under the Sustainability Committee, established in September 2022.

An agreement for collaboration was established with the Institute of Environmental Sciences at the Boğaziçi University to conduct biodiversity studies at the İzmit Refinery and its impact area. Through this cooperation, the company plans to compare the biodiversity characterization in terrestrial and marine environments with past trends, to conduct a comparison of the impacts of similar sized facilities on biodiversity in academic literature, to evaluate the relationship with environmental parameters and to prepare a report containing future recommendations for the protection of biodiversity and means to effect improvement. In addition, Ornithologist Observation Reports have been prepared for the regions where Solar Power Plants are planned to be built.



//////
The Company adopts a high-level commitment to the principle of being aware of the negative effects of climate change and contributing to the process of tackling climate change in its Environmental Management Policy.

Activities within the Context of Climate Change

The Company adopts a high-level commitment to the principle of being aware of the negative effects of climate change and contributing to the process of tackling climate change in its Environmental Management Policy.

Tüpraş closely follows the national and international climate change agenda. In this context, it supports efforts to combat climate change by actively participating in working groups, meetings and seminars organized by relevant institutions and non-governmental organizations in the country and abroad, especially the Ministry of Environment, Urbanization and Climate Change. Tüpraş has been an active participant in the UN Conference of the Parties on Climate Change since 2015. Tüpraş shared its experiences at the COP27 conference, the most recent being held in Sharm El-Seyh (Egypt) in 2022.

Tüpraş participated in the Climate Council held in Konya in February 2022, hosted by the Environment, Urbanism and Climate Change Presidency. All aspects of climate change were discussed during the event, with special working groups formed on climate change. This contributed to the determination of medium and long-term strategic goals with advisory decisions also emerging to form a basis for the legislation.

Tüpraş also supports the efforts to combat climate change carried out by the Turkish Industry and Business Association (TÜSİAD). Tüpraş is an active member of the Environment and Climate Change Working Group within TÜSİAD. In this context, it supports work such as the Emissions Trading System (ETS) and the Market Implementation Partnership Program (PMI) carried out at the national level.

In its internal carbon pricing, Tüpraş takes the shadow price into account as a parameter in the feasibility and evaluation studies of investment projects. The purpose of this is to encourage low-carbon investments, mitigate climate related financial risks and prepare for future climate policies by better understanding the effects of the investments on climate. The shadow carbon price is revised periodically by taking into account the projections of research firms for carbon pricing, international carbon market prices and expectations for the country.

Tüpraş plays an active role in the work carried out within the scope of the Carbon Transformation Program. The program includes a tangible and applicable roadmap which was initiated by Koç Holding with the goal of becoming Carbon Neutral by 2050 in the struggle against the climate crisis and the transition to a low carbon economy.

ENVIRONMENTAL MANAGEMENT

A total of 14 projects with a focus on sustainability are being carried out under R&D studies. These projects can be classified in the focus areas of carbon capture, transformation and storage, green hydrogen, biofuels, water, waste recycling.

Activities Carried out within the Scope of R&D

R&D Studies within the Scope of Sustainability

A total of 14 projects with a focus on sustainability are being carried out under R&D studies. These projects can be classified in the focus areas of carbon capture, transformation and storage, green hydrogen, biofuels, water, waste recycling. Of these projects, which include the development of technology, material development and application studies in the specified focus areas, and in which multi-stakeholder collaborations are established, nine receive support under the scope of the European Union's Horizon2020 program, with two receiving support through TÜBİTAK programs and three being carried out with the Company's own resources.

Under the **AquaSPICE** project, Tüpraş aims to carry out the field application of an innovative technology for the recovery of various waste water produced at the İzmit Refinery. The project, which also includes goals in terms of digitalization, aims to monitor dirty water characteristics online with the help of analyzer devices while optimizing various operations in light of the data. Work on the infrastructure for the unit continues at the İzmit Refinery site, which is planned to be commissioned in 2023.

Under the **EPC EqTech** project, Tüpraş plans to conduct field trials of innovative electrochemical technologies developed for dirty caustic treatment for the first time in the refining industry. Work continues on the preparation of the infrastructure at the Kırıkkale Refinery for the unit, which will enter operation in 2023.

Currently, dirty caustic is disposed of by feeding it into the waste water treatment unit after it is neutralized and freed of pollutants through refinery processes. Under the **CORALIS** project, the company is conducting investigations on a regional and national basis to determine if dirty caustic can be used directly by another company within the scope of industrial symbiosis without any further processing. Potential industries were identified in the project, with meetings held with these industries, and the suitability of the material was evaluated.

The **"Determination of the Biogas Potential of Refinery Waste Water Treatment (WWT) Sludge"** project aims to determine the biogas potential of the WWT sludge which is currently referred for disposal, and to identify environmental and economic benefits.

Characterization studies of the sludge samples in the project have been completed. Laboratory scale studies of different pre-treatment techniques have been carried out and optimum conditions for pre-treatment have been determined. Airless degradation tests continue under optimum conditions of the selected processes.

The **"Photo-Electrocatalytic Hydrogen Production from H₂S"** project is carried out jointly with KUTEM (The Koç University TÜPRAŞ Energy Centre). Second phase studies for the project are ongoing. The optimization studies are aimed at increasing the durability performance of the developed small-scale system along with the application of new methods to increase the sulphur conversion efficiency and rate of hydrogen recovery.

The **MOF4AIR** project aims to develop innovative materials that will efficiently capture carbon dioxide in order to reduce the emission of carbon dioxide gas from industrial processes. In 2022, installation work continued for three demonstration units in three different demonstration areas. Infrastructure work on the demo MOF4AIR unit to be established at the Tüpraş İzmit Refinery site was carried out in parallel with the installation work. The MOF4AIR unit will be commissioned in 2023.

The **COZMOS** project involves the development of innovative catalysts in order to efficiently convert carbon dioxide gas in process streams arising from industrial processes into high value-added products such as propane and propylene. The designed pilot facility was established at the Tüpraş R&D Centre in 2022. Performance tests will be carried out at the pilot plant for the developed catalysts under different conditions during 2023.

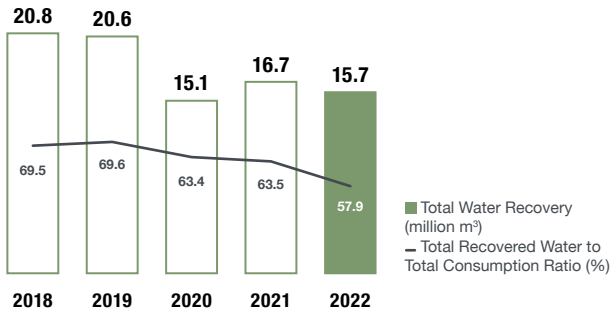
The **MOFAC2CAP** project is supported within the scope of TÜBİTAK 1071 Program with the M.ERA-NET 2020 call opened by the European Union, with Tüpraş undertaking the international and national project coordination for the project. The project also includes the development of innovative MOF/aerogel composite materials for the selective capture of carbon dioxide from carbon dioxide-rich process gas mixtures and flue gases. The carbon dioxide capture performances of the developed materials will be determined in the laboratory scale adsorption test system. The installation of the adsorption test system will be completed in 2023.

15.7 million m³

15.7 million m³ of water was recovered.

WASTE WATER RECOVERY

million m³



The project for “**The Technical and Economic Investigation of the Most Appropriate Business Model for the Injection of Flue Gas/Carbon Dioxide to be Captured from the Batman Petroleum Refinery to the Batı Raman field**” is carried out in cooperation between Tüpraş and the Turkish Petroleum Corporation (TPAO) under the execution of the METU Petroleum Research Centre under the TÜBİTAK 1005 Program. The project will examine the technical and economic feasibility of capturing waste carbon dioxide gas in the flue gases released at the Batman Refinery, its transportation to the Batı Raman field and its injection to the field with the improved oil recovery method.

Activities Conducted within the Scope of Water Management and Waste Water Recovery

The ratio of water consumption to processed crude oil is constantly monitored in Tüpraş refineries in order to reduce the consumption of natural resources associated with raw water withdrawal, to promote the sustainable use of natural resources, to protect the structure of biological diversity and to provide economic benefit.

Water conservation practices such as recycling refinery and urban waste water streams with the Waste Water Recovery Unit, reusing the condensed steam streams as a source of water, reusing the process waste water treated in the pre-treatment units in the production units and optimizing the cooling tower water requirement are carried out in order to reduce natural resource consumption in refineries.

Within the scope of the “Determination of Water Risks” study, a risk-based assessment was carried out with the internationally recognized WRI Aqueduct method for the basins where the refineries are located, the results obtained were evaluated together with the reports prepared on the subject at the national level. A basin-based risk assessment was completed for all refineries in 2020 and 2021.

- The water risk to the Marmara - Sakarya Basin, where the İzmit Refinery is located, is **2.37** and **2.0**, respectively.
- The water risk of the North Aegean Basin, where the İzmir Refinery is located, is **2.73**
- The water risk of the Kızılırmak Basin, where the Kırıkkale Refinery is located, is **2.49**
- The water risk of the Dicle (Tigris) Basin, where the Batman Refinery is located, is **2.37**.

Tüpraş is the leader of the Water and Wastewater Management Working Group within the Koç Group Environmental Board. The Working Group is responsible for the preparation, implementation and follow-up of the Koç Group Water and Wastewater Management Standard and technical guidelines in place to create holistic water and wastewater management principles in Group companies, improve sustainability performance and address environmental responsibilities in a more systematic approach.

The Tüpraş Water Roadmap was created with the refinery process environment and utility teams in 2022, in line with the UN Sustainability Development Goals (SDGs). The water roadmap is dynamic and will be revised periodically in accordance with current developments.

The company plans the following work under the headings of “Reducing the Amount of Discharge”, “Alternating and Optimizing Water Resources”, “Preparing for Renewed Discharge Limits in Advance”, “Appropriate Declaration and Commitment”, which are necessary for the effective management of water. The company aims to achieve the following through the planned work mentioned above.

- Reducing raw water consumption,
- Minimizing the Company’s environmental impact caused by waste water discharge,
- Monitoring, reporting and verifying water holistically,

Moreover, a gap analysis will be conducted by a third-party company in 2023 in order to monitor the water footprint accurately.

ENERGY EFFICIENCY

As part of the energy efficiency activities carried out by Tüpraş at its four refineries, 52 energy efficiency projects were carried out in 2022.

Energy Intensity Index

As a result of the energy saving projects and modernization works carried out in the refineries, Tüpraş's Energy Intensity Index value stood at 94.9 in 2022.

Outcomes of Energy Efficiency Studies

Within the scope of the energy efficiency activities carried out by Tüpraş at its four refineries, 52 energy efficiency projects were carried out in 2022. Six of these projects were commissioned within the scope of planned projects while 46 were Quick Win

projects designed by the refineries after identifying points of inefficiency on site and were commissioned without any investment. The 52 projects commissioned in 2022 paved the way for total monetary gains of TL 600.5 million in total, annual energy savings of 315,515 GCal and a reduction of 73,199 tons in CO₂ emissions. CO₂ emissions were reduced by a total of 45,848 tons in 2022 with the 46 quick recovery projects commissioned while the impact of the planned projects was calculated as 27,350 tons of CO₂.

ENERGY AND CO₂ GAINS IN 2022 THROUGH 2022 ENERGY EFFICIENCY PROJECTS

	İzmit			İzmir			Kırıkkale			Batman			All Refineries		
	Planned	Quick Win	Total	Planned	Quick Win	Total	Planned	Quick Win	Total	Planned	Quick Win	Total	Planned	Quick Win	Total
Number of Projects	3	17	20	3	12	15	0	14	14	0	3	3	6	46	52
Energy Gcal/year	105.618	81.437	187.056	12.271	81.936	94.207	0	33.072	33.072	0	1.181	1.181	117.889	197.626	315.515
CO ₂ tons	24.503	18.893	43.397	2.847	19.009	21.856	0	7.673	7.673	0	273	273	27.350	45.848	73.199
Financial gain (million TL)	188,3	165,8	354,1	26,2	158,3	184,5	0	59,8	59,8	0	2,1	2,1	214,6	386,0	600,5



HIGHLIGHTS OF ENERGY EFFICIENCY PROJECTS IN 2022

Refinery	Project	Project summary	Energy savings (Gcal/year)	Monetary gain (TL million)
izmit	FCC Unit Energy Efficiency	Through the project, waste heat lost to the atmosphere from the flue was recovered and the flue gas temperature was lowered to 250 °C. The recovered waste heat produced 13.14 tons/hour of steam.	84,226	146.7
izmit	Commissioning of the 2E-33A/B Heat Exchangers	With the commissioning of Plant-2 crude oil 2E-33 A/B heat exchangers in the parallel configuration with the 2E-47A/B heat exchanger located in the common arm of the charging system, the inlet temperature of the crude oil charging furnace was increased from 208 °C to 220 °C.	13,221	24.2
izmir	Energy Saving in the T-7202 column of the U-7000 Crude Oil Unit	By diverting the steam turbine output of the U-9900 DHP recycle gas compressor to the main column of the U-7000 Crude Oil Unit as stripping steam, the output will be consumed in the LP steam column with reduced energy, thereby also reducing MP steam consumption. Under the project, the 11 ton/hour MP-LP steam turbine pump used in the refinery was commissioned and its backup, a 320 kWh electric motor pump was decommissioned.	2,410	7.1
izmir	Reflux optimization of the T-101 column of the U-100 Unit	The project paved the way for a gradual increase in the lower side reflux from 15 m3/hr to 75 m3/hr, and the values in the middle side and upper side refluxes were gradually increased to their maximum values. As a result, a fuel saving of 390 Nm3/h was achieved in the furnaces.	26,000	46.0
Kırıkkale	Cleaning of the K-1351 Compressor Heat Exchanger	For the first time in the HYC Unit, the R/G compressor surface condenser tube maintenance process was completed while the unit was in operation. As a result of the heat exchanger cooling water side tube cleaning work, the vacuum value of the compressor increased while steam savings were achieved.	2,820	5.1

AWARDED PROJECTS OF 2022

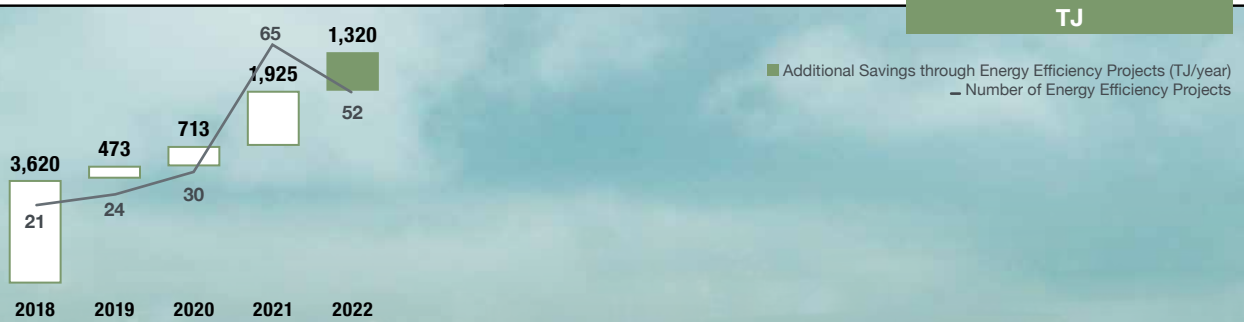
Competition	Refinery	Project	Award
The Ministry of Energy and Natural Resources "Energy Efficiency in the Industry Competition" (SENER-22)	izmit	"Increasing the Availability of Energy Recovery Equipment"	First Prize
	izmir	"U-921 Waste Heat Boiler HP-LP Mix Economizer Package Energy Saving through the Retubing Process"	Third Prize
	Kırıkkale	"Energy Efficiency" projects: <ul style="list-style-type: none"> · Halting of Plant-1400 NHT Unit G-1404/B Turbine Pump · "Switching E-1215 Steam Generator in the Plant-1200 Vacuum Unit to LP Mode" · "Plant-1750 Amine Regeneration Steam Saving" · "Keeping the Power Plant G-2901/D KBS Pump and the Plant-1350 HCP Unit G-1357/B Turbine Pump warm without Rotation" 	Special Jury Award

ENERGY EFFICIENCY

1,320 TJ

In 2022, additional energy savings were achieved by realizing energy efficiency of 1,320 TJ with 52 projects.

ANNUAL ADDITIONAL SAVINGS OBTAINED DUE TO ENERGY EFFICIENCY



94.9%

In 2022, the energy intensity index value stood at 94.9%.

ENERGY INTENSITY INDEX VALUE

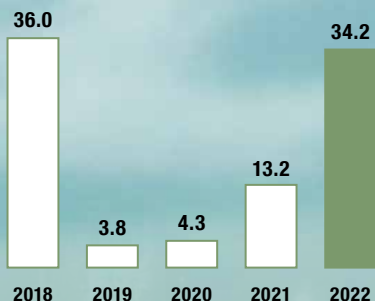


USD 34.2 million

Energy savings of USD 34.2 million were achieved in 2022.

SAVINGS OBTAINED DUE TO ENERGY EFFICIENCY

USD million

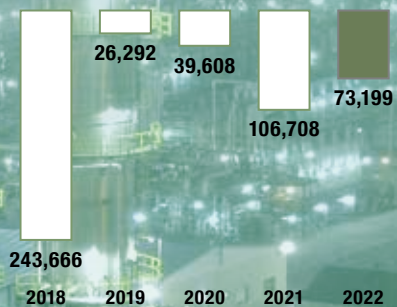


73,199 Tons CO₂e

In 2022, a reduction of 73,199 tons of CO₂ in greenhouse gas emissions was achieved thanks to the energy efficiency projects completed.

REDUCTIONS IN GREENHOUSE GAS EMISSIONS THANKS TO ENERGY EFFICIENCY PROJECTS

Tons CO₂e



SOCIAL RESPONSIBILITY

In addition to its responsibility in meeting Turkey's energy needs, Tüpraş is devoted in its multi-directional contributions to social development with the awareness of being a good corporate citizen.

Tüpraş creates added value by transferring its power, leadership and energy in the industry to projects that will support social development.

Tüpraş and Volunteering

Tüpraş supports the voluntary involvement of its employees in the corporate social responsibility projects which it carries out in the light of its corporate culture and values, while working with the goal of becoming a responsible producer.

Volunteers, including employees and their families, are also involved in the projects carried out by local and national non-governmental organizations and contribute invaluable to such projects with their experience. In 2022, Tüpraş continued to execute different social responsibility projects with the voluntary participation of its employees.

The Women in Technology and Innovation Program

Koç Holding is one of the Technology and Innovation Action Group Leaders of the Generation Equality Forum, which is planned to guide the gender equality efforts established by the United Nations Women's Unit.

Under the banner of "Our pursuit for equality never ends", Tüpraş has for many years been engaged in creating an exemplary, pioneering business environment which supports inclusion, equality and diversity, while raising awareness of this field among society. Tüpraş prepared the "Women in Technology and Innovation Program" in order to contribute to the work of the Leaders' Group in the Generation Equality Forum.

Tüpraş views the United Nations Sustainable Development Goals (SDGs) as an important guide in generating creative solutions to global problems. Tüpraş contributes to goal number 4 "Qualified Education", goal number 5 "Gender Equality" and goal number 17 "Partnership for the Goals number" through this program.

Tüpraş reviewed its social investment projects in the field of education in terms of equality and inclusion within the scope of the "Women in Technology and Innovation Program". In order to accelerate the social transformation by focusing on young people, Tüpraş updated its goals to include fostering an interest in technology and innovation among female students studying at primary schools and universities and to empower them in this field.

Tüpraş has pledged to reach a total of 100,000 female students with its "Women in Technology and Innovation Program" within the next five years, of which 90,000 will be in secondary schools and 10,000 at universities, through educational projects which will reveal the potential of girls and women working in the STEM fields.

Under the program, Tüpraş plans to develop model applications by creating educational content through collaboration with the public sector, academia, civil society and NGOs. It also plans to carry out mentoring programs for women and girls.

Under the Woman in Technology and Innovation Program by Tüpraş

Four education projects are carried out.

For university students

- "Innovation in Young Minds and Women's Enterprise Program"
- "Equality for Generations and Technologies Internship Program for Women"

For primary school pupils

- "Our Energy is for the Future; I Code, Model, Produce"
- "Our Energy for Science Experiments at School"

With the “Innovation in Young Minds and Women’s Enterprise Program”, Tüpraş aims to spread a culture of enterprise among university students, especially female students, and to facilitate access to the technology and innovation ecosystem for young people.

“Innovation in Young Minds and Women’s Enterprise Program”

Tüpraş launched the “Innovation in Young Minds and Women’s Enterprise Program” in cooperation with the Batman University in October 2021.

With this program, Tüpraş aims to spread a culture of enterprise among university students, especially female students, and to facilitate access to the technology and innovation ecosystem for young people.

The “Innovation in Young Minds and Women’s Enterprise Program” Working Group was created to plan and carry out the working model in the program. The Working Group included academics, lecturers from Batman University, the advisor of the Tüpraş Corporate Communications Department, as well as Innovation Management team and the staff working on the Tüpraş education projects.

The working group defined the processes of student selection, evaluation and participation through regular online meetings held on a weekly basis and in accordance with pandemic restrictions. It conducted the program preparations for the launch and communication activities.

In order to present the program in more detail at the university, an online introductory seminar on “Enterprise and Its Importance” and “Innovation in Young Minds and the Women’s Enterprise Program” was held with the participation of more than 200 academics from different faculties.

In the first phase of the program, Tüpraş provided “Foundations of Innovation and Enterprise” seminars for all students in each academic year. Through the seminars, university students are informed of creative thinking, innovation and enterprise tools. The program also included discussion about the latest developments regarding enterprise and the global enterprise ecosystem at Tüpraş. The first of these seminars was held at Batman University in March 2022.

In the second phase of the program, a 12-week enterprise training program was provided to a group of 40 students consisting of 3rd and 4th year undergraduate students selected on the basis of the evaluations carried out.

Tüpraş prepared the content of “Innovation in Young Minds and Women’s Enterprise” Program specifically for the university. 60% of the participants of the program consists of female students.

The program consists of the modules such as developing innovative ideas, starting a new venture, understanding the problem, designing the solution, market research, business model components, enterprise tools and presentation techniques.

The training provides students with the ability to understand the problems and requirements, and they thus acquire a product development competence in this vein, a development approach of experimenting with the solution they produce on the potential user, and the enterprise mindset which develops a solution to the problem.

In addition to online training, Tüpraş in-house entrepreneurs are also appointed as mentors to student groups during the training program, and thus help the students develop ideas and create the implementation steps of the project.

In addition to the online training sessions provided in the program, students also received two-day classroom training sessions on 9-10 June 2022 and 13-14 October 2022. In the classroom training, students gained experience of preparing and presenting their ideas and had the opportunity to work as a group.

Students will share their projects at the “Demo Day Event”, where academics and professionals will take part as a jury.

In the commercialization phase of the project ideas, the winning projects will be directed to appropriate enterprise channels, notably the Koç University Enterprise Research Centre K-Works. The program aims to support students with personal development training which will contribute to their competencies.

The company plans to roll out the “Innovation in Young Minds and Women’s Enterprise Program” in the coming years in cooperation with universities in Kocaeli, Kırıkkale, Istanbul and Izmir - where Tüpraş operates – as well as in Batman.

SOCIAL RESPONSIBILITY



The Women-oriented Technologies for Equality for Generations Internship Program was set up to help university students gain awareness of inclusion and equality by looking through the lens of gender equality.

Equality for Generations and Women-oriented Technologies – The Internship Program for University Students

The Women-oriented Technologies for Equality for Generations Internship Program was set up to help university students gain awareness of inclusion and equality by looking through the lens of gender equality.

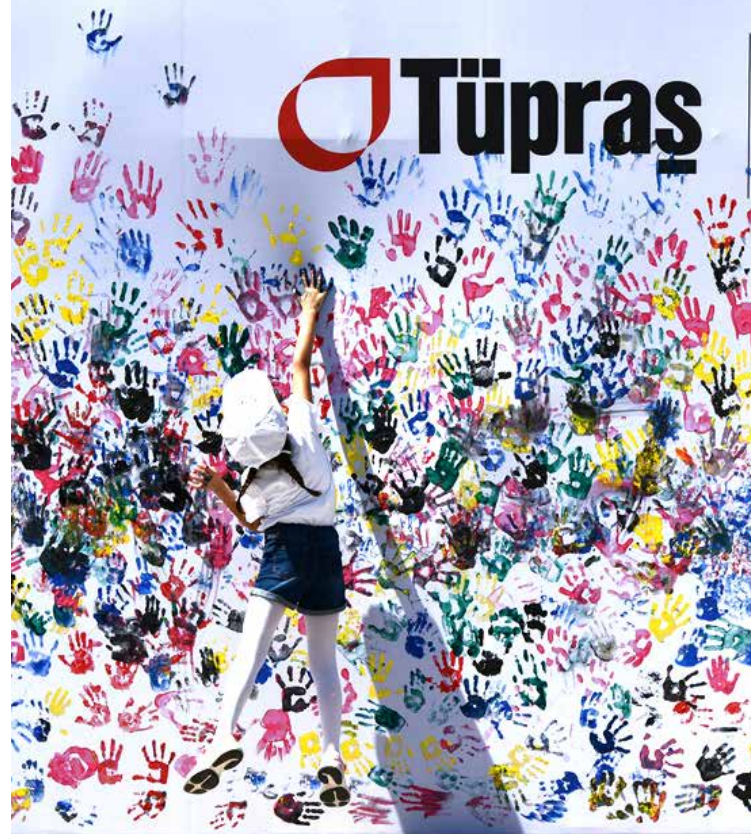
Students received training on “I Am Aware of Equality - Gender Equality” by the Mother Child Education Foundation (AÇEV), and “Innovative Thinking and Generating Ideas” by the Tüpraş Innovation Directorate. The students also received the training on the “UN Sustainable Development Goals and Sustainability”, provided by the Tüpraş Corporate Communications Directorate.

Thirty trainee students and eight Nextremers participated in the online internship program in 2022. University students, who are encouraged to produce technologies and products which will bring ease to the lives of female field workers through training, innovative thinking and technology, prepared five innovative projects.

The “Our Energy for the Future; I Code, I Model, I Produce” Project

In cooperation with the General Directorate of Primary Education under the Ministry of National Education, Tüpraş developed the social responsibility project “Our Energy for the Future; I Code, I Model, I Produce”. The project is intended to educate new generations that are inquisitive and possess innovative thinking, problem solving and production skills by increasing their access to technology and digital education from an early age.

Within the scope of the project, robotic coding, three-dimensional (3D) modelling and production skill classes were established for pupils in the 7th and 8th grades of 41 secondary schools in the



Batman, Kırıkkale, İzmir and İzmit provinces, where the refineries are located, between 2018 and 2021.

Robotic coding training introduces digital technologies to children, allowing them to develop skills such as problem solving, cause and effect relationships, critical thinking-questioning, self-expression and the development of psycho-motor behavior. With this training, children have the power to understand, interpret and guide the technological world. The measurement and assessment process of the project is conducted under the consultancy of Boğaziçi University Faculty of Education.

In 2022, Tüpraş prepared a film in which concepts that contribute to the industry such as “The Development of Industry in Our Country and Enterprise” and “Maritime and Shipbuilding” were explained in cooperation with the Ministry of National Education and the Rahmi Koç Museum. The film was broadcast in primary schools across Turkey over the Ministry of National Education’s online education platform EBA TV, and on the Tüpraş Youtube Channel during school hours. Five million students, including two million girls, accessed to the film.



“Our Energy is for Students” project

Tüpraş carries out the project of “Our Energy is for Students” in cooperation with the Ministry of National Education for primary school pupils from the 5th to the 8th grades in order to encourage children to become the scientists of the future by fostering them with a love of science. Pupils learn that science has a place in all aspects of life, with the importance of men and women working together and working safely impressed upon them, especially in the world of science.

The project, which got underway in 2018, has already reached more than 3,000 students through 287 experiments carried out at six schools in Kocaeli. With an instructor and practitioner, the project includes a group of volunteers consisting of employees of the Tüpraş R&D Center. In the classrooms, a laboratory environment is created by the volunteer employees of the Tüpraş R&D Center and experiments are carried out with materials which are easy to supply. The measurement and evaluation model was developed with the support of academic advisors from Boğaziçi University Faculty of Education. To help the “Our Energy is for Students Project” reach a wider student base, 11 science experiment training videos were prepared in 2022.



EDUCATION SCHOLARSHIPS

“Our Energy Never Ends for Equality” Scholarship Fund provided by TEV (the Turkish Education Foundation)

Tüpraş established the “Our Energy for Equality Never Ends” scholarship fund under the Turkish Education Foundation (TEV) in order to provide equal opportunities in education for girls in 2016. Tüpraş provided scholarships to 19 students in the 2021-2022 academic year. To date, 98 girls have benefited from the scholarship fund.

The Koç University Anatolian Scholarship Students Program

Koç University launched the Anatolian Scholars Program in 2011 with the aim of providing equal opportunities in education for successful young people who need financial support. Tüpraş continues to support the program. A total of 23 students have received scholarship support, including two scholarship students who entered university in the 2022-2023 academic year.

SOCIAL RESPONSIBILITY



The Koç Group's launch meeting for gender equality in technology and innovation, Tüpraş General Manager İbrahim Yelmenoğlu and participants from the senior management of the Koç Group companies.



The Koç Group launched a gender equality campaign in the field of technology and innovation.

Gender Equality Social Awareness Work

Having become a signatory to the United Nations Women's Empowerment Principles (UN WEPs) in 2017, Tüpraş carries on with its activities in line with its target to be an inclusive workplace. While developing pioneering internal initiatives based on this approach, the Company also carries out corporate social responsibility programs for raising increased awareness within the society in this respect.

With this approach and with the social investments made in this area, the Company also targets to contribute to SDG 5- Gender Equality.

With its Gender Equality initiatives, Tüpraş qualified to be included in Bloomberg Gender Equality Index (GEI) in 2022.

“Our Energy Never Ends for Equality” Project

In a bid to raise awareness of gender equality within the society, Tüpraş initiated a global partnership in 2018 with Fenerbahçe Sports Club and UN Women HeForShe Movement. The partnership is the one and only large-scale pledge in the area of sports concerning gender equality.

The aim of the global cooperation is to raise awareness of gender equality through sport, to eliminate gender stereotypes and transform harmful social norms, and to create an inclusive and safe environment for women in the sports ecosystem.

Within the scope of this awareness campaign carried out between 2018 and 2021 under the slogans “Equal Together” and “Our Energy Never Ends for Equality”, Fenerbahçe Soccer Team wore the HeForShe logo on their right arms. Tüpraş took this cooperation one step further and became the shirt sponsor for the Fenerbahçe Sports Club's five amateur branches, including rowing, boxing, table tennis, swimming and athletics for the 2021-2024 seasons.

In 2022, a Gender Equality Committee was established at the Fenerbahçe Sports Club within the scope of developing gender sensitive practices. The Gender Equality Action Plan was created for the 2022-2025 period.

Tüpraş, 2021-2024 sezonları için Fenerbahçe Spor Kulübü'nün 5 amatör branşının (kürek, boks, masa tenisi, yüzme ve atletizm) forma sponsoru olmuştur.



The Protection Policy was prepared to tackle “discrimination, sexual harassment and abuse”. The policy, which is planned to be finalized in 2023, is intended to serve as the primary institutional tool to prevent gender-based violence at the Fenerbahçe Sports Club.

In 2022, 197 Fenerbahçe Sports Club members participating in five amateur branches, including rowing, athletics, swimming, table tennis and boxing received training under the headings of “different fields of gender equality, including men in gender equality, transforming the toxic masculinity mindset and behaviors and preventing violence against women in sports”.

A total of 62 media professionals who are responsible for the Fenerbahçe Sports Club corporate media, including Fenerbahçe TV, social media and radio completed their training on the production and broadcasting of gender-sensitive media content.

Tüpraş held an online event of “Equality for Generations: Empowering Women and Girls in Sports and through Sports” with the United Nations Women’s Unit and the Fenerbahçe Sports Club on International Women’s Day on 8 March 2021. The event covered issues such as referral mechanisms, which include the members of the Gender Equality Committee of the Fenerbahçe Sports Club, the members of the Executive Board of the Project, including Tüpraş and the Fenerbahçe Spor, and the use of sports to prevent gender-based violence in sports and violence against women and girls.

Within the scope of the collaboration, “A Guide to Gender-Responsive Organization” was published in 2021, which provides a roadmap for sports institutions to introduce gender-responsive practices and support empowering women and girls in and through sport.

The Fenerbahçe and Galatasaray Sports Club Women’s football teams came head-to-head within the scope of the 16 Days of Activism Campaign to combat violence against women. During this friendly match, the KADES application reached more than 9,000 people and the Fenerbahçe Sports Club’s social media posts reached 46,000 people. The ALO 183 helpline number was embellished on the shirts of the Fenerbahçe Sports Club Women’s Football Team throughout the season in order to raise awareness of referral mechanisms against violence against women.

The practices developed in the International Sports Sciences Congress held in Antalya between 28 November and 1 December within the scope of the program were shared as good examples.

Tüpraş supported the “16-Day Activism Campaign” in order to prevent violence against women and girls with the cooperation of the Batman University and the UN Women Unit, with the participation of the HeForShe Movement. Tüpraş also organized a conference in order to raise awareness of this area among university students.

SOCIAL RESPONSIBILITY



CULTURE AND THE ARTS

“Our Energy is for Art” sponsorship for Arter

Aiming to help create a setting where youngsters and children can freely get acquainted with modern art, Tüpraş has undertaken corporate sponsorship of Arter Museum of Modern Art for a period of five years starting from 2019. Arter targets to be an accessible and sustainable platform of culture and life with its multi-disciplinary programs in art.

Anatolian Civilizations

Since 2011, Tüpraş carried the world of ancient civilizations that have left their mark on the ancient lands of Anatolia to future generations through an epic series of books on Anatolian Civilizations. So far, with the collaboration of Yapı Kredi Culture and Art Publishing, 11 publications were introduced to readers: Anatolian Civilizations Series; “Urartu, Change in the East”, “Phrygians: In Midas’s Land, In the Shadow of Monuments”, “Hittites - An Anatolian Empire”, “Pergamon, A Hellenistic Capital in Anatolia”, “From Lukka to Lycia: Sarpedon and the Land of St. Nicholas”, “Persians, the Power and Glory in Anatolia”, “Assyrians, from the Tigris to Taurus: The Kingdom of God Assur”, “Anatolia in Hellenistic and Roman Times: Kings, Emperors, City States”, “The Carians – From Seafarers to City Builders”, “Anatolia in the Byzantine Period”, and “ Wise Inhabitants of the Aegean Coasts: Ionians”.

İstanbul Theater Festival

İstanbul Theater Festival is being organized by İKSU (İstanbul Foundation for Culture and Arts) for 17 years with the sponsorship of Koç Holding Energy Group, namely Aygaz, Opet and Tüpraş. The 26th İstanbul Theater Festival met with the theater aficionados between 25 October-26 November 2022, during which 35 plays were staged. The physical performances of the festival reached approximately 25 thousand people in 2022.





DTO Fethiye liquid waste collection boat collected 737,961 liters of waste water from 1,721 boats and thus helped keep 5.9 million liters of seawater clean.

ENVIRONMENT

DTO Fethiye Waste Collection Boat visits Göcek Bay

The Deniz Temiz (Clean Sea) Association/(TURMEPA), which provides mobile services in the bays frequented by yachts and pleasure craft through waste collection boats under the banner of sustainable sea tourism, helps to reduce the environmental footprint of marine tourism by collecting thousands of tons of liquid waste. Sponsored by Tüpraş since 2016, the DTO Fethiye liquid waste collection boat collected 737,961 liters of waste water from 1,721 boats and thus helped keep 5.9 million liters of seawater clean during the 2022 summer season with its activities in Göcek Bay.

SPORTS

Tüpraş Batman Disability Sports Club

Since the 2007-2008 season, Tüpraş has been supporting The Batman Disability Sports Club Association. The Batman Disability Sports Club was promoted to the Turkish Federation of the Physically Disabled, the Wheelchair Basketball 2nd League in the 2017-18 season and to the Wheelchair Basketball 1st League in the 2019-2020 season. Having been in the 1st League for the last 3 seasons, the team will compete in the 1st League in the 2022-23 season. Hosting 52 licensed players, the club continues its activities with 23 players. The club has been providing hundreds of disabled young people with the opportunity to perform sport for 16 years.



Batman Tüpraşspor Football Club

Established in 1995, Tüpraşspor Football Club offers a platform for talented young people living near the Batman Refinery to enjoy sport with an awareness, in a healthy environment, thus giving them the chance to succeed. Managed by the Tüpraş volunteers in cooperation with the Provincial Directorate of Youth and Sport, Batman Amateur Sports Clubs Federation, Turkey Football Federation and other clubs, Tüpraşspor Football Club has a total of 97 players, 65 of whom are licensed and 32 of whom are unlicensed, between the ages of 13 and 19.

VOLUNTEERING

Tüpraş, together with its employees, continues to produce solutions for the problems and needs of the community in geographies where it has a presence. Volunteer employees of Tüpraş continued to devote their time, knowledge and experience to support social projects in 2022.

Tüpraş Refinery Search and Rescue Team (RSR)

In 2022, 35 Refinery Search and Rescue Team (RSR) members participated in the training on “rescue from heights and confined spaces”. During the drills held after the training, it was observed that team members had increased their knowledge, skills and experience. The team continued Search and Rescue activities in “High Level Disaster Drills” and “Fire Drills”. Training is planned to continue in 2023.

Support for Stray Animals

Tüpraş signed protocols with the Körfez Municipality in Kocaeli and Aliağa Municipality in İzmir to provide food for stray animals. The shelters in the region started to receive support with leftover meals from the refineries’ dining halls being provided to stray animals that have an increased need for food and water. In 2022, Tüpraş continued to extend support by sending 600 kg of leftover food to animal shelters in Kocaeli and 50 kg to animal shelters in İzmir.

PERFORMANCE INDICATORS

Operational Performance	2018	2019	2020	2021	2022	Notes
Processed Crude Oil (thousand tons)	24,540	27,238	22,583	24,418	25,126	
Production (thousand tons)	25,695	28,112	23,389	25,086	26,048	
Total Sales (thousand tons)	29,830	29,197	24,503	27,586	29,475	
Domestic Sales (thousand tons)	25,638	22,391	19,831	21,707	23,457	
International Sales (thousand tons)	4,191	6,807	4,356	5,250	5,732	
Transit Sales (thousand tons)			316	629	287	
Import of Products (thousand tons)	6,252	2,827	2,927	2,792	5,013	
Total White Product Ratio (%)	77.4	79.0	81.5	81.4	79.5	
White Product Ratio in Production (%)	87.3	90.8	75.3	81.4	83.8	
Semi-Product Included Capacity Usage Rate (%)	95.9	97.8	81.8	87.7	91.6	

Economic and Administrative Performance	2018	2019	2020	2021	2022	Notes
Net Sales (TL million)	88,552	89,601	63,244	152,492	481,765	
Operating Profit (TL million)	5,736	2,230	-619	777	45,607	
Profit Before Tax (TL million)	3,724	-311	-3,795	2,358	39,876	
Profit After Tax (TL million)*	3,713	526	-2,494	3,613	41,261	
EBITDA (TL million)	8,908	4,039	545	14,067	55,587	
Net Debt (Cash) (TL million)	11,967	8,424	9,420	12,017	-16,593	
Return on Equity (RoE) (%)	36.8	4.6	-16.4	22.0	96.0	
Debt Leverage Ratio (%)	1.3	2.1	17.3	0.9	-0.3	
Net Working Capital (USD million)	7,029	-1,501	-598	-6,283	4,765	
Investment Expenditures (Unconsolidated, USD million)	138	157	113	112	122	
Investment Expenditures (Consolidated, USD million)	165	236	153	152	173	
Earnings per Share (TL)	14.83	2.10	-9.96	12.70	149.11	
Gross Dividend per Share (TL)	15.15	-	-	-	45.41	
Net Dividend per Share (TL)	12.88	-	-	-	40.87	
Taxes and Other Liabilities (TL million)	31,590	31,262	35,673	15,550	44,377	
Pension Fund Liabilities (TL million)	103.9	122.0	136.6	163.3	302.4	
Donations and Sponsorships (TL million)	40.1	3.6	22.7	3.0	288.7	
Corporate Governance Rating Note	9.48	9.50	9.58	9.62	9.65	
Fitch Ratings Long-term Foreign Currency Rating Note	BB+ (negative)	BB- (Stable)	B+ (negative)	B+ (Negative)	B (Stable)	
Moody's Ratings Long-term Rating Note	Ba2 (Negative)	B1 (Negative)	B2 (negative)	B2 (Negative)	B3 (Stable)	
JCR-ER Long-term Foreign Currency and Local Currency Rating Note				BB (Stable)	BB (Negative)	
Customer Satisfaction (%)	88.8	88.0	87.0	86.0	86.0	
Supplier Satisfaction (%)	88.1	86.5	84.7	83.0	85.0	
Contractor Satisfaction (%)	80.6	79.2	83.7	76.0	79.0	
R&D Expenditures (TL million)	37.8	43.5	43.4	47.5	73.3	

*As of the date of the report

Environmental Performance	2018	2019	2020	2021	2022	Notes
Direct Energy Consumption (TJ)	91,752	96,528	86,613	87,139	91,223	✓
Natural Gas (TJ)	45,342	51,039	43,842	45,946	33,515	✓
Fuel Oil (TJ)	3,481	2,292	3,433	1,705	7,590	✓
Fuel Gas (TJ)	40,562	41,028	37,808	38,282	47,695	✓
Coke (TJ)	2,367	2,169	1,530	1,206	2,423	✓
Indirect Energy Consumption - Electricity (TJ)	172	32	-179	-95	454	✓
Total Energy Consumption (TJ)	91,924	96,560	86,434	87,044	91,676	✓
Change in Energy Consumption (%)	-12.51	5.04	-10.49	0.71	5.25	✓
Energy Consumption Per Crude Oil Processed (GJ/Ton)	3.75	3.55	3.83	3.56	3.65	✓
Energy Intensity Index Value (%)	99.1	98.4	99.1	93.5	94.9	
Energy Intensity (GJ/tons production)	3.6	3.4	3.7	3.5	3.5	✓
Number of Energy Efficiency Projects (#)	21	24	30	65	52	✓
Energy Efficiency Savings (TJ)	3,620	473	713	1,925	1,320	✓
Energy Efficiency Savings (USD million)	36.0	3.8	4.3	13.2	34.2	✓
GHG Emissions Reductions through Energy Efficiency Projects (tons CO ₂ e)	243,666	26,292	39,608	106,708	73,199	✓
Total Raw Water Consumption (million m ³)	18.2	18.0	18.6	15.6	18.1	✓
Total Water Consumption (million m³)	29.9	29.6	23.8	26.3	27.1	✓
Surface Water Sources (million m ³)	17.2	17.2	17.8	14.9	17.4	✓
Grid (million m ³)	1.1	0.8	0.7	0.7	0.6	✓
Treated Wastewater from Körfez Municipality (million m ³)	11.7	11.6	5.2	10.7	9.0	✓
Water Consumption per Crude Oil Processed (m ³ /ton)	0.74	0.66	0.82	0.64	0.72	✓
Water Consumption per Production (m ³ /ton)	0.71	0.64	0.80	0.62	0.69	✓
Total Recovered Water (million m ³)	20.8	20.6	15.1	16.7	15.7	✓
Total Recovered Water to Total Water Consumption Ratio (%)	69.5	69.6	63.4	63.5	57.9	✓
Total Waste Water Discharge (million m ³)	14.3	15.5	11.0	11.3	12.7	✓
Total Amount of Waste (tons)	32,646	34,433	20,372	25,019	22,100	✓
Hazardous Waste (tons)	23,617	22,144	17,224	13,048	13,363	✓
Non-Hazardous Waste (tons)	9,029	12,290	3,148	11,971	8,737	✓
Waste According to Disposal Method						✓
Recycling (tons)	28,934	23,947	11,978	21,253	19,095	✓
Disposal (tons)	3,712	10,486	8,394	3,766	3,005	✓
Total Waste Recovery Ratio (%)	88.6	69.5	58.8	84.9	86.4	✓
Savings from Waste Recovery and Industrial Symbiosis (TL million)				25.3	45.7	
Saplings Planted in Afforestation Works (#)	920	200	46	500	920	
Amount of CO ₂ Emission Eliminated by Afforestation Works (ton CO ₂ e)	380	83	19	206	380	
Total Spending on Environmental Investments and Operating Expenses (TL million)	150	268	238	388	1,158	
Environmental Penalties (TL)			176,998/ 132,748	193,035/ 144,776	263,032/ 197,274	(1)
Environmental Training (people x hours)	10,391	14,127	7,020	12,897	7,184	
Tüpraş Employees	4,168	4,200	2,502	9,676	2,003	
Contractors' Employees	6,223	9,927	4,518	2,971	5,123	
Community	0	0	0	250	58	
Scope 1 GHG Emissions (tCO ₂ e/year)	6,103,645	6,172,574	5,724,407	5,865,652	6,380,593	✓ (2)
Scope 2 GHG Emissions (tCO ₂ e/year)	37,872	32,943	24,518	48,403	58,781	✓ (2)
Total (Scope 1 & Scope 2) GHG Emissions (tCO ₂ e/year)	6,141,517	6,205,517	5,748,925	5,914,055	6,439,374	✓ (2)
Greenhouse Gas Intensity (ton CO ₂ e/ton Crude Oil Processed)	0.28	0.23	0.25	0.24	0.26	✓
Greenhouse Gas Intensity (ton CO ₂ e/ton Charge)	0.23	0.21	0.23	0.22	0.23	✓

PERFORMANCE INDICATORS

Health and Safety Performance	2018	2019	2020	2021	2022	Notes
LTI Frequency- OSHA (frequency)	0.68	0.70	0.46	0.41	0.26	
Tüpraş Employees (frequency)	0.69	0.70	0.60	0.23	0.32	✓
Contractors' Employees (frequency)	0.68	0.70	0.36	0.54	0.22	
LTI Severity- OSHA (frequency)	27.80	25.80	18.90	18.20	17.65	
Tüpraş Employees (frequency)	20.20	17.90	21.50	10.10	15.06	✓
Contractors' Employees (frequency)	33.70	31.30	17.00	23.60	19.45	
Total Recordable Incident Rate – OSHA (frequency)	4.3	4.0	3.7	3.4	3.3	
Tüpraş Employees (frequency)	3.3	4.6	4.8	4.2	3.9	✓
Contractors' Employees (frequency)	5.1	3.5	2.9	2.9	2.8	
Restricted Work Case – OSHA (frequency)	2.58	1.73	0.88	1.18	1.13	
Tüpraş Employees (frequency)	2.2	2.5	1.3	2.0	1.9	✓
Contractors' Employees (frequency)	3.6	1.2	0.5	0.6	0.6	
Occupational Illness (frequency)	0	0	0	0	0	
Tüpraş Employees (frequency)	0	0	0	0	0	✓
Contractors' Employees (frequency)	0	0	0	0	0	
Fatality Rate (frequency)	0.04	0.00	0.05	0.00	0.00	
Tüpraş Employees (frequency)	0.09	0.00	0.12	0.00	0.00	✓
Contractors' Employees (frequency)	0.00	0.00	0.00	0.00	0.00	
Traffic Accident (frequency)				2.58	2.48	
Total Amount of OHS Training (people x hours)	165,038	201,813	194,671	292,712	312,860	
Tüpraş Employees (people x hours)	87,805	108,026	125,855	108,672	119,689	✓
Contractors' Employees (people x hours)	77,233	93,787	68,816	184,040	193,171	
Near Miss - Unsafe Act (UA) &Unsafe Condition (UC) Reporting (#)	9,710	9,475	11,504	17,699	24,509	
Management Site Tours (#)	2,674	2,854	1,393	2,041	1,441	
PTW Site Inspections (#)	2,582	3,166	1,344	5,119	7,851	
Energy Isolation Inspections (#)	2,200	2,549	1,134	2,665	4,247	
3rd Party Audits (#)	2	7	8	15	3	✓
Equipment - Tool Compliance Performance (%)	97	96	96	93	98	
HSE Action Closure Performance (%)	89	86	84	80	82	
Overdue Safety Critical Equipments (#)	853	1,393	1,060	751	405	
Fatalities as a Result of Work-Related Incidents	1	0	1	0	0	✓
Tüpraş Employees (#)	1	0	1	0	0	✓
Contractors' Employees* (frequency)	0	0	0	0	0	✓
Process Safety Accident Frequency (frequency)	1.02	0.87	0.59	0.42	0.27	
Ditaş - LTI Frequency	3.12	2.68	1.04	1.95	1.56	
Ditaş - LTI Severity	31.8	23.2	24.0	116.1	24.9	
Körfez Ulaştırma - LTI Frequency - OSHA (frequency)	0.0	0.8	0.8	0.0	0.0	
Körfez Ulaştırma - LTI Severity - OSHA (frequency)	0.0	12.4	11.2	0.0	0.0	

Supply Performance	2018	2019	2020	2021	2022	Notes
Indirect Product and Service Procurement						
Supply Operations (TL million)	1,911	2,017	2,024	1,776	6,263	
Domestic (TL million)	1,164	1,608	1,791	1,210	4,409	
Custom manufacturing (TL million)	13	14	10	22	45	
International (TL million)	734	395	224	544	1,808	
Local Purchase Rate (%)	61.60	80.43	88.90	69.36	71.11	
Number of Indirect Product and Service Suppliers (#)	2,164	2,060	1,920	1,664	1,815	
Number of Local Suppliers (#)	1,783	1,691	1,708	1,566	1,513	✓
Total Number of Suppliers Assessed (#)	767	841	738	616	559	✓
Number of Suppliers Assessed According to Environmental Criteria (#)	65	102	46	80	56	✓
Direct Raw Material and Product Procurement						
Number of Critical Suppliers (#)	52	43	44	43	43	
Number of Direct (Tier1) Suppliers (#)	68	56	56	53	51	
Number of Critical and Direct (Tier1) Suppliers (#)	52	43	44	43	43	
Amount of Payment Made to Critical and Direct (Tier1) Suppliers (TL billion)	76.0	83.5	57.6	123.6	348.5	
Number of Critical and Indirect (non-Tier1) Suppliers (#)	-	-	1	2	-	
Social Performance						
Total Amount of Training (hours)	384,405	238,168	93,244	142,703	215,589	✓
Female (hours)	34,968	40,919	19,017	21,122	28,385	✓
Male (hours)	349,437	197,249	74,227	121,581	187,204	✓
Monthly-Salaried (hours)	103,165	125,107	54,171	71,247	85,231	✓ (3)
Hourly-Waged (hours)	281,241	113,061	39,073	71,455	130,358	✓ (3)
Total Amount of Training per Employee (average hours per employee)	70	44	17	28	42	✓ (3)
Female (average hours per employee)	70	80	36	43	53	✓ (3)
Male (average hours per employee)	71	40	15	26	41	✓ (3)
Monthly-Salaried (average hours per employee)	82	98	42	58	67	✓ (3)
Hourly-Waged (average hours per employee)	67	27	10	18	36	✓ (3)
Training Hours by Age Group (hours)	384,405	238,168	93,244	142,703	215,589	✓ (3)
under 30 (hours)	221,683	88,832	29,178	32,127	37,857	✓ (3)
30-50 (hours)	149,172	138,456	60,422	105,846	167,217	✓ (3)
over 50 (hours)	13,550	10,880	3,644	4,730	10,515	✓ (3)
Training Hours by Managerial Level (hours)	100,782	126,236	44,898	31,454	85,430	✓ (3)
New hirings (hours)	82,061	104,109	33,698	27,075	75,689	✓ (3)
Mid-level managers (hours)	16,523	20,651	10,897	4,145	9,021	✓ (3)
Senior executives (hours)	2,198	1,476	303	234	720	✓ (3)
Training Hours by Training Type (hours)				549	98,127	(3)
Ethical Principles and Code of Conduct Trainings (hours)				549	5,102	✓ (3)
Anti-Bribery and Anti-Corruption Training (hours)					542	(3)
Sustainability and Environmental Training (hours)					92,483	(3)

Social Performance	2018	2019	2020	2021	2022	Notes
Total cost of training provided in the reporting year (TL)	10,147,704	1,677,419	849,719	10,936,690	15,194,327	(3)
Training cost per employee (TL)	1,859	308	159	2,117	2,936	(3)
Employee Engagement Survey Results (%)	57.2	35.8	61.0	35.0	47.4 ✓	(3), (4)
Monthly-Salaried by Age Groups						
under 25 (%)		59	81	80	67	(3), (4)
25-29 (%)		39	64	31	67	(3), (4)
30-34 (%)		45	60	32	67	(3), (4)
35-44 (%)		57	73	57	81	(3), (4)
45-54 (%)		68	82	67	82	(3), (4)
55 years and above (%)		73	86	76	88	(3), (4)
Hourly-Waged by Age Groups						
under 25 (%)		53	94	60	xx	(5)
25-29 yaş arası (%)		35	72	37	53	(3), (4)
30-34 (%)		25	57	28	30	(3), (4)
35-44 (%)		28	50	23	36	(3), (4)
45-54 (%)		27	53	29	39	(3), (4)
55 years and above (%)		41	84	44	77	(3), (4)
Monthly-Salaried Employees by Gender						
Female (%)		48	68	46	75	(3), (4)
Male (%)		55	71	51	77	(3), (4)
Hourly-Waged Employees by Gender						
Female (%)		38	75	51	71	(3), (4)
Male (%)		29	56	26	35	(3), (4)
Total Number of Trainers (#)	1,020	724	430	206	159 ✓	
Minimum Starting Salary to Minimum Wage Ratio						
Monthly-Salaried	2.2	1.9	1.9	1.9	2.3	✓
Hourly-Waged	3.2	3.0	3.0	2.8	3.3	✓

Employee Demographics	2018	2019	2020	2021	2022	Notes
Total Number of Employees (#)	6,092	6,181	6,091	5,893	6,112	✓
Female (#)	524	543	544	529	601	✓
Male (#)	5,568	5,638	5,547	5,364	5,511	✓
Contractor Employees * (#)	719	744	729	672	721	✓
Female (#)	198	213	214	176	185	✓
Male (#)	521	531	515	496	536	✓
Employees by Contract Type (#)						
Employees with a Fixed Term Employment Contract (#)	6,088	6,176	6,089	5,893	6,102	✓
Female (#)	522	541	543	529	596	✓
Male (#)	5,566	5,635	5,546	5,364	5,506	✓
Employees with a Temporary Employment Contract (#)	4	5	2	0	10	✓
Female (#)	2	2	1	0	5	✓
Male (#)	2	3	1	0	5	✓
Employees by Salary Category (#)						
Hourly-Waged (#)	4,644	4,660	4,578	4,400	4,290	✓
Female (#)	142	146	142	130	122	✓
Male (#)	4,502	4,514	4,436	4,270	4,168	✓
Monthly-Salaried (#)	1,448	1,521	1,513	1,493	1,822	✓
Female (#)	382	397	402	399	479	✓
Male (#)	1,066	1,124	1,111	1,094	1,343	✓
Ratio of Female Managers (%)						
New hirings (%)	74.4	73.5	73.0	74.7	79.0	
Mid-level managers (%)	25.0	25.9	27.0	24.7	20.2	
Senior executives (%)	0.6	0.6	0.0	0.6	0.7	
Employees by Employment Type (#)						
Full-Time (#)	6,089	6,177	6,091	5,893	6,108	✓
Female (#)	522	541	544	529	600	✓
Male (#)	5,567	5,636	5,547	5,364	5,508	✓
Part-Time (#)	3	4	0	0	4	✓
Female (#)	2	2	0	0	1	✓
Male (#)	1	2	0	0	3	✓
Employees by Age Groups (#)						
under 30 (#)	1,904	1,769	1,420	690	718	✓
30-50 (#)	3,662	3,935	4,217	4,804	4,962	✓
over 50 (#)	526	477	454	399	432	✓
Number of Employees by Managerial Level (#)						
Senior Executives						
By Gender (#)	36	37	34	35	40	✓
Female (#)	1	1	0	1	3	
Male (#)	35	36	34	34	37	
Mid-Level Managers						
By Gender (#)	201	211	239	230	259	✓
Female (#)	41	43	46	44	55	
Male (#)	160	168	193	186	204	

Employee Demographics	2018	2019	2020	2021	2022	Notes
New Hirings (#)						
By Gender	721	433	215	191	435	✓
Female (#)	91	75	40	37	137	✓
Male (#)	630	358	175	154	298	✓
By Age Group						
under 30 (#)	531	242	101	45	211	
30-50 (#)	170	186	111	114	212	
over 50 (#)	20	5	3	32	12	
Number of Employees Hired by by Managerial Level						
New hirings (#)	27	26	27	37	72	
Mid-level managers (#)	14	12	12	8	12	
Senior executives (#)	4	3	3	1	2	
Number of Employees Leaving (#)	387	350	299	205	401	✓
Female (#)	39	56	36	31	89	✓
Male (#)	348	294	263	174	312	✓
Employee Turnover by Age Group (%)						
under 30 (%)					0.10	(6)
30-50 (%)					0.05	(6)
over 50 (%)					0.16	(6)
Employee Turnover Ratio (%)						
Female (%)					0.15	✓ (6)
Male (%)					0.06	✓ (6)
Employee Turnover Ratio by by Managerial Level (%)						
New hirings (%)					0.14	(6)
Mid-level managers (%)					0.10	(6)
Senior executives (%)					0.03	(6)
Number of Employees Leaving Voluntarily						
under 30 (#)					56	(6)
30-50 (#)					139	(6)
over 50 (#)					3	(6)
Employee Turnover Ratio of Employees Leaving Voluntarily (%)						
under 30 (%)					0.08	(6)
30-50 (%)					0.03	(6)
over 50 (%)					0.01	(6)
Female (%)					0.08	(6)
Male (%)					0.03	(6)

Employee Demographics	2018	2019	2020	2021	2022	Notes
Employees under Collective Agreement (#)	4,644	4,660	4,578	4,400	4,290	✓ (6)
Number of Employees on Parental Leave (#)	23	31	32	30	33	✓ (6)
Number of Employees Returning to Work After Parental Leave (#)	19	21	22	29	29	✓ (6)
Number of Employees on Paternity Leave (#)	453	446	350	334	342	(6)
Total Number of Ethnic Minority Employees (#)	0	0	0	0	0	(6)
Total Number of Disabled Employees (#)	150	150	147	147	151	✓ (6)
Female (#)	23	25	24	24	21	✓ (6)
Male (#)	127	125	123	123	130	✓ (6)
Average Seniority of Level of Newly Hired Female Employees (#)	7.5	4.2	4.8	5.1	4.8	✓ (6)
Average Seniority of Level of Newly Hired Male Employees (#)	4.9	5.4	6.1	6.6	7.4	✓ (6)
Number of Part-Time Employees (#)	3	4	0	0	4	(6)
Female (#)	2	2	0	0	1	(6)
Male (#)	1	2	0	0	3	(6)
Employee Turnover Ratio (%)	0	0	0	0	0	(6)
Number of Employees in STEM Positions (#)	75	76	81	79	77	✓ (6), (7)
Female (#)	36	38	40	40	39	(6), (7)
Male (#)	39	38	41	39	38	(6), (7)
Number of Employees in Income Generating Positions (#)				3,149	3,310	✓ (6), (8)
Female (#)				300	333	(6), (8)
Male (#)				2,849	2,977	(6), (8)
Number of Vulnerable Audiences Reached by Inclusion Programs (#)					1,626	(6)
Youth (#)					1,100	(6)
Females (#)					526	(6)
Amount Spent for These Programs (TL)					300,000	(6)

✓: Externally assured value.

* : Including contractors.

(1) Environmental penalties exceeding USD 10,000 have been reported. (Penalty Taken/Penalty Paid)

(2) ISO14064 Data verification process has been completed for the years 2018-2021, and is ongoing for the year 2022.

(3) Excluding subsidiaries.

(4) Based on the results of the Tüpraş employee engagement survey.

(5) The figure for 2022 was not reported due to lack of data.

(6) Excluding Tupras Trading UK.

(7) STEM: Science, Technology, Engineering, Math

(8) Employees working in Production/Operations, Engineering, Project Management, Financial Operations, General Management, Operational Planning, Procurement, Strategic Planning, Sales, R&D, Product/ Service Design, Marketing and Treasury functions

APPENDIX-1: TÜPRAŞ 2022 ANNUAL REPORT - REPORTING PRINCIPLES

This reporting principles (the “Reporting Principles”) provides information on the data preparation and reporting methodologies of indicators within the scope of the limited assurance in the Tüpraş Türkiye Petrol Rafinerileri A.Ş.’s (the “Company” or “Tüpraş”) Tüpraş 2022 Annual Report (the “2022 Annual Report Report”). The indicators include social indicators, environmental indicators and economic indicators. It is the responsibility of the Company’s management to ensure that appropriate procedures are in place to prepare the indicators mentioned above in line with, in all material respects, the Guidance.

The data included in this guideline is for the fiscal year ended December 31, 2022, and as detailed in the “Key Definitions and Reporting Scope” section, included the İzmir Refinery Directorate (the “İzmir Refinery”), İzmit Refinery Directorate (the “İzmit Refinery”), Batman Refinery Directorate (the “Batman Refinery”), Kırıkkale Refinery Directorate (the “Kırıkkale Refinery”)

which is the responsibility of Tüpraş Türkiye Petrol Rafinerileri A.Ş. a total of 4 Refineries (collectively mention as “Refineries”). The indicators that the contractor Company is included in the scope are marked with a (“*”) and the contractor Company is not included in the scope of the indicators, except for the indicators with the (“**”).

General Reporting Principles

In preparing this guidance document, consideration has been given to following principles:

- Information Preparation – to highlight to users of the information the primary principles of relevance and reliability of information; and
- Information Reporting – to highlight the primary principles of comparability / consistency with other data including prior year and understandability / transparency providing clarity to users.

Key Definitions and Reporting Scope

For the purpose of this report, the Company defines:

Type	Indicator	Scope
Environmental	Direct Energy Consumption (TJ)	
	Natural Gas (TJ)	In the reporting period, it refers to the total amount of natural gas used as energy source, which is monitored from the invoices received from service providers for the refineries included in the scope. Only the amount used for industrial operations is included in the consumption amount.
	Fuel Oil (TJ)	In the reporting period, it refers to the total amount of fuel oil used by the Company as an energy source, which can be tracked through Tüpraş database portal (Tüpraş Historian Database) for the refineries included in the scope and mapped through financial reporting systems. Only the amount used for industrial operations is included in the consumption amount.
	Fuel Gas (TJ)	In the reporting period, it refers to the total amount of fuel gas used by the Company as an energy source, which can be tracked through Tüpraş database portal (Tüpraş Historian Database) for the refineries included in the scope and mapped through financial reporting systems. Only the amount used for industrial operations is included in the consumption amount.
	Coke (TJ)	In the reporting period, it refers to the total amount of coke used as energy source by İzmir Refinery and İzmit, which is monitored through Tüpraş database portal (Tüpraş Historian Database) and can be mapped through financial reporting systems. Only the amount used for industrial operations is included in the consumption amount.

Type	Indicator	Scope
Environmental (continued)	Indirect Energy Consumption – Electricity (TJ)	In the reporting period, it refers to the total amount of electricity purchased by the Company as an energy source for the refineries included in the scope, which is monitored through EPIAŞ (Enerji Piyasaları İşletme A.Ş.) tracking system and can be mapped through financial reporting systems. Only the amount used for industrial operations is included in the consumption amount.
	Total Energy Consumption (TJ)	In the reporting period, it refers to the total amount of Direct Energy Consumption and Indirect Energy Consumption consumed by the Company.
	Change in Energy Consumption (%)	In the reporting period, it refers to the percentage change between the Company's total energy consumption in 2021 and the total energy consumption in 2022.
	Energy Consumption Per Crude Oil (GJ/ton)	In the reporting period, it refers to the ratio of Total Energy Consumption to the amount of crude oil processed, which can be mapped by the Company's financial reporting systems.
	Energy Intensity (GJ/ton production)	In the reporting period, it refers the ratio of the Company's Total Energy amount to the total production amount, which is the sum of the amount of crude oil processed as mapped by the Company's financial reporting systems and the amount of intermediate products (LPG, burner fuel oil, coke, fuel gas) monitored from Tüpraş database portal (Tüpraş Historian Database).
	Number of Energy Efficiency Projects (#)	In the reporting period, it refers to the number of projects monitored in-house with the Energy Efficiency Projects document and project-specific internal control approval in order to reduce the amount of Direct Energy Consumption and Indirect Energy Consumption of the Company.
	Energy Efficiency Savings (TJ)	In the reporting period, it refers to the reduction effect on Direct Energy Consumption and Indirect Energy Consumption of the projects monitored in-house with the Energy Efficiency Projects document and project-specific internal control approval in order to reduce the Direct and Indirect Energy Consumption of the Company.
	Energy Efficiency Savings (USD million)	In the reporting period, it refers to the million US dollar impact of the reduction in the amount of Direct Energy Consumption and Indirect Energy Consumption of the projects followed in-house with the Energy Efficiency Projects document and project-specific internal control approval in order to reduce the amount of Direct Energy Consumption and Indirect Energy Consumption of the Company, calculated by multiplying the amount of reduction by the unit price. The US dollar impact is calculated by converting the TL savings effect obtained at the end of the year at the monthly average sales rates of the Central Bank of the Republic of Turkey.
	GHG Emissions Reductions through Energy Efficiency Projects (tons CO₂e)	In the reporting period, it refers to the reduction amount obtained by calculating the emission reduction obtained by multiplying the reduction in the amount of Direct Energy Consumption and Indirect Energy Consumption by the emission factor and net calorific value coefficients used in the calculation of Scope-1 and Scope-2 emissions by the reduction in the amount of Direct Energy Consumption and Indirect Energy Consumption of the projects followed in-house with the Energy Efficiency Projects document and project-specific internal control approval in order to reduce the amount of Direct and Indirect Energy Consumption of the Company.

APPENDIX-1: TÜPRAŞ 2022 ANNUAL REPORT - REPORTING PRINCIPLES

Type	Indicator	Scope
Environmental (continued)	Total Raw Water Consumption (million m ³)	In the reporting period, it refers to the total amount of Surface Water Sources and Public Water consumed by the refineries, which is monitored through Monthly Assessment Reports submitted to the Ministry of Environment on a monthly basis.
	Total Water Consumption (million m³)	In the reporting period, it refers to the total amount of Surface Water Sources, Public Water and Treated Wastewater from Körfez Municipality consumed by the Refineries, which is monitored through Monthly Assessment Reports submitted to the Ministry of Environment on a monthly basis.
	Surface Water Sources (million m ³)	In the reporting period, it refers to the amount of surface source water consumed by the Refineries, which is monitored through Monthly Assessment Reports submitted to the Ministry of Environment on a monthly basis.
	Grid Water ((million m ³)	In the reporting period, it refers to the amount of municipal water consumed by Batman Refinery, which is monitored from the invoices received from service providers and TPAO (Türkiye Petrol Anonim Ortaklığı).
	Treated Wastewater from Körfez Municipality (million m ³)	In the reporting period, it refers to the amount of public water consumed by İzmit Refinery, which is monitored by invoices received from Körfez Municipality.
	Water Consumption per Crude Oil Processed (m³/ton)	In the reporting period, it refers to the ratio of Total Grey Water Consumption to the amount of crude oil processed as mapped by the Company's financial reporting systems.
	Water Consumption per Production (m³/ton)	In the reporting period, it refers the Total Grey Water Consumption refers to the ratio of Total Grey Water Consumption to the production amount, which is the sum of the amount of crude oil processed as mapped by the Company's financial reporting systems and the amount of intermediate products (LPG, burner fuel oil, kok, fuel gas) monitored from Tüpraş database portal (Tüpraş Historian Database).
	Total Recovered Water (million m³)	In the reporting period, it refers the amount of water recovered and reused in the Water Recovery Units of the Company, monitored through meters and Tüpraş database portal (Tüpraş Historian Database).
	Total Recovered Water to Total Water Consumption Ratio (%)	In the reporting period, it refers to the ratio of the amount of water recovered and reused in the Water Recovery Units of the Company, monitored by meters and Tüpraş database portal (Tüpraş Historian Database), to Total Water Consumption.
	Total Waste Water Discharge (million m³)	In the reporting period, it refers to the amount of wastewater produced by the refineries, which is monitored through Monthly Assessment Reports declared to the Ministry of Environment on a monthly basis.
	Total Amount of Waste (tons)	In the reporting period, it refers to the total amount of Hazardous Waste and Non-Hazardous Waste generated by the Company.
	Hazardous Waste (tons)	In the reporting period, it refers to the amount of hazardous waste generated by the Company, which is monitored by MOTAT (Mobil Atık Takip Sistemi) on the Ministry of Environment portal (Entegre Çevre Bilgi Sistemi).
	Non-Hazardous Waste (tons)	In the reporting period, it refers to the amount of non-hazardous waste generated by the Company, monitored from the Ministry of Environment portal (Entegre Çevre Bilgi Sistemi) and invoices received from licensed waste treatment facilities.

Type	Indicator	Scope
Environmental (continued)	Waste According to Disposal Method	
	Recycling (tons)	In the reporting period, it refers to the amount of waste subjected to recycling by the Company, which is tracked with the "R" recycling code determined by the Ministry of Environment from the invoices received from the Ministry of Environment portal (Entegre Çevre Bilgi Sistemi) and licensed waste processing facilities.
	Disposal (tons)	In the reporting period, it refers to the amount of waste subjected to disposal by the Company, which is tracked with the "D" disposal code determined by the Ministry of Environment from the invoices received from the Ministry of Environment portal (Integrated Environmental Information System) and licensed waste treatment facilities.
	Total Waste Recovery Ratio (%)	In the reporting period, it refers to the ratio of the Company's Recycling Waste Amount to Total Waste Amount in the reporting period.
	Scope 1 GHG Emissions (tCO₂e/year)	In the reporting period, it refers to the amount of direct greenhouse gas emissions resulting from the Company's fixed and mobile resources, originating from Direct Energy Consumption, monitored from Tüpraş database portal (Tüpraş Historian Database). The Company calculates greenhouse gas emissions in accordance with the standard "ISO 14064-1:2018 Greenhouse gases – Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals".
	Scope 2 GHG Emissions (tCO₂e/year)	In the reporting period, it refers to the amount of indirect greenhouse gas emissions resulting from the amount of electricity purchased by the Company, sourced from Indirect Energy Consumption, monitored from Tüpraş database portal (Tüpraş Historian Database). The Company calculates its greenhouse gas emissions according to the standard "ISO 14064-1:2018 Greenhouse gases – Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals".
	Total (Scope 1 & Scope 2) GHG Emissions (tCO₂e/year)	In the reporting period, it refers to the sum of the Company's Scope 1 GHG Emissions and Scope 2 GHG Emissions in the reporting period.
	Greenhouse Gas Intensity (ton CO₂e/ton Crude Oil Processed)	In the reporting period, it refers to the ratio of the sum of the Company's Scope 1 GHG Emissions and Scope 2 GHG Emissions to the amount of crude oil processed as mapped by the Company's financial reporting systems.
	Greenhouse Gas Intensity (ton CO₂e/ton Charge)	In the reporting period, the ratio of the sum of the Company's Scope 1 GHG Emissions and Scope 2 GHG Emissions to the total amount of crude oil, which is the sum of product production amount, fuel items production amount and lost product amounts mapped by the Company's financial reporting systems.
	Social	Total Number of Employees (#)
Contractor Employees* (#)		In the reporting period, it refers to the total number of contractor Company employees of the Company, which is tracked through Tüpraş Human Resources Contractor Company Employee list and matched with the Social Security Institution Employment Declaration of the service provider. Entek, Ditaş and Körfez Enterprises subsidiaries of Tüpraş are also included.

APPENDIX-1: TÜPRAŞ 2022 ANNUAL REPORT - REPORTING PRINCIPLES

Type	Indicator	Scope
Social (continued)	Employees by Contract Type (#)	In the reporting period, it refers to the number of people working in the Company classified according to the definition of Fixed Term Employment Contract and Indefinite Term Employment Contract as defined in the Labor Law No: 4857 and monitored through Tüpraş Human Resources data platform. Intern employees are not included in the number of employees according to contract type. Entek, Ditaş and Körfez İşletmeleri subsidiaries of Tüpraş are also included.
	Employees by Salary Category (#)	In the reporting period, it refers to the number of people working in the Company classified according to the definition of Monthly Paid and Hourly Paid as defined in the Labor Law No. 4857, which is monitored through Tüpraş Human Resources data platform. Intern employees are not included in the number of monthly paid and hourly paid employees. Entek, Ditaş and Körfez İşletmeleri subsidiaries of Tüpraş are also included.
	Ratio of Female Managers (%)	In the reporting period, the ratio of the number of female employees at the managerial levels of the Company, including entry-level managers with the title of "Chief Engineer/Coordinator", mid-level managers with the title of "Manager, Director, Chief Specialist, Senior Chief Specialist, Project Manager, Senior Project Manager" and senior-level managers with the title of "Assistant General Manager, Director, Group Manager", to the Total Number of Employees. Entek, Ditaş and Körfez Enterprises subsidiaries of Tüpraş are also included.
	Employees by Employment Type (#)	In the reporting period, it refers to the number of people working in the Company classified according to the definition of Full-Time and Part-Time as defined in the Labor Law No. 4857, which is monitored through Tüpraş Human Resources data platform. Intern employees are not included in the number of Full Time and Part Time employees. Entek, Ditaş and Körfez İşletmeleri subsidiaries of Tüpraş are also included.
	Employees by Age Groups (#)	In the reporting period, it refers to the breakdown of Company employees, who were monitored through Tüpraş Human Resources data platform and whose employment notifications were made to the Social Security Institution, according to age groups below 30, between 30-50 and above 50. Tüpraş's subsidiaries Entek, Ditaş and Körfez Enterprises are also included. Employees by Salary Category is monitored in the Employees by Salary Category breakdown.
	Number of Employees by Managerial Level (#)	In the reporting period, it refers to the number of people at the levels defined as mid-level and senior management levels of the Company employees who are monitored through Tüpraş Human Resources data platform and whose Employment Notifications are made to the Social Security Institution. The Company's managerial levels of the Company, including entry-level managers with the title of "Chief Engineer/Coordinator", mid-level managers with the title of "Manager, Director, Chief Specialist, Senior Chief Specialist, Project Manager, Senior Project Manager" and senior-level managers with the title of "Assistant General Manager, Director, Group Manager".
	New Hirings (#)	In the reporting period, it refers to the number of people hired by the Company and declared to the Social Security Institution with the Employment Declaration. Entek, Ditaş and Körfez İşletmeleri subsidiaries of Tüpraş are also included.
	Number of Employees Leaving (#)	In the reporting period, it refers to the number of people declared to the Social Security Institution of the Company with the Declaration of Leaving Employment. Intern employees are not included in the number of employees who left their jobs. Entek, Ditaş and Körfez İşletmeleri subsidiaries of Tüpraş are also included.

Type	Indicator	Scope
Social (continued)	Employees Under Collective Agreement (#)	In the reporting period, it refers to the number of people with whom collective agreement were made in accordance with the Collective Agreement Law No. 4688 and who were reported to the Ministry of Finance as contracted. Entek, Ditaş and Körfez İşletmeleri subsidiaries of Tüpraş are also included.
	Number of Employees on Parental Leave (#)	In the reporting period, it refers to within the scope of the Regulation on "Part-Time Work to be Performed After Parental Leave or Unpaid Leave", it refers to the number of female employees who took parental leave within the periods specified in the regulation.
	Number of Employees Returning to Work After Parental Leave (#)	In the reporting period, it refers to within the scope of the Regulation on "Part-Time Work to be Performed After Parental Leave or Unpaid Leave", it refers to the number of female employees who returned to work after taking parental leave within the periods specified in the regulation.
	Average Seniority of Female Employees Employed by the Company (#)	In the reporting period, it refers to the average seniority of female employees who were recruited by the Company and whose seniority was calculated based on the date declared to the Social Security Institution with the Employment Declaration within the reporting year.
	Average Seniority Employed by the Company for Male Employees (#)	In the reporting period, it refers to the average seniority of male employees who were recruited by the Company and whose seniority was calculated based on the date declared to the Social Security Institution with the Employment Declaration within the reporting year.
	Employee Turnover Ratio (%)	In the reporting period, it expresses the ratio of the number of employees who quit their jobs declared by the Company to the Social Security Institution with the Declaration of Leaving Work within the reporting period to the Total Number of Employees. It is monitored in gender breakdown.
	Total Number of Disabled Employees (#)	In the reporting period, it refers to the Company's Law No. 5378 on Persons with Disabilities refers to the number of employees who are defined as disabled in the Law No. 5378 on Persons with Disabilities and who were hired by the Company and declared to the Social Security Institution with the Employment Declaration within the reporting year.
	Number of Employees in STEM Positions (#)	In the reporting period, it refers to the number of people working in the R&D function, which the Company defines as STEM (Science, Technology, Engineering, Math) positions, monitored through Tüpraş Human Resources data platform.
	Number of Employees in Income Generating Positions (#)	In the reporting period, it refers to the number of people working in "Production/Operations, Engineering, Project Management, Financial Operations, General Management, Operational Planning, Purchasing, Strategic Planning, Sales, R&D, Product or Service Design, Marketing, Treasury" functions, which the Company defines as income generating positions and which are monitored through Tüpraş Human Resources data platform.
	Minimum Starting Salary to Minimum Wage Ratio	In the reporting period, it refers to the ratio of the minimum starting salary approved by the senior management to the official minimum wage determined by the Labor and Social Security Institution in the reporting period.

APPENDIX-1: TÜPRAŞ 2022 ANNUAL REPORT - REPORTING PRINCIPLES

Type	Indicator	Scope
Social (continued)	Total Amount of Training (hours)	In the reporting period, it refers to the total number of training hours attended by Company employees, as tracked by Human Resources on Tüpraş's training tracking platform. It is tracked by age (according to age groups below 30, between 30-50, above 50), by management level (entry-level managers are "Chief Engineer/Coordinator", mid-level managers are "Manager, Director, Chief Specialist, Senior Chief Specialist, Project Manager, Senior Project Manager" and senior managers are "Assistant General Manager, Director, Group Manager") and Employees by Salary Category.
	Total Amount of Training per Employee (average hours per employee)	In the reporting period, it refers to the ratio of total training hours attended by Company employees to the Total Number of Employees, which is monitored through the training tracking platform of Human Resources belonging to Tüpraş. It is tracked in the Employees by Salary Category breakdown.
	Ethical Principles and Code of Conduct Trainings (hours)	In the reporting period, it refers to the number of hours of training on ethical principles and code of conduct attended by Company employees, which is tracked on the training tracking platform of Tüpraş owned by Human Resources.
	Employee Engagement Survey Results (%)	In the reporting period, it refers to the results of the employee engagement survey conducted by third-party Companies the results of which are shared.
	Total Number of Trainers (#)	In the reporting period, it refers within the scope of the definition of "intern" in the Framework Regulation on Practical Trainings in Higher Education, the Company refers to the total number of interns employed to complete their optional or compulsory internships.
	Total Amount of OHS Training (people x hours)	In the reporting period, it refers to the total number of compulsory or non-compulsory Occupational Health and Safety training hours provided by Human Resources according to hazard class within the scope of "Occupational Health and Safety Law No. 6331", which are tracked on Tüpraş's training tracking platform and attended by Company employees.
	LTI Frequency- OSHA (frequency)	In the reporting period, it refers to the ratio of the number of injury incidents that occurred to the Company employee during a work-related activity and prevented him/her from coming to the workplace on the next shift or the next working day, and which were followed up through notifications made to the Social Security Institution, to the total working hours in the reporting period.
	LTI Severity- OSHA (frequency)	In the reporting period, it refers to the ratio of the number of injury incidents that occurred to the Company employee during a work-related activity and prevented him/her from coming to the workplace on the next shift or the next working day, and which were followed up through notifications made to the Social Security Institution, to the total working hours in the reporting period.

Type	Indicator	Scope
Social (continued)	Total Recordable Incident Rate – OSHA (frequency)	In the reporting period, it refers to the ratio of the total number of incidents involving death, lost time injury, limited incapacity for work and medical treatment applications, which occurred during a work-related activity of the Company employee and prevented him/her from coming to the workplace on the next shift or the next working day, and which are monitored through notifications made to the Social Security Institution, to the total number of working hours in the reporting period.
	Restricted Work Case – OSHA (frequency)	In the reporting period, it refers to the ratio of the number of incidents, monitored through notifications made to the Social Security Institution, in which an injury sustained by a Company employee in a work-related activity causes the employee to perform his/her own work for less time or to be directed to a simpler job, to the total number of working hours in the reporting period.
	Occupational Illness (frequency)	In the reporting period, it refers to the ratio of the number of people who fall under the definition of "occupational disease" within the scope of the "Occupational Health and Safety Law No. 6331" and who are followed up through notifications made to the Social Security Institution to the total number of working hours in the reporting period.
	Fatality Rate (frequency)	In the reporting period, it refers to the ratio of the number of employees of the Company that fall under the definition of "fatal occupational accidents" within the scope of the "Occupational Health and Safety Law No. 6331", which are followed up through notifications made to the Social Security Institution, to the total working hours.
	3rd Party Audits (#)	In the reporting period, it refers to the number of OHS, Process Safety, Emergency and Road Safety audits conducted by official, local or international 3rd party accredited companies, including Koç Holding, and monitored through external audit forms.
	Fatalities as a Result of Work-Related Incidents (#)	In the reporting period, it refers to the number of employees of the Company who fall under the definition of "fatal occupational accident" within the scope of the "Occupational Health and Safety Law No. 6331", which is followed up through notifications made to the Social Security Institution.
Economic	Number of Local Suppliers (#)	In the reporting period, it refers to the number of local suppliers included in the Company's total suppliers that can be mapped through financial reporting systems.
	Total Number of Suppliers Assessed (#)	In the reporting period, it refers to the number of evaluations of the suppliers included in the total suppliers of the Company through Tüpraş Supplier Evaluation portal.
	Number of Suppliers Assessed According to Environmental Criteria (#)	In the reporting period, it refers to the number of suppliers included in the total suppliers of the Company that were assessed according to environmental criteria through Tüpraş Supplier Assessment portal.

APPENDIX-1: TÜPRAŞ 2022 ANNUAL REPORT - REPORTING PRINCIPLES

Preparation of the Data

1. Environmental Indicators

Direct Energy Consumption (TJ)

Within the scope of the Company's direct energy consumption, natural gas, fuel oil, fuel gas and kok energy sources are reported.

Natural Gas Consumption (TJ)

Natural gas consumption refers to the amount of natural gas entering all refineries and is obtained from service providers' invoices. The resulting Gcal unit is converted to TJ with the following conversion factor.

$$1 \text{ Gcal} = 0,004184 \text{ TJ}$$

Fuel oil Consumption (TJ)

Fuel oil consumption refers to the amount of fuel oil entering the system in all refineries. The consumption amount is obtained by taking the amount of fuel oil passing through the flow meters. The flow meters used have calibration reports verified by the Company's certified instrument team. The Gcal unit obtained from the consumption amount is converted to TJ with the following conversion factor.

$$1 \text{ Gcal} = 0,004184 \text{ TJ}$$

Fuel Gas Consumption (TJ)

Fuel gas consumption refers to the amount of fuel gas entering the system at all refineries. The consumption amount is obtained by taking the amount of fuel oil passing through the flow meters. In addition to the amount of fuel gas, tail gas produced in the flow of the system is added to the total amount of fuel gas and reported. The flow meters used have calibration reports verified by the Company's certified instrument team. The Gcal unit obtained from the consumption amount is converted to TJ with the following conversion factor.

$$1 \text{ Gcal} = 0,004184 \text{ TJ}$$

Coke Consumption (TJ)

Coke consumption refers to the amount of process-generated FCC unit coke released in all refineries. This coke is calculated according to the standard calculation methodology reported by the relevant process experts and used as energy consumption amount. The outputs of these calculations are regularly reported to senior management and other units. The Gcal unit obtained from the consumption amount is converted to TJ with the following conversion factor.

$$1 \text{ Gcal} = 0,004184 \text{ TJ}$$

Indirect Energy Consumption – Electricity (TJ)

Electricity Consumption (TJ)

Electricity consumption refers to the electricity consumption purchased from external sources in all refineries. It is obtained from consumption values monitored by meters and consumption values billed by service providers. The MW unit obtained from the consumption amount is converted to TJ with the following conversion factor.

$$1 \text{ MW} = 0,0036 \text{ TJ}$$

Energy Consumption Per Crude Oil Processed (GJ/ton)

Energy consumption value refers to the value verified by Direct Energy Consumption (TJ). Crude Oil Processed (tons) refers to the amount of crude oil processed as mapped by the Company's financial reporting systems.

Formula:

$$\text{Direct Energy Consumption (TJ)} * 1000 = \text{Direct Energy Consumption (GJ)}$$

$$\text{Direct Energy Consumption (GJ)} / \text{Crude Oil Processed (tons)}$$

Total Energy Consumption (TJ)

Formula:

$$\text{Direct Energy Consumption (TJ)} + \text{Indirect Energy Consumption (TJ)}$$

Water Consumption per Crude Oil Processed (m³/ton)

Crude Water Use value refers to the value verified by Total Crude Water Consumption (million m³). Crude Oil Processed (tons) is derived from the amount of crude oil processed, which is an input to the financials.

Formula:

$$\text{Total Crude Water Consumption (million m}^3\text{)} / \text{Crude Oil Processed (tons)}$$

Water Consumption per Product (m³/ton)

Formula:

$$\text{Water Use (million m}^3\text{)} / 1.000.000 = \text{Raw Water Use (m}^3\text{)}$$

$$\text{Water Use Amount (m}^3\text{)} = \text{Raw Water Use Amount (tons)}$$

$$\text{Water Use (tons)} / \text{Production Amount (m}^3\text{)} * 100$$

Ratio of Reclaimed Water to Total Water Consumption (%)

Formula:

$$\text{Amount of water recovered (million m}^3\text{)} / \text{Total water consumption (million m}^3\text{)} * 100$$

Total Waste Recovery Ratio (%)

Formula:

$\text{Total Amount of Waste Recovered (tons) / Total Amount of Waste (tons)} * 100$

Scope 1 GHG Emissions (tons CO₂e/year)

Scope-1 emissions refer to the amount of emissions resulting from the stationary combustion process. Within the scope of Scope-1 emissions, the emission amounts generated by natural gas, fuel oil, fuel gas and tail gas consumption are included in the verification. Other emission sources are not included in the scope of verification as they constitute 5% of the total Scope-1 emission value.

The amounts of Natural Gas, Fuel oil and Fuel gas consumption data, which constitute the Direct Energy Amount (TJ), that are considered as emission sources are included in the emission calculation. For this reason, the consumption amounts verified under the Direct Energy Amount (TJ) heading and the consumption amounts included in the Greenhouse Gas Emission calculation do not represent the same values. The activity data used in the Greenhouse Gas Emission calculation is in line with the measurement points determined in accordance with the Regulation on Monitoring of Greenhouse Gas Emissions.

Formula:

$\text{Emission Amount} = \text{Activity Data} * \text{Emission Factor} * \text{Oxidation Factor}$

$\text{Activity Data} = \text{Consumption Amount} * \text{Net Calorific Value (TJ)}$

$\text{Oxidation Factor} = 1$

Emission Factor:

The emission factor for natural gas is obtained from the local natural gas supplier where each refinery is located (İzmit: İZDAS, İzmir: İzmir Gaz, Kırıkkale: KIRGAZ, Batman: SİBADAŞ)

Emission factors for fuel oil, fuel gas, and tail gas are calculated within the Company based on the fuel composition obtained from GC (Gas chromatography). Although they vary according to refineries, the values in Table: 1, Table: 2, Table: 3 and Table: 4 are taken into account.

Net Calorific Value:

Emission factors for fuel oil, fuel gas and tail gas are calculated within the Company based on the fuel composition obtained as a result of content and GC (Gas chromatography). Although they vary according to refineries, the values in Table: 1, Table: 2, Table: 3 and Table: 4 are taken into account.

Natural Gas

The amount of Natural Gas included in the Direct Energy (TJ) consumption, which is considered as an emission source, is included in the emission calculation. The amount of Natural Gas consumption that generates Greenhouse Gas Emissions is obtained from flow meters. The flow meters used have calibration reports verified by the Company's certified instrument team. Uncertainty calculations of flow meters are included in the calculation.

Emission Factor:

$[(\text{Natural gas MW (kg/kmole)}/22.414/\text{Natural gas MW (kg/kmole)}) * (\text{Natural gas (kg/kmole)}/100 * 44.0095 / (12.01 * 1000))] / (4.186 * \text{Natural gas LHV (kcal/Nm}^3\text{)}/1000000000)$

$\text{Natural Gas MW} : [(\text{MW of H}_2 * \text{H}_2 \text{ vol}\%) + (\text{MW of CO}_2 * \text{CO}_2 \text{ vol}\%) + (\text{MW of CO} * \text{CO vol}\%) + (\text{MW of CH}_4 * \text{CH}_4 \text{ vol}\%)] / 100$

$\text{Natural Gas Molar Mass of C (kg/kmole)} : [\text{CO}_2 \text{ vol}\% + \text{CO vol}\% + \text{CH}_4 \text{ vol}\%] * 12.01 / 100$

Net Calorific Value:

$[(\text{MW of H}_2 * \text{H}_2 \text{ vol}\%) + (\text{MW of CO}_2 * \text{CO}_2 \text{ vol}\%) + (\text{MW of CO} * \text{CO vol}\%) + (\text{MW of CH}_4 * \text{CH}_4 \text{ vol}\%)] / (100 * 22.414) * 1000$

Fuel Gas

The amount of Fuel gas included in the Direct Energy Amount (TJ) consumption, which is considered as an emission source, is included in the emission calculation. The amount of Fuel gas consumption that generates Greenhouse Gas Emissions is obtained from flow meters. The flow meters used have calibration reports verified by the Company's certified instrument team. Uncertainty calculations of flow meters are included in the calculation. Fuel gas consumption for İzmit Refinery is calculated in 2 different regions, A and B regions.

Emission Factor:

$[(\text{Fuel Gas MW (kg/kmole)}/22.414/\text{Fuel Gas MW (kg/kmole)}) * (\text{Fuel Gas (kg/kmole)}/100 * 44.0095 / (12.01 * 1000))] / (4.186 * \text{Fuel Gas LHV (kcal/Nm}^3\text{)}/1000000000)$

$\text{Fuel Gas MW} : [(\text{MW of H}_2 * \text{H}_2 \text{ vol}\%) + (\text{MW of CO}_2 * \text{CO}_2 \text{ vol}\%) + (\text{MW of CO} * \text{CO vol}\%) + (\text{MW of CH}_4 * \text{CH}_4 \text{ vol}\%)] / 100$

$\text{Fuel Gas Molar Mass of C (kg/kmole)} : [\text{CO}_2 \text{ vol}\% + \text{CO vol}\% + \text{CH}_4 \text{ vol}\%] * 12.01 / 100$

Net Calorific Value:

$[(\text{MW of H}_2 * \text{H}_2 \text{ vol}\%) + (\text{MW of CO}_2 * \text{CO}_2 \text{ vol}\%) + (\text{MW of CO} * \text{CO vol}\%) + (\text{MW of CH}_4 * \text{CH}_4 \text{ vol}\%)] / (100 * 22.414) * 1000$

APPENDIX-1: TÜPRAŞ 2022 ANNUAL REPORT - REPORTING PRINCIPLES

Fuel oil

The amount of Fuel gas included in the Direct Energy Amount (TJ) consumption, which is considered as an emission source, is included in the emission calculation. The amount of Fuel gas consumption that generates Greenhouse Gas Emissions is obtained from flow meters. The flow meters used have calibration reports verified by the Company's certified instrument team. Uncertainty calculations of flow meters are included in the calculation.

Emission Factor and Net Calorific Value:

ASTM D-4868 Test Method for Sulfur in Petroleum Products by Wavelength Dispersive X-ray Fluorescence Spectrometry (Test Method for Sulfur in Petroleum Products by Wavelength Dispersive X-ray Fluorescence Spectrometry) is used to calculate NKD (Net Calorific Value), sulfur content determination and emission factor of fuel oil is calculated based on the accepted C/H ratio according to sulfur content.

Tail Gas

Natural gas or naphtha is used as input for hydrogen production in the Hydrogen Unit in the process. In the process, pure H2 is

obtained from the system. The gas with a certain amount of H2 remaining is called tail gas. Tail gas consumption amount that creates Greenhouse Gas Emission is obtained from flow meters. The flow meters used have calibration reports verified by the Company's certified instrument team. Uncertainty calculations of flow meters are included in the calculation. Tail gas consumption for İzmit Refinery is calculated in 2 different regions, A and B regions.

Emission Factor:

$$\frac{[(\text{PSA Off-gas MW (kg/kmole)}/22.414/\text{PSA Off-gas MW (kg/kmole)}) * (\text{PSA Off-gas Molar Mass of C (kg/kmole)}/100 * 44.0095 / (12.01 * 1000))]}{(4.186 * \text{PSA Off-gas LHV (kcal/Nm}^3\text{)}/1000000000)}$$

$$\text{Tail Gas MW} : \frac{[(\text{MW of H}_2 * \text{H}_2 \text{ vol}\% + (\text{MW of CO}_2 * \text{CO}_2 \text{ vol}\% + (\text{MW of CO} * \text{CO} \text{ vol}\% + (\text{MW of CH}_4 * \text{CH}_4 \text{ vol}\%)))]}{100}$$

$$\text{Tail Gas Molar Mass of C (kg/kmole)} : \frac{[\text{CO}_2 \text{ vol}\% + \text{CO} \text{ vol}\% + \text{CH}_4 \text{ vol}\%] * 12.01}{100}$$

Net Calorific Value:

$$\frac{[(\text{MW of H}_2 * \text{H}_2 \text{ vol}\% + (\text{MW of CO}_2 * \text{CO}_2 \text{ vol}\% + (\text{MW of CO} * \text{CO} \text{ vol}\% + (\text{MW of CH}_4 * \text{CH}_4 \text{ vol}\%)))]}{(100 * 22.414) * 1000}$$

Emission Factors and Net Calorific Values included in the calculation of Scope 1 emissions for refineries are as follows:

Table: 1

Izmit Refinery	Emission Factor (ton CO ₂ /TJ)	Net Calorific Value (GJ/Ton)
Natural Gas	55,56	49,07
Region A Fuel Gas	54,88	49,76
Region B Fuel Gas	52,50	50,35
Fuel Oil	80,05	40,55
Region A Tail Gas	106,85	11,48
Region B Tail Gas	155,42	7,19

Table:2

Izmir Refinery	Emission Factor (ton CO ₂ /TJ)	Net Calorific Value (GJ/Ton)
Natural Gas	55,37	49,07
Fuel Gas	55,28	47,60
Fuel Oil	78,13	38,74
Tail Gas	131,30	8,62

Table:3

Kırıkkale Refinery	Emission Factor (ton CO ₂ /TJ)	Net Calorific Value (GJ/Ton)
Natural Gas	55,65	48,70
Fuel Gas	57,25	49,18
Fuel Oil	77,29	40,80
Tail Gas	180,68	6,35

Tablo:4

Batman Refinery	Emission Factor (ton CO ₂ /TJ)	Net Calorific Value (GJ/Ton)
Natural Gas	56,06	46,08
Fuel Gas	57,60	48,15
Fuel Oil	77,00	39,39

Scope 2 GHG Emissions (ton CO₂e/yıl)

Formula:

Scope 2 Greenhouse Gas Emissions= Purchased Electricity* Emission Factor

Electricity emission factor was calculated by taking into account the regions where the Refineries are located and based on the data published by the International Energy Agency, and the emission factor value for Refineries was taken as 0.4661. (Source: <https://www.iea.org/data-and-statistics/data-product/emissions-factors-2021>)

Total (Scope 1 & Scope 2) GHG Emissions (tCO₂e/year)

Formula: Total Scope 1 and Scope 2 Greenhouse Gas Emissions (tons CO₂e/year)= Scope 1 Greenhouse Gas Emissions (tons CO₂e/year) + Scope 2 Greenhouse Gas Emissions (tons CO₂e/year)

Greenhouse Gas Intensity (tons CO₂e/ton Crude Oil Processed)

It is calculated as the ratio of the total amount of greenhouse gas emissions (tons of CO₂e) generated by Scope 1 and Scope 2 emissions to Crude Oil Processed.

Formula:

Greenhouse Gas Intensity (tons CO₂e/ton Crude Oil Processed) = Total Greenhouse Gas Emissions (tons CO₂e) / Crude Oil Processed (tons)

Greenhouse Gas Intensity (tons CO₂e/ton Charge)

Formula:

Charge Amount (tons)= Crude Oil Charge Amount + Intermediate Product Charge Amount (including natural gas charge) = Product Production Amount + Fuel Items Production Amount + Loss Amount
Greenhouse Gas Intensity (tons CO₂e/ton Charge) = Total Greenhouse Gas Emissions (tons CO₂e) / Charge Amount (tons)

2. Social Indicators

Employee Turnover Ratio (%)

Formula: Number of employees who quit / Total number of employees

Ratio of Female Managers (%)

Formula: Entry Level + Mid Level + Senior Level Number of Female Employees / Total number of employees

Total Amount of Training (hours)

Formula: Total Training (average hours per person)= Total training hours (hours)/ Total number of people trained

LTI Frequency - OSHA (frequency)

Formula: LTI incidents x 1 million/working hour

LTI Severity - OSHA (frequency)

Formula: LTI lost working days x 1 million/working hour

Total Recordable Incident Rate – OSHA (frequency)

Formula: Number of incidents x 1 million/working hour

Restricted Work Case – OSHA (frequency)

Formula: Number of incidents x 1 million/working hour

Occupational Illness (frequency)

Formula: Number of occupational illnesses x 1 million/working hour

Fatality Rate (frequency)

Formula: Number of deaths x 1 million/working hour

Restatements

The measuring and reporting of sustainability-related data inevitably involves a degree of estimation. Restatements are considered where there is a change in the data of greater than 5 percent at the Company level.

LEGAL DISCLOSURES

202	INFORMATION ABOUT CORPORATE GOVERNANCE
208	STRUCTURE OF BOARD OF DIRECTORS
209	TÜPRAŞ ORGANIZATIONAL STRUCTURE
210	STATEMENT OF COMPLIANCE WITH SUSTAINABILITY PRINCIPLES
211	RISK MANAGEMENT AND ACTIVITIES OF THE RISK MANAGEMENT COMMITTEE
224	ENGLISH TRANSLATION OF INDEPENDENT AUDITOR'S EARLY RISK DETECTION SYSTEM AND COMMITTEE REPORT
225	EVALUATION OF OPERATING PRINCIPLES AND EFFECTIVENESS OF BOARD COMMITTEES
230	AUDIT COMMITTEE REPORT (RELATED TO FINANCIAL STATEMENTS)
231	STATEMENT OF RESPONSIBILITY (RELATED TO APPROVAL OF FINANCIAL STATEMENTS)
232	STATEMENT OF RESPONSIBILITY (RELATED TO ANNUAL REPORT)
233	STATEMENT OF RESPONSIBILITY (RELATED TO APPROVAL OF ANNUAL REPORT)

LEGAL DISCLOSURES

Capital Structure

The Company's shares are divided into two groups, A and C, all of which are registered shares. The Company's issued capital is TL 275,256,514, and is fully paid-up free from any collusion.

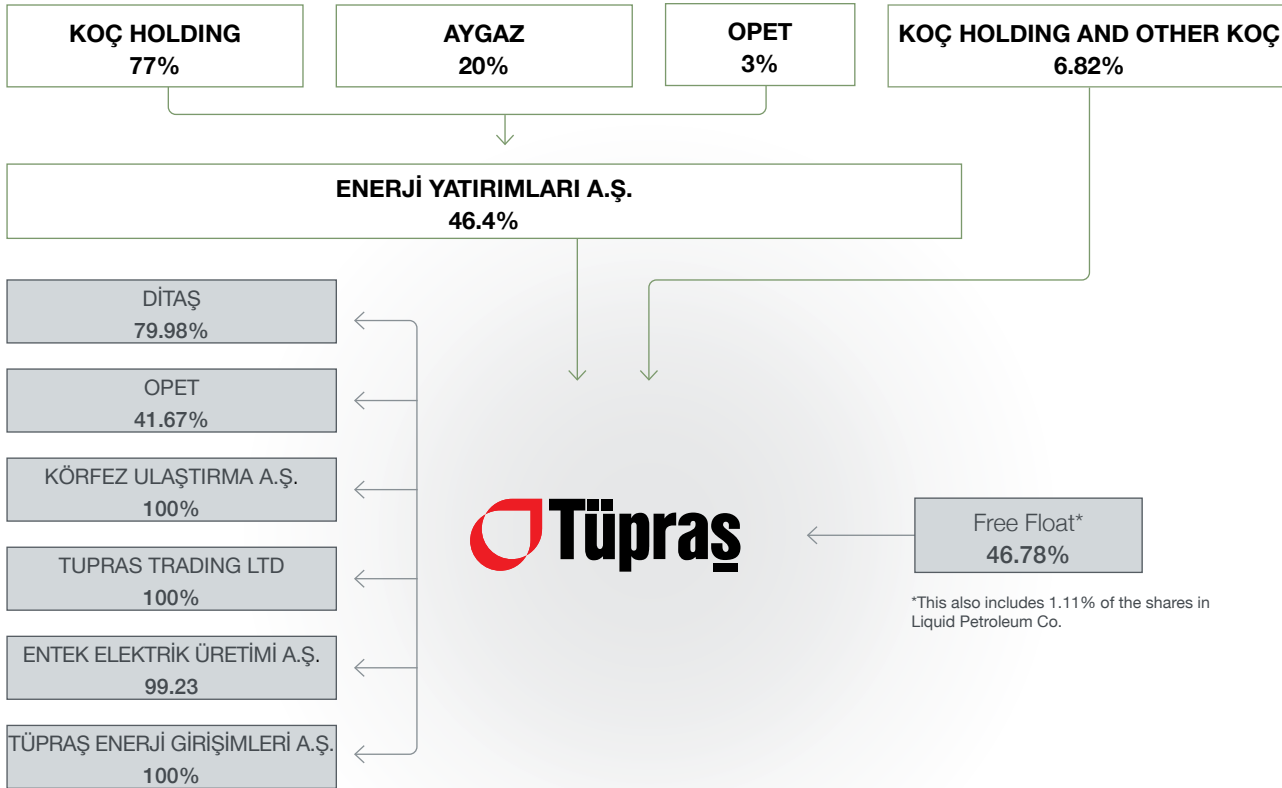
Shareholders attending Ordinary and Extraordinary General Assembly meetings exercise their voting rights pro rata the nominal value of total shares they hold.

Shareholder Structure

The Company is registered with the Capital Markets Board ("CMB") of Turkey and its shares are quoted on Borsa İstanbul A.Ş. ("BIST") since 1991. The Company's shares quoted on the BIST constitute 46.78% of the total shares.

The Company's shareholders and shareholding rates, and the subsidiaries, in which the Company holds shares, and shareholding rates therein are as follows.

GROUP	SHARE AMOUNT (TL)	TYPE	NUMBER OF SHARES
A	275,256,513.99	Registered	27,525,651,399
C	0.01	Registered	1
Total	275,256,514.00		27,525,651,400



At its Extraordinary General Assembly meeting held on September 29, 2022, Temel Ticaret ve Yatırım A.Ş., a direct or indirect shareholder in our company, resolved to transfer all of its shares in Koç Holding A.Ş. to Family Danışmanlık Gayrimenkul ve Ticaret A.Ş., which it wholly owns, by way of partial demerger.

As a result of the said partial demerger transaction, there has been no change in the shares directly or indirectly owned by Temel Ticaret ve Yatırım A.Ş. However, the share of Family Danışmanlık Gayrimenkul ve Ticaret A.Ş. in our Company has changed from 0% to 20.14%.

LEGAL DISCLOSURES

Voting Rights

As stipulated in the Articles of Association, material decisions concerning spin-offs or sales, acquisitions or lease of assets with significant value can only be taken with the positive vote of Group C (preferential) shares, represented by the Privatization Administration. In this context, at the General Assembly Meeting for deciding on issues that might restrict or hinder the supply of petroleum to the Turkish Armed Forces, such as closure or sale of one of the refineries, limitation of activities through establishment of restraint or any reduction corresponding to more than 10% of the capacity, or spin-off or merger and/or liquidation of the Company a positive voters needed. Class C shares do not hold any other privileges concerning voting rights, apart from those indicated above.

Information about significant changes in Tüpraş's ownership of financial assets held in 2022

Information on the transactions which reach the limits set out in the Turkish Commercial Code in the participation rates to the financial fixed assets, in which Tüpraş directly participates, are provided in the table below.

Company	2022 (%)	2021 (%)	Explanation
Entek Elektrik Üretimi A.Ş.	99.23		99.23% of the shares in Entek Elektrik Üretimi A.Ş. belonging to Koç Holding A.Ş. and Aygaz A.Ş. were taken over through partial demerger.
Tüpraş Enerji Girişimleri A.Ş.	100.00		- It was established in 2022.
Opet Petrolcülük A.Ş.	41.7	40	Shares corresponding to 1.67% of the capital of Opet belonging to Opet Petrolcülük A.Ş. owned by Temel Ticaret ve Yatırım A.Ş.

Extraordinary General Assembly Meeting held during the year, if any

An Extraordinary General Meeting was convened on 25 August 2022 to approve the take over of Entek shares by Tüpraş with a nominal value of a total of TL 942,727,458.04, corresponding to 99.23% of the capital of Entek Elektrik Üretim A.Ş., which is registered under the assets of Koç Holding A.Ş and Aygaz A.Ş., by means of partial demerger.

Organizational changes within the year

None. The current organizational structure of Tüpraş is on page 179 of the annual report.

Associated Company Report

Pursuant to Article 199 of the Turkish Commercial Code No. 6102, the Board of Directors of Türkiye Petrol Rafinerileri A.Ş. is obliged to prepare, within the first three months of the operating year, a report on the Company's relations with its controlling shareholder and its associated companies for the previous operating year, and to include the conclusion section of this report in the annual report.

Descriptions of the transactions Türkiye Petrol Rafinerileri A.Ş. carried out with related parties and the grounds therefor are provided in the financial report note 27.

Türkiye Petrol Rafinerileri A.Ş. Board of Directors report of 8 February 2023 reads as follows: "It has been concluded that in all the transactions Türkiye Petrol Rafinerileri A.Ş. conducted in 2022 with its controlling shareholder and its associated companies, according to the circumstances and events known to us, an appropriate counter-performance has been provided in each transaction at the time the transaction/action was conducted/taken or avoided and that there were no actions taken or avoided that caused loss to the Company, and accordingly, that there were no transactions or actions requiring equalization."

Lawsuits against Tüpraş and any probable outcomes that could impact the Company's financial situation and operations

There are no lawsuits filed or concluded against the Company that may affect the Company's financial status and activities, including those on environmental, social and corporate governance issues.

Information on administrative or judicial sanctions imposed on the Company and its management due to practices in violation of regulations

There were no administrative or judicial sanctions imposed on the Company or the members of its management due to regulatory violations.

Information about changes to the legislation that might materially impact the Company's activities

None.

Information about conflicts of interest between the Company and its service providers such as investment advisory and rating and measures taken to preclude the same

None.

Information about changes to the Articles of Association during the reporting period

The following amendments were made to the Articles of Association at the Extraordinary General Meeting held in 2022.

- In Article 6, due to the fact that Türkiye Petrol Rafinerileri A.Ş. took over the shares held by Entek Elektrik Üretimi A.Ş. belonging to Koç Holding A.Ş. and Aygaz A.Ş., which were transferred through a partial demerger through the participation model by Koç Holding A.Ş., and which were transferred by means of partial demerger through the model of share transfer to business partners by Aygaz A.Ş., the issued capital was increased from TL 250,419,200.00 to TL 275,256,514.00.
- In Article 7, the Electricity Market Law No. 7257 dated 25 November 2020, and the Law on Amending Some Laws, and item (a) of the third paragraph of Article 5 of the Electricity Market Law was amended and item (b) was repealed. Accordingly, the relevant text was removed from the Articles of Association, as the requirement to obtain permission from EMRA in capital share changes and any transactions which would result in a change in control to be made by electricity license holders other than those whose tariffs are subject to regulation.

INFORMATION ABOUT CORPORATE GOVERNANCE

CORPORATE GOVERNANCE PRINCIPLES COMPLIANCE REPORT

Statement of Compliance with Corporate Governance Principles

Our Company embraces the “Corporate Governance Principles” first released in July 2003 by the Capital Markets Board of Turkey (“CMB”) and implements them to a great extent.

Tüpraş is one of the first companies that have been included in the BIST Corporate Governance Index as of 08.10.2007, and has espoused the equality, transparency, accountability and responsibility concepts of the Corporate Governance Principles published by the CMB.

Our Company attaches much importance to achieving alignment with the Corporate Governance Principles set out by the CMB; full compliance was achieved with the compulsory principles stipulated in the Corporate Governance Communiqué no. II-17.1 (“the Communiqué”) in force in 2022, and compliance was also achieved with most of the non-compulsory principles. The aim is to fully comply also with the non-compulsory Corporate Governance Principles and best efforts are being spent to this end. On the other hand, full compliance has not yet been achieved due to various reasons such as the difficulties in implementation of some of the principles, ongoing discussions regarding compliance with some of the principles both in our country and on international platforms, and incompatibility of some of the principles with the current structure of the market and the Company. Work is ongoing regarding the principles that are not yet put into practice and their implementation will be considered upon reviewing the administrative, legal and technical infrastructure procedures in a manner that will contribute to effective management of our Company.

The corporate governance rating of 9.62 (96.24%) assigned to Tüpraş on a scale of 10 as the result of the assessment made on 01 October 2021 by SAHA Kurumsal Yönetim ve Derecelendirme Hizmetleri A.Ş., an international rating agency licensed to conduct rating in accordance with the CMB’s Corporate Governance Principles, was revised as 9.65 (96.45%) on 03 October 2022. The breakdown of the corporate governance rating in terms of main headings is presented below

Heading	2021 Rating	2022 Rating
Shareholders	95.53	95.53
Public Disclosure and Transparency	97.24	97.28
Stakeholders	99.51	99.51
Board of Directors	94.63	95.21
Total	96.24	96.45

The Corporate Governance Rating Report can be found on the Company website at www.tupras.com.tr. The improved rating in the reported dated 03 October 2022 resulted from.

- potential loss that Board members can cause to the Company as a result of their fault during the performance of their duties has been insured at a sum in excess of 25% of the Company’s capital and that this matter has been disclosed on the Public Disclosure Platform (in Turkish: KAP)
- documentation in writing of the Board of Directors Operating Principles and Board Meeting format and procedures.

In 2022, activities related to Corporate Governance were carried out in accordance with the Capital Market Law covering the CMB’s requirements about Corporate Governance Principles and the communiqués issued based thereupon. At the Ordinary General Assembly Meeting convened in 2022, our Board of Directors was formed in line with the requirements set out in the Communiqué. Prior to the General Assembly Meeting, independent member nominees were identified and publicly disclosed, and the election was brought to completion in accordance with the regulations. Pursuant to legal obligations and Article 10 of our Articles of Association, one member of our Board of Directors is elected from amongst individuals nominated by the Privatization Administration, our Group C Shareholder. With the general assembly information document prepared, our investors were informed about information on general assembly such as privileged shares, voting rights and organizational changes that must be disclosed as per the principles; resumés of board member nominees, remuneration policy for the board of directors and senior executives and other information that need to be disclosed, three weeks in advance of the general assembly meeting date. Furthermore, an Extraordinary General Assembly Meeting was convened in the reporting period for the acquisition of shares corresponding to 99.23% of the capital in Entek Elektrik Üretim A.Ş. recorded within the assets of Koç Holding A.Ş. and Aygaz A.Ş.

The committees set up under the Board of Directors pursue their activities effectively. Furthermore, our Company's website and annual report were reviewed, and revised as necessary for full alignment with the principles. Accordingly, the topics within the Sustainability Principles Compliance Framework which was enforced based on the revised CMB Corporate Governance Communiqué, with which compliance was achieved, were explained in detail in the annual report; explanations for the principles with which full compliance has yet to be achieved, on the other hand, were discussed in the Statement of Compliance with Sustainability Principles. As part of the Company's compliance activities, the Board of Directors approved the Discipline, Whistleblowing, Processing and Security of Specific Personal Data, Diversity and Equality and Inclusion and Personal Data Protection Framework Policies, and published the same on the Publis Disclosure Platform and the Company's website during the reporting period. The activities of the committee members carried out by the Board of Directors in 2022 were evaluated, and in the end-of-year performance evaluation process, besides the financial and operational indicators, the level of realization of the targets for the realization of the Company's strategies is also measured, and it is ensured that these constitute an input to the performance and reward system.

In the upcoming period, necessary steps will be taken by taking into account the regulatory developments and practices for compliance with the principles.

Corporate Governance Principles Not Yet Implemented

While our Company achieved full compliance with the compulsory principles in the operating period from 01 January 2022 to 31 December 2022, the major non-compulsory principles under the Regulation that our Company has not yet achieved full compliance with are stated below. Relevant additional explanations are also provided in the related sections of the annual report. Our Company was not exposed to any conflicts of interest by reason of not achieving compliance with non-compulsory principles.

- Regarding principle n. 1.3.10, a dedicated agenda item is included in the General Assembly Meeting agenda for the donations made, and the General Assembly Information Document provides the details of the donations with high amounts. The balance not detailed in the Information Document consists of various donations to various institutions and organizations, each in an amount less than TL 500 thousand and which do not constitute material information for the investors. Donations below the said amount are not followed up by our investors, and it is intended to make future disclosures in line with the materiality limit to be defined according to the then-prevailing conditions.
- Regarding principle n. 1.3.11, although general meetings are held open to the public under ordinary circumstances, in the general meetings convened during 2022, firstly our shareholders were admitted to the conference rooms for protecting community health in view of the restrictions governing group gatherings in the rules set by the public authorities and the pandemic circumstances.
- Regarding principle n. 1.4.2, the privilege is stipulated in our Articles of Association as addressed in the "Legal Disclosures" section of the Annual Report. The shares of Tüpraş are classified in two groups: Group A and C. Group C shareholder is the Privatization Administration. Shareholders present in Ordinary and Extraordinary General Assembly Meetings exercise their voting rights pro rata the nominal value of their total shares. No changes are envisaged in the structure described above, given the fact that the said privilege exists since the privatization stage of the Company; that it is not possible to pass decisions solely with the privileged shares, and it is not a privilege capable of making a difference with respect to representation of the holders of publicly-floated shares in the management. Hence, as per our Articles of Association, Group C share will remain in existence, unless and until the rights conferred upon it are terminated by a decision of the Supreme Board of Privatization.
- Regarding principle n. 1.5.2, the Articles of Association do not grant minority rights to those who hold less than one twentieth of the capital, and rights are granted to the minority within the general legislative framework in parallel with the common practices. No requests in this respect were received from the investors, either. It is not foreseen that there will be a change in this matter in the near future.
- Regarding principle n. 1.7.1, Article 7 of our Articles of Association set out the principles for transfer of shares; while the said article imposes a restriction regarding the transfer of the privileged Group C share held by the Privatization Administration, there are no practices complicating transfer of shares freely by the holders of Group A shares that are traded on the stock exchange nor are there any provisions. Group C share can be transferred to another Turkish public agency that possesses basically the same powers that the Law no. 4046 confers upon the T.R. Prime Ministry Privatization Administration. Group C share will remain in existence, unless and until the rights conferred upon this share are terminated by a decision of the Supreme Board of Privatization (or the decision of the competent authority on that date). In the event it is decided to terminate the rights granted to Group C share, this share will be converted into Group A share.

INFORMATION ABOUT CORPORATE GOVERNANCE

- Regarding principle n. 4.4.7, due to the significant contribution of the experience of the Board of Directors members, there are no restrictions regarding outside positions held by the Board members. Résumés of our Board members are included in our Annual Report. No changes are envisaged in the existing practice in the short term, since the Company considers that no adversities arise with respect to corporate governance in view of the efficiency of the activities of the Board of Directors.
- Regarding principle n. 4.5.5; the knowledge and experiences of the members of our Board of Directors are taken into consideration when appointing members to the committees in line with the relevant regulations. Only one of the Board members is assigned to two committees. However, members who assume duties in more than one committee enable communication among the committees that carry out activities in connected subjects and increase the opportunity of collaboration. In view of the productive activities that are contributed to by the knowledge and experiences of Board members, the existing committee organizations clearly guarantee effective working of the committees, and no need for changes are envisaged in the near future.
- Regarding principle n. 4.6.5: remuneration of the members of the Board of Directors and managers who have administrative responsibilities is disclosed collectively in parallel with the common practice in the footnotes of our financial statements and at the Ordinary General Assembly meetings. Market practices are closely monitored with respect to this topic that is deemed important in terms of privacy of personal data, and it is planned to act in parallel with the common practice.

2022 Corporate Governance Compliance Report (CRF) and Corporate Governance Information Form (CGIF) of our Company, which has been drawn up pursuant to the CMB decision n. 2/49 dated 10 January 2019 and which has been approved by the Company's Board of Directors, is presented in attachment to the Annual Report (pages 342-359), and the related documents are also accessible on our Company's corporate governance page on the Public Disclosure Platform (KAP).

ACTIVITIES OF THE BOARD OF DIRECTORS

Pursuant to the applicable provisions of the Turkish Commercial Code, save for the inalienable powers of the General Assembly, the Company's all affairs and administration will be carried out by a Board of Directors that will be formed of at least five (5) people, who will be elected by the General Assembly pursuant to the provisions of the Turkish Commercial Code and the regulations of the CMB. The number and qualifications of independent members who will serve on the Board of Directors are set according to the CMB's Corporate Governance Principles requirements.

Pursuant to legal obligations and Article 10 of the Articles of Association, one member of the Board of Directors must be elected from amongst the candidates nominated by the Group C shareholder. Other members are elected from amongst the nominees receiving the highest number of votes at the General Assembly from among the candidates to be nominated by Group A shareholders.

The Company's Board of Directors is always constituted by members possessing the necessary knowledge, skills, and financial and industrial expertise for due fulfillment of responsibilities. Tüpraş Board of Directors is formed of 12 members in total, including a Chair, a Vice Chair and four independent members. The positions of the Chair of the Board of Directors and the General Manager are held by different individuals. All Board members are non-executive in accordance with the definition stipulated in the CMB's Corporate Governance Principles. During 2022 operating period, no events took place that would prejudice the independence of independent Board members. As of 2022, two women members are serving on the Board of Directors. Résumés of Board members are presented in the related section of the Annual Report.

The table below provides brief information about the members of the Board of Directors, and their résumés are available on the Company's website and in the Annual Report.

Members of the Board of Directors

Name/Surname	Position	Outside Positions Held	Independent/ Non-Independent	Committees and Duties Therein
Ömer M. Koç	Chair	Member on the Boards of Directors of Koç Holding Companies	Non-Independent	Member of Executive Committee
Ali Y. Koç	Vice Chair	Member on the Boards of Directors of Koç Holding Companies	Non-Independent	Member of Executive Committee
Rahmi M. Koç	Member	Member on the Boards of Directors of Koç Holding Companies	Non-Independent	Member of Executive Committee
Semahat S. Arsel	Member	Member on the Boards of Directors of Koç Holding Companies	Non-Independent	Member of Executive Committee
Levent Çakıroğlu	Member	Member on the Boards of Directors of Koç Holding Companies Koç Holding CEO	Non-Independent	
Erol Memioğlu	Member	Member on the Boards of Directors of Koç Holding Companies	Non-Independent	Member of Risk Management Committee
Yağız Eyüboğlu	Member	Member on the Boards of Directors of Koç Holding Companies President of Energy Group	Non-Independent	Member of Corporate Governance Committee
Yunus Elitaş*	Member (PA Representative)	Republic of Türkiye, Ministry of Treasury and Finance, Deputy Minister	Non-Independent	
Muharrem Hilmi Kayhan	Independent Member	Vice Chair and Member of the Board of Directors of Söktaş A.Ş.	Independent	Chair of Corporate Governance Committee, Chair of Audit Committee
Ayşe Canan Ediboğlu	Independent Member	Independent Board Member at ING Bank	Independent	Chair of Risk Management Committee
Kamil Ömer Bozer	Independent Member	Independent Member on the Boards of Directors Boyner Holding, Dardanel A.Ş. and Arçelik A.Ş.	Independent	Member of the Audit Committee
Tufan Erginbilgiç*	Independent Member	Member on the Boards of Directors at Global Infrastructure Partners, CNH Industrial and Member of the Strategic Advisory Board of the University of Surrey	Independent	

*The independent member's seat on the Board of Directors vacated by the resignation of Mr. Tufan Erginbilgiç is being filled by Mr. Yunus Elitaş from 01 January 2023.

INFORMATION ABOUT CORPORATE GOVERNANCE

Operating principles of the Board of Directors are set out in articles 10, 11 and 12 of the Articles of Association, I brief, the Board of Directors is authorized to pass all decisions save for those related to transactions that must be exclusively decided by the General Assembly pursuant to the Turkish Commercial Code and the provisions of the Articles of Association. Under normal circumstances, the Board of Directors convenes at least three times a year, as per the calendar set at the onset of the year to make strategic assessments regarding the Company's activities and to discuss the developments during the period between two meetings. In addition to its regular meetings, the Board of Directors may pass decisions without actually convening, as per Article 390/4 of the Turkish Commercial Code. Pursuant to the Articles of Association, the Board of Directors adopts decisions with the simple majority of those present in the meeting. Without prejudice to the right of the member representing Group C share in relation to the matters mentioned in Article 10 of the Articles of Association, each member has one vote in Board meetings, and dissenting opinions and grounds of dissenting votes along with the specific questions asked by the Board members are recorded in the decision minutes. In Board of Directors meetings held in 2022, no such opposition or no dissenting opinions were put forth. During 2022 calendar year, the Board of Directors physically convened on April 13th and October 19th with an attendance ratio of 88%. A total of 35 Board decisions were passed in the reporting period.

The agenda of Board of Directors meetings is prepared by the secretariat of the Board of Directors in view of the decisions previously passed or the matters that need to be decided. The agenda of other meetings is determined by issues that need to be decided as per legal obligations. The Assistant General Manager responsible for Financial Affairs (CFO) fulfills the secretariat function for the Board of Directors.

Since no members opposed to the decisions passed in the meetings held in recent years, no such notes were entered in the minutes nor were they conveyed to statutory auditors. While overseeing the Company's operations, the Board of Directors evaluates whether conflicts of interest may arise, and the consequences of such conflict of interest (if any) for the Company. The Board of Directors makes necessary decisions in the best interests of the Company. Furthermore, in addition to observing regulatory compliance in related party transactions, the Board of Directors also considers potential misconduct risks and addresses related party transactions meticulously.

According to the Articles of Association, the Board of Directors may set up committees or sub-committees for performing advisory, coordination, audit and similar functions from amongst its members and/or non-members, which will work on topics that the Board deems appropriate, provided that the provisions of applicable legislation are conformed to.

Following the Ordinary General Assembly meeting held on 30 March 2022, election of members to the committees that have been set up has been completed within the frame of the provisions set out in Article 4.5 of the CMB's Corporate Governance Principles as per the Board of Directors decision dated 22 April 2022.

During 2022, all the Board of Directors Committees fulfilled their duties and responsibilities in accordance with the Corporate Governance Principles and their respective working principles, and met in accordance with their working plans. During the activities of the committees, opinions of Company executives and the independent auditor were sought as necessary. Reports covering information about the committees' activities and the results of the meetings held during the reporting period were presented to the Board of Directors. The Board of Directors is of the opinion that the activities of the Board of Directors Committees have generated the expected benefits.

The working principles and 2022 activities of the Corporate Governance Committee, Risk Management Committee, Audit Committee and Executive Committee are addressed under the heading Evaluation of Operating Principles of the Board of Directors and Effectiveness of its Activities in the Corporate Governance section of the Annual Report.

Risk Management and Internal Control

The Board of Directors is responsible for the healthy operation of risk management, internal control and audit functions, and related activities are reviewed by the committees set up by the Board of Directors, to which necessary information is presented.

Under the Board of Directors, there is the Early Detection of Risk Committee, which works to early detect the risks that may endanger the Company's existence, development and continuity, to implement the necessary measures in relation to identified risks, and to manage risk. The head of the Committee is an independent Board member, and the head and member of the Committee do not have executive roles.

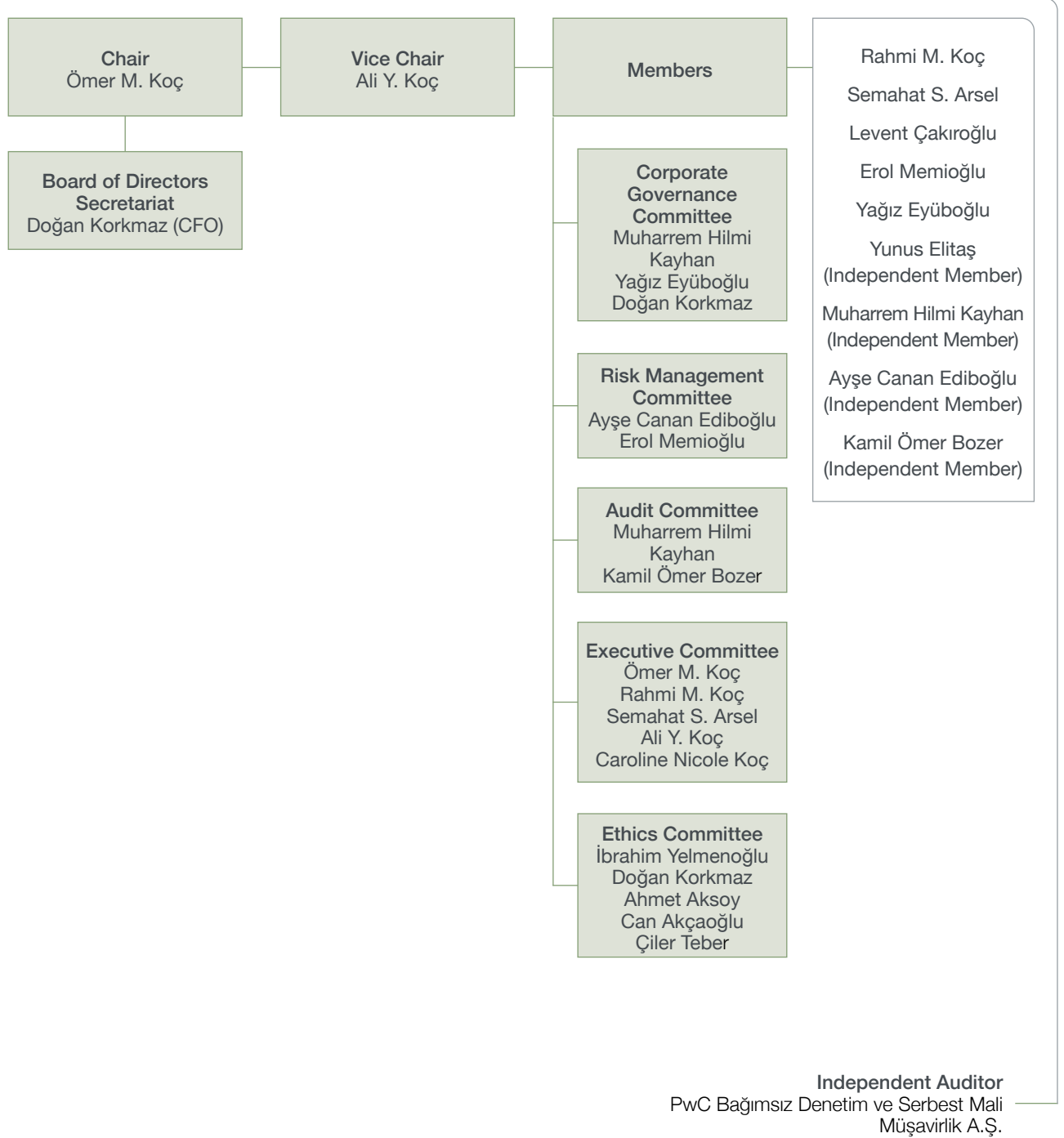
The Risk Monitoring Committee, which is formed of the General Manager and Assistant General Managers, is responsible for adopting all necessary measures that may endanger the Company's existence and continuity, execution of enterprise risk management strategies effectively, development of necessary policies and practices, and periodic monitoring of action plans related to risks, and risk trends through risk indicators. Additionally, there is an Information Security Committee to ensure information security, and its healthy operation. Also, an Operational Technologies Cyber Security Committee has been set up to basically manage cyber security risks, and upgrade technologies infrastructure.

Standards which are integrated in the workflows for the internal control system at Tüpraş consist of job description, authorization system, policies and written procedures. The internal control system is monitored proactively by the Tüpraş Risk Management and Audit Department in line with risk-based audit plans. Audits conducted at Tüpraş and its Subsidiaries are intended to provide reasonable assurance within the framework of financial, operational, legal and ethical compliance. Besides regular audits, special examinations are also performed based on process reviews and audit findings or notifications. Notifications of a complaint nature received by the Company are followed up, and Ethics Committee meetings are held if deemed necessary as a result of special examinations and complaint assessments.

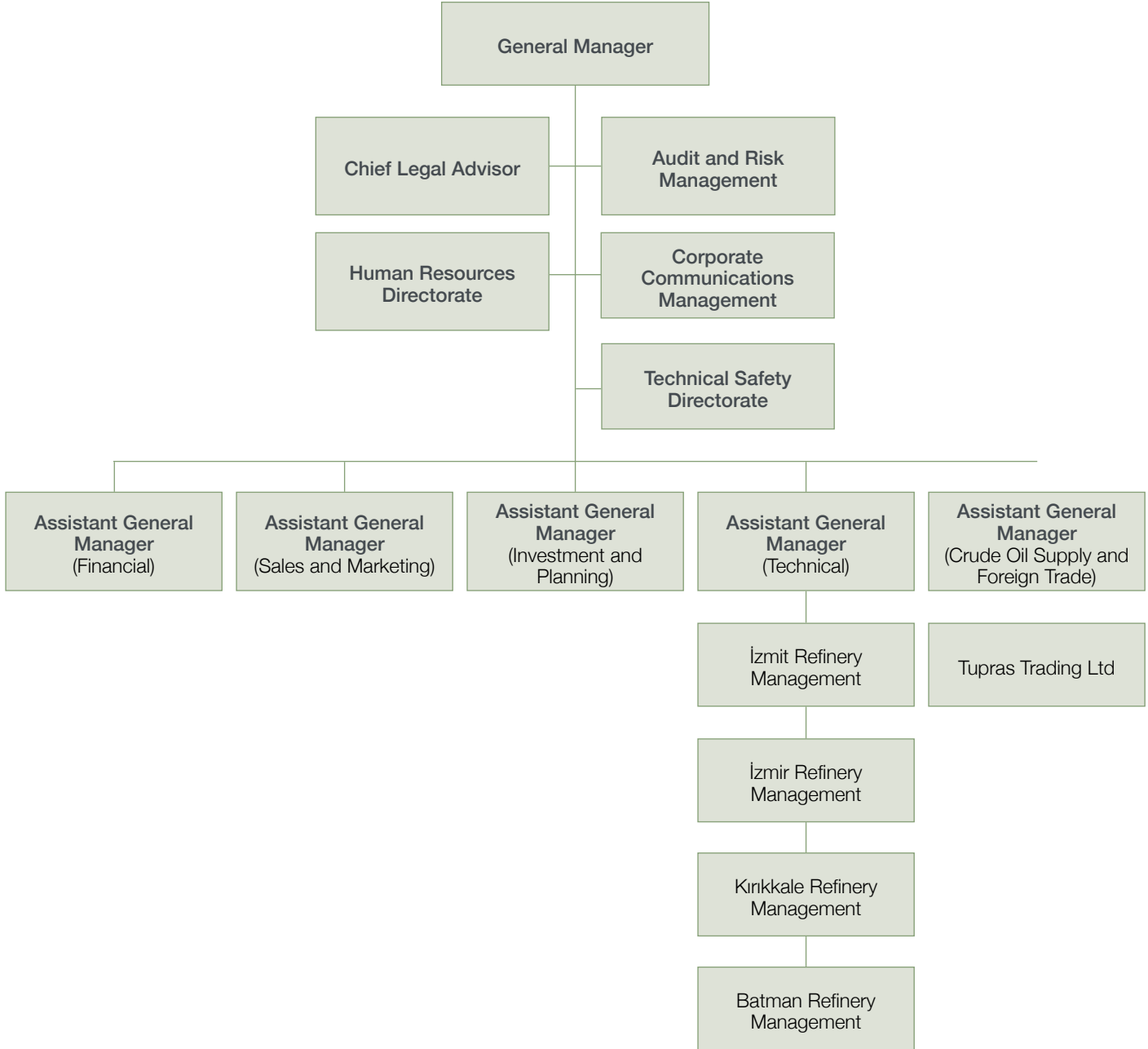
Audit findings are shared with the Company management and responsible individuals, thus ensuring that necessary corrective actions are taken. Audit findings for which actions will be taken are entered into the Tüpraş Risks and Actions Portal, and necessary actions are systematically followed up in line with the severity of the findings. Furthermore, Independent Audit Firm also performs periodic audits, and the resulting reports are submitted to the Board of Directors.

Details regarding Risk Management and Internal Control systems are provided in the Annual Report, under the heading Risk Management.

STRUCTURE OF BOARD OF DIRECTORS*



TÜPRAŞ ORGANIZATIONAL STRUCTURE



STATEMENT OF COMPLIANCE WITH SUSTAINABILITY PRINCIPLES

Tüpraş closely monitors best practices in relation to sustainability, including those specified in the Sustainability Principles Compliance Framework of the Capital Markets Board of Turkey (CMB), and carries out its activities with the target of achieving maximum alignment with the generally-accepted best practices in this area. Many of the issues that Tüpraş manages under the “Our Energy is for the Future” strategy within the scope of its sustainability activities overlap with the principles stated in the “Sustainability Principles Compliance Framework” introduced by the CMB in 2020. In this context, Tüpraş achieved compliance with the majority of the principles covered in the non-compulsory “Sustainability Principles Compliance Framework” developed by the CMB with the “comply or explain” approach. Full compliance could not be achieved with some of the principles yet due to various reasons such as the difficulties in implementation, uncertainties in national and international arena, incompatibility of certain principles with the Company’s existing structure, and the fact that the compliance principles will be determined according to findings from studies that are currently in progress. It is aimed to implement the principles, with which full compliance has yet to be achieved, so as to contribute to the sustainable value creation goal of our Company.

The sustainability practices of Tüpraş that overlap with the principles covered in the CMB’s Sustainability Principles Compliance Framework are detailed principally in the Sustainability section of the Annual Report; and also in the Human Resources Section, as well as under the heading Environmental Management, Energy Efficiency, Health and Safety Implementations and Social Responsibility. Our explanations in relation to major principles, with which full compliance could not be achieved yet, are presented below. Our Company monitors the impacts resulting in environmental and social risk management by reason of not having achieved full compliance with the non-compulsory principles, and addresses the same within the scope of sustainability activities.

- Regarding Principle A4.1 – A limited assurance study was carried out by an independent third party to enhance the reliability of data publicly disclosed by Tüpraş. In the Annual Report Performance Indicators have been disclosed by specifying the data for which third party limited assurance service has been obtained, and work is in progress for expanding the scope of verification both for subsidiaries and for indicators and for disclosure of the same in the coming years.
- Regarding Principle B.9 – Scope 1 and Scope 2 greenhouse gas emissions are verified by the verification bodies authorized by the Ministry of Environment, Urbanization and Climate Change, within the scope of the Monitoring, Reporting and Verification (MRV) communiqué. and by independent third parties. The company also has these data verified by independent third parties and independent auditors on a voluntary basis within the scope of ISO 14064-1. Data are also publicly disclosed. Similarly, emission reductions secured through energy efficiency projects, energy consumption, water, waste and similar environmental indicators are also regularly monitored; verified under ISO 14064-2 and by independent auditors, and are publicly disclosed in the performance indicators section of the Annual Report. Scope 1 and Scope 2 emissions are disclosed in the Company’s Annual Report and Sustainability Report, and the studies on Scope 3 emissions are ongoing.
- Regarding Principle B.14 – Tüpraş conducts lifecycle analyses on the basis of production, and takes improvement actions according to the outcomes. All productions are monitored using the Environmental Aspects Table, which is a requirement of ISO 14001 certification that the Company possesses for all its facilities. In addition, Environmental Impact Assessments are also performed for new investments. However, although GHG emissions of third parties (Scope 3) are calculated, strategies for their reporting and reduction in the coming years are planned to be developed.
- Regarding Principle B.17 – Energy consumed at our refineries is reported broken down into direct and indirect classes (fuel oil, gas, etc.); however, their distribution after consumption of energy are process-specific metrics for heating and cooling, and are not reported separately. Due to the highly complex structure of the refineries, flow into heating and cooling for each process unit, calorific value measurements are not healthy and/or available. Therefore, the most reliable measurement-based energy consumptions are reported as direct and indirect on the basis of primary source. Electricity generation amounts, on the other hand, are notified to institutions such as Energy Market Regulation Agency/Electricity Transmission Company through the system, as it is an operation subject to license.
- Regarding Principle B. 23 – internal carbon pricing is addressed in project evaluations. Various instruments are being considered to contribute to efforts related to climate change, and those deemed appropriate will be put into implementation under the strategy developed. There are no carbon credits saved/purchased.
- Regarding Principle B.24 – The Company does not carry out internal carbon pricing studies. Various instruments are being considered for low-carbon transition, and those deemed appropriate may be put into implementation under the strategy developed.

Sustainability Principles Compliance Report prepared in accordance with the formats determined by the CMB Resolution no. 34/977 dated 23 June 2022 and approved by the Company’s Board of Directors is presented in attachment to the annual report (pages 360-370) and the related documents can also be accessed on our Company’s page on the Public Disclosure Platform at the address <https://www.kap.org.tr/tr/sirketbilgileri/ozet/4028e4a140f2ed720140f37f139c01bc>.

RISK MANAGEMENT AND ACTIVITIES OF THE RISK MANAGEMENT COMMITTEE

A. CORPORATE RISK MANAGEMENT PROCESS

Corporate Risk Management process has been developed to ensure the communication of the risks defined in all functions in accordance with the risk appetite assessed to be acceptable by the Management between the units and processes, while safeguarding the Company's existing values and creating new ones for the stakeholders.

Tüpraş monitors its corporate risks via the Risk Management and Audit Department that reports directly to the General Manager. The risk inventory is updated based on the outcomes from the workshops held with the units that are directly responsible for risk, and also based on impact and frequency analyses. The risks that are monitored on an ongoing basis through the risk management software are prioritized by the Risk Monitoring Committee, and the actions taken in relation to risks and up-to-date information are reported to the Risk Monitoring Committee periodically.

Tüpraş has formulated its policies within the framework of Corporate Governance Principles and is introducing its governance practices with a view to strengthening its corporate culture. Along this line, the Company considers ISO 31000 Risk Management Standard in its risk management process.

B. EARLY DETECTION OF RISK COMMITTEE

In order to; i) comply with the 378th Article of the Turkish Code of Commerce n. 6102 that entered into force on 1 July 2012, and the Capital Markets Board's Corporate Governance Communiqué, ii) make sure that the committees under the Board of Directors function effectively, decision was taken at Tüpraş's Board of Directors meeting held on 28 July 2010, and Early Detection of Risk Committee was established with the aim of early detecting the risks that can endanger the Company's existence, development and continuity, implementing the necessary measures related to the identified risks, and performing tasks to manage the risks.

Committee chairwoman is the Independent Member of the Board of Directors Ms. Ayşe Canan Ediboğlu, who does not hold an executive position. Other member of the Committee is the Member of the Board of Directors Mr. Erol Memioğlu, who does not hold an executive position. Having held 6 meetings in 2022, the Committee evaluates Türkiye Petrol Rafinerileri A.Ş. Risk Management System and Risk Reporting principles, reviews the Risk Reports issued periodically within this scope, and presents its opinions. Reporting activities and committee decisions based on the Committee's evaluations are submitted to the Board of Directors' information.

The report dated 17 February 2022 issued by PwC Bağımsız Denetim ve Serbest Muhasebeci Mali Müşavirlik A.Ş. concluded that the early detection of risk system at Tüpraş and the Risk Management Committee are, in all respects, adequate within the frame of Article 378 of the TCC.

C. RISK MONITORING COMMITTEE

Risk Monitoring Committee, which monitors the Corporate Risk Management practices, functions under the General Manager. Committee members are the General Manager, Assistant General Managers, Risk Management and Audit Manager. The aims of the Committee are; early detection of all risks that can endanger the Company's existence and sustainability, taking necessary measures regarding the identified risks, developing policies and practices necessary to effectively carry out corporate risk management processes, and monitoring risk-related action plans and risk trends periodically via key risk indicators.

D. INFORMATION SECURITY COMMITTEE

Tüpraş pledges to safeguard the confidentiality, integrity and availability of all physical and electronic information of the Company, and to protect its commercial and corporate image maintaining regulatory compliance.

The Information Safety Committee that was established as per the Article n.5.3. "Corporate Roles, Responsibilities and Powers" of the ISO 27001 Standard conducts its activities in order to practice information safety properly and to increase information safety awareness. The Head of the Committee is the Assistant General Manager in charge of Financial Affairs (CFO), and Committee Executive is the Information Technologies Director. The Information Security Management System (ISMS) officer is the Cyber Security and Risk Manager, whereas committee members consist of Directorates and relevant Departments.

When necessary, the Committee meets every 6 months as long as there is an agenda, with absolute majority of the attending persons or their authorized representatives.

RISK MANAGEMENT AND ACTIVITIES OF THE RISK MANAGEMENT COMMITTEE

Cyber Security and Risk Management is responsible for all coordination activities including monitoring the outputs of the committee activities, management at the field, setting the new agenda, and presentation. Cyber Security and Risk Management conducts its activities under the headings of Cyber Attack Tracking and Defense, Information Security and Compliance, Cyber Operation and Response, and Cyber Incident and Architecture in view of increased significance of preventing cyber threats and risks brought by developing technologies and the need to manage these technologies by a separate and dedicated team.

Decisions passed by the Committee are carefully followed up and outputs from the activities are included at the top of the agenda of the next committee meeting. The Committee's activities also covered announcement of Tüpraş Information Security Policy approved by the Board of Directors within the scope of the obligations imposed for the publicly-held companies by the CMB's Information Systems Communiqué (n. VII -128.9) to the employees, its implementation and supervision, and establishment of effective and adequate controls on information systems.

NIST CSF critical infrastructure management framework, which is a risk-based approach within the scope of Tüpraş Cyber Security Strategy was embraced; this approach, given its compliance with Koç Holding Information Technology initiatives, company priorities, agile transformation and OKR performance system, were positioned as a part of its main strategies. When setting Tüpraş Cyber Security targets, basically NIST CSF critical infrastructure management framework and Continuous Adaptive Risk and Trust Assessment (CARTA) strategy were taken as reference.

Information and Communication Security Guide has been published in July 2020, in accordance with the regulatory framework covered in the Presidential Circular no. 2019/12 that came into force upon its publication in the Official Gazette issue 30823 dated 06 July 2019 and coordinated by the Presidential Digital Transformation Office Presidency. Following an approximately one-year study, compliance and audit of 780 control items were completed. Finding action plans will continue to be operated with the information and approval of the Committee.

E. OPERATIONAL TECHNOLOGIES CYBER SECURITY COMMITTEE

Operational Technologies Cyber Security Committee targets to develop the necessary procedures and processes for managing the increased cyber security risks targeted at control systems tools and applications, upgrading technological security structure, implementing technology within operation, maintenance, project and supplier management processes, and ensuring uninterrupted process. Operational Technologies Cyber Security Committee comprises of Operational Technologies Section, System and Infrastructure Technologies Section, Operations, Electricity/Instrument Maintenance, Process Control, Process Safety, Project and Investments, and Refinery IT teams. Outputs from the activities of the Operational Technologies Cyber Security Committee are presented to the Information Security Committee and progress is monitored.

F. TÜPRAŞ RISK INVENTORY

As a result of risk assessments, Tüpraş categorized its risks under 8 main headings:

- 1-Technical Safety and Environmental Risks
- 2-Financial Risks
- 3-Commercial Risks
- 4-Operational Risks
- 5-Strategic Risks
- 6-Compliance and Legal Risks
- 7-Reputational Risk
- 8- Climate Risks

1- Technical Safety and Environmental Risks

1.a – Technical Safety Risks

Tüpraş continues to work towards its goals of defining and eliminating risks arising from its operations, mitigating them to acceptable levels within the frame of national and international norms. Tüpraş Health and Safety Management System is formulated and certified based on ISO 45001.

Detailed information can be found in the Health and Safety Practices section (pages 152-157).

Environmental Risks

In order to guarantee high level environmental protection, Tüpraş follows up international standards and environmental legislation while fulfilling the requirements of national environmental legislation, and identifies its environmental risks, and carries out operations and investments upon taking necessary measures. Environmental Risks are managed in view of the sustainability of the Company, its medium- and long-term plans, and environmental impact of its investments based on a proactive approach.

Environmental Permits are kept up-to-date to ensure that all refineries are able to continue their activities. The Company follows the requirements of ISO 14001 Environmental Management System Standard in all of its operating facilities and carries out certification studies at regular intervals.

At Tüpraş, environmental performance is constantly monitored through objectives and targets, with checks of national environmental legislation carried out during the internal audit process. Environmental risks and opportunities are identified during this process. On the other hand, the environmental practices and performance at Tüpraş undergo Koç Group's Environmental Audit process as well as audits carried out by institutions and independent organizations authorized by the Ministry of Environment, Urbanization and Climate Change. Thus, the systems monitored and the results obtained are evaluated by a number of internal and external organizations. Problems are resolved by creating a "Corrective Remedial Action" form based on the findings obtained from environmental audits. All results are presented to the senior management during annual Management Review Meetings, where the target areas for study in the following year are determined.

Detailed information can be found in the Environmental Management section.

2- FINANCIAL RISKS

Tüpraş establishes, implements and updates the Financial Policies necessary for ensuring operation continuity. Continuous monitoring and improvement of processes to reach financial targets are priorities of the Financial Directorate. Financial resources and risks are being managed proactively within existing policies.

Foreign Exchange (FX) Risks

FX risk may arise due to financial liabilities in foreign currency, and investment goods and raw material imports. In tackling with the FX risk, foreign currency position limits are identified and derivative instruments are used when necessary. Accordingly, "zero F/X position" is targeted. On the other hand, FX changes are embedded in product sales prices thus FX risk is being limited and a natural hedge is created. At the same time, the Company implements cash flow hedge accounting by balancing the investment loans available to it with the potential future exportations.

Liquidity Risk

Liquidity is daily managed through effective cash planning and asset-liability management. Cash reserves are being strengthened based on stress tests and scenario analyses as a response to risk of not being able to pay for liabilities at maturity. Objective of liquidity management is to maintain risk at minimum by meeting targets for financial ratios such as current ratio and long-term credit ratio.

Interest Rate Risk

An upturn in interest rates bears the risk of increasing interest costs in the event that the Company borrows with variable rate products. Therefore, the Company borrows at fixed-rates or part of the interest rate risks entailed in products such as variable rate loans and bonds are fixed through derivatives.

RISK MANAGEMENT AND ACTIVITIES OF THE RISK MANAGEMENT COMMITTEE

3- COMMERCIAL RISKS

Commodity Price Risk

Tüpraş holds a significant quantity of crude oil, mid-product and product inventory as required by its operations. There is a risk of impairment in value of inventory due to reduction of crude oil and product prices. Tüpraş pricing methodology incorporates a natural hedging logic that captures the sudden and sharp changes in product prices and exchange rates in its sales prices. Accordingly, changes in domestic and international markets are reflected in sales prices. In addition to that, within the frame of hedging policies for impairment of inventory value, inventory amount which is subject to price risk is reduced, the remaining amount is hedged through various derivative instruments during the course of the year, and protection (hedging) is provided against the risk of impairment in value of inventory.

Using various derivative instruments product profit margins (crack) for future periods are fixed within the frame of risk management policies, to eliminate the impacts of fluctuations in product profit margins. Hedge transactions are realized taking into account the minimum hedge ratio calculated by comparing prices for the following 4 quarters and historical average profit margins for those quarters and the market conditions.

Counterparty Risk

While receivables from public corporations do not carry the risk of collection, a significant portion of the receivables from sales made to private sector customers are managed by obtaining guarantees for eliminating the collection risk.

Trade receivables or all other risks inherent in fuel oil, LPG, bunker fuel and non-fuel products are kept under control by making cash sales or credit sales, and products are delivered to customers within certain credit lines defined against letters of guarantee and/or under Direct Debiting System. In order to create business volume beyond the existing guarantees and to prevent possible future risks, the "Credit Insurance" solution is also made use of. On the other hand, risk analysis reports are prepared automatically in daily, weekly and monthly periods for trade receivables while action plans/measures are put into practice as a result of the rating reports issued for the customers based on a proactive approach, thus precluding any financial loss.

Counterparty risk is managed by the counterparty compliance policy which includes equal and objective criteria for all banks. Our deposit is kept, within certain limits, by banks that comply with rating, capital and similar criteria determined at the Company's policies. Furthermore, counter-party risk management is significantly provided as our collections are directed to the banks.

Within the frame of existing circumstances and market conditions, term difference rate is applied to our past due receivables in order to protect Tüpraş against potential losses.

4- OPERATIONAL RISKS

Operational risk is defined as the possibility of loss or damage that may arise from the failure of the company management and/or personnel to act in accordance with the time and circumstances; from faults and hitches in day-to-day operations and governance systems, and from disasters such as earthquake, fire, flood, etc.

Supply/Transportation Risks

The supply process in Tüpraş consists of crude oil, semi-product, final product and material supply operations. As being used for production of other products; crude oil is the major supply item. Continuity of the production is maintained partially by using domestically supplied and predominantly imported raw materials. Purchase operations of raw materials have been optimized; in order to diversify supply sources, distribute risk in supply chain, provide advantage in price and freight costs; and to increase operational capability of the Company.

One of the most critical phases of such operations is the physical supply. There are many items among the supplied products, which may be harmful to environment and human health due to problems, which may possibly occur during their transportation. In order to eliminate such risks during transportation of these products; it is expected that measures and working conditions specifically determined for related products to be completely provided by suppliers.

Therefore; to ensure supply safety, suppliers are expected to maintain specific standards to be used for transportation. Especially for imports of crude oil, suppliers have to use vessel tankers, which are acceptable by ports as having ISO 9001 and class certificates and complying with ISPS (International Ship and Port Facility Security Code) and ISM (International Safety Management Code) requirements; so that the risks that may occur during transportation can be eliminated. At the same time, according to the Acceptance Criteria of Tüpraş Terminals, ships arriving into refineries must possess certain specifications and equipment for safe operation, and vetting is performed to the ships at certain intervals.

Safe management of wagon sites is carried out taking into account the Railway Acceptance-Field Use Criteria and emergency and operational conditions.

ADR and Safe Pass checks of land tankers are carried out at the tanker control points located at the entrances of the refinery and vehicles not found to be complaint for entrance into the refinery are refused entry into the refinery site until any irregularities are corrected.

In addition; required equipment (emergency response equipment) is kept ready for use and regular exercises are done to fight against any kinds of accidents or leakage incidents, which may occur despite all aforementioned measures. With all such measures taken; safety, environment and human health threatening risks are minimized.

To ensure safety of product supply between refineries and to customers; transportation is diversified among delivery via sea-land-railways and pipelines. In this way, it is ensured that the risk is distributed in transportation operations and the operational capability is increased at the same time.

Financial risks that may occur during crude oil and product transportation between refineries are being transferred to third parties through commercial contracts and insurance policies.

In addition to crude oil and fuel oil, a wide range of equipment, materials, spare parts and chemicals procurement operations are also carried out for use at Tüpraş facilities. All material procurement processes are managed by Tüpraş personnel in line with the determined specifications. The rules and standards which the supplier must comply with in the production and delivery processes of the product to be supplied are specified in the purchase specification and suppliers are expected to produce and deliver accordingly.

In addition, the rules applying to logistics service providers, which are an important part of the supply process, during the receipt, transportation and delivery of the material to the refineries are determined and guaranteed by the Safe Supply Chain Policy, Safe Supply Chain Standard and Secure Supply Chain Warehouse Standard principles and contract conditions. It is imperative that logistics activities are maintained in accordance with all national and international regulations.

Tüpraş Code of Conduct for Suppliers, which has been prepared in accordance with the fundamental conventions of the International Labor Organization (ILO) and which respects human rights set out in the United Nations Universal Declaration of Human Rights, under the guidance of the Supplier Management Policy, define the minimum rules, which are incontestable and undebatable, that we urge our suppliers and their sub-suppliers to abide by in their commercial dealings with Tüpraş. The standards stipulated in the code spell out the expectations of Tüpraş from its suppliers that it commercially deals with, including all their employees, sub-suppliers and other persons they engage in commercial activities with, as well as supplier's parent company, subsidiaries and affiliates.

Product Analyses Risks in Production and Sales Processes

Laboratories accredited by the Turkish Accreditation Agency carry out activities in Tüpraş refineries. The scope of the accreditation covers all analyses included in the specifications of the products for sale.

All products sold are tested by internal or external accredited laboratories. Products that are not cleared for all parameters specified in the standards are not sold.

Tüpraş laboratories hold CE certification for bitumen products produced, and quality risks are managed by controlling our production in accordance with EU norms.

Risk management is carried out by performing risk assessment of all laboratory processes through the FMEA method. In laboratories, necessary measurements are carried out at every stage of the production and sales processes, eliminating the risk of producing or selling faulty products.

RISK MANAGEMENT AND ACTIVITIES OF THE RISK MANAGEMENT COMMITTEE

Information Technologies Risks

Practices regarding the management of possible risks that may arise in the field of Information Technologies are defined in the Standard for Information Assets and IT Risk Management, and related risks are followed up within IT Risk Inventory. Information Technologies risks include the risks of Tüpraş regarding both Information Technologies and Operational Technologies. Information Technology (IT) tier and Operational Technology (OT) tier are isolated from one another using advanced security tools in order to minimize all outside threats and risks.

New threats and attacks taking place at any moment around the world are monitored on the basis of instant intelligence received from global networks, required updates are made in line with operational processes, and necessary actions and countermeasures are incorporated in the systems immediately. In addition, all tiers are monitored 24/7 by a centralized and specialized security team, and necessary actions are taken in case of unexpected actions or activities.

In addition to the technical measures taken, business units included in the Information Security Management System (BGYS) and current risks are regularly reviewed and updated every year. In the light of Corporate Risk Management methodology, the effectiveness of existing controls on risks that exceed the Company risk acceptance criteria are evaluated within the scope of Information Security Management Review System and appropriate risk-management methods are processed.

Thus; additional controls are designed for the risks that will be reduced and continuous improvements are made regarding such risks. Moreover, the suggestions and findings from annual IT audits carried out by Koç Holding, ISO 27001 external BGYS audits, audits performed by independent auditors, Koç Holding's IT audits, online and/or onsite audits conducted by institutions such as the Energy Market Regulatory Authority (EMRA), Information and Communication Technologies Authority (BTK), actions required for compliance with regulations such as KVKK, CMB, Presidential Digital Transformation Office Information and Communication Security Guide along with periodic tests and examinations which use automatic tools and manual methods also contribute to the identification of IT risks. On the other hand, IT business continuity activities are carried out on the basis of departments, and routine internal audit activities were also performed for successful identification, analysis and monitoring of risks.

At the initiative of Koç Holding, risk assessment is carried out on a quarterly basis using the methodology established by the Cyber Security Risk Management Procedure, which was prepared within the scope of the management of cyber security risks, and is reported to the Senior Management and evaluated as an agenda item at the meetings of the Information Security Committee for six-month periods.

Risk analysis studies have been carried out with related business units within the scope of ISO 27001 Information Security Management System (ISMS) compliance activities for the year 2022.

With respect to the "Cyber Risk" item, which is followed within the Corporate Risk Management Process, the studies carried out by the Cyber Security and Risk Department in 2022, and the indicators followed are shared with the Risk Management and Audit Department.

In accordance with the EMRA Regulation on Information Security in Industrial Control System (ICS) Used in Energy Sector, the assessed ICS risks are submitted to EMRA on an annual basis and risk reduction activities are submitted to EMRA every six months.

Today, businesses are exposed to threats caused by cyber security risks that grow at an ever-increasing pace in Turkey, as is the case in other parts of the world. Hence, in order to protect against cyber risks at Tüpraş, a "Cyber Risk Policy" which offers optimum coverage structure is purchased.

Other activities which are monitored include the increased compliance requirements, operational technologies, the cyber security transformation project, data security strategy, cyber crisis management and drill processes, critical application log management projects, major projects such as implementing cyber intelligence, infrastructure transformation and tightening, security automation information security awareness and compliance and security needs arising from digital transformation projects.

Cyber intelligence management has been prioritized in view of cyber security risks that increased with teleworking and the dimensions acquired by the impacts of the attacks on the manufacturing industry, environmental and human health threats

Security consultancy in IT/OT offered to all stakeholders according to cyber incidents, architecture and regulatory compliance was increased significantly as compared to the previous year. Integration and rearrangement were undertaken for production, operation and change processes so as to provide that potential losses arising from cyber threats are addressed not just with respect to financial, operational and regulatory safety but also in terms of process security. Reputational risk, on the other hand, continued to act as the most important factor in the dissemination of cyber security culture and awareness activities.

In cyber operation and response processes, system and infrastructure change/transformation projects and new generation security products monitoring and integration played a major role in combating the cross-border threats.

While cyber attack tracking and defense are molded according to zero-confidence approach, advance detection enabled by threat hunting and constant attack simulation ensured correct and timely incident response.

Project and Investment Risks

In order to select the right projects which will deliver sustainable profitability in the medium- and long- term, i

In order to make the right investment decisions, ideas are subjected to a development process prior to the investment decision, and are supported and evolved with certain engineering studies at each stage of this process. Investment decisions are taken after detailed feasibility reports are drafted based on the outputs of these studies. Hence, it is guaranteed that investments are made in the right projects which are aligned with the Company's strategies, ensuring effective risk management against possible losses. In the process, projects that are likely to be included in the investment program are classified according to their investment purposes, and in their selection, ensuring sustainability of the operation in line with the company strategies is considered a priority criteria. The TPI system is improved in line with the approaches mentioned above.

The principle of working with construction firms possessing the international quality, safety and project management standards when putting into life projects for which investment decisions are made is intended to ensure that projects are completed on time and within the allocated budget. To this end, framework agreements were executed with companies possessing the above mentioned characteristics for short-term projects, and such companies started to be used effectively. In medium- and long-term projects, however, the difficulties involved are also taken into consideration, and competent firms with international experience are preferred. During the construction, project-based risk and opportunity assessments are conducted for projects of a certain size, events likely to take place are recorded and periodically reviewed. This guarantees adoption of effective measures against potential delay, operational loss, quality and safety risks that can be experienced during engineering, procurement and construction processes.

Operations are carried out in accordance with legislation in place and national and international standards and specifications. Legislative changes are followed and investments which will ensure the operation of our facilities in alignment with these changes are planned and realized.

HR Risks

HR risks are monitored employing key risk indicators identified in areas such as regulatory compliance, career opportunities, development, resignations, compensation and rotation. Various actions are taken with respect to risk management.

In an effort to retain employees, reviews are conducted of the end-to-end experience of employees within Tüpraş and improvements are planned. The subject of the employee experience, an area which Tüpraş attaches considerable importance to, is also one of the Company's targets for 2022, and is followed closely.

The work on the issues which most require improvement, as identified from the results of the employee loyalty survey also guides the Human Resources practices, was combined under the seven Experience Themes. These are "Openness and Transparency Expected from the Company", "Support Expected from the Management", "Feeling Valuable", "Working with Business Processes which Make Life Easier", "Having a Balance between Work and Private Life", "Working in Pleasant Environments" and "Continuous Development". The improvements to be carried out in these experience themes are aimed at increasing employee loyalty.

In order to deliver an equal employee experience within Tüpraş, "Experience-Oriented Leadership Program" was introduced for first-level managers, who were provided with leadership perspective in relation to employee experience.

RISK MANAGEMENT AND ACTIVITIES OF THE RISK MANAGEMENT COMMITTEE

As part of the commitment to fill vacant positions with internal candidates at Tüpraş, Tüpraş employees continue to be offered equal opportunities and transparent evaluation and career move opportunities for vacant positions by using the internal announcement platform, "Kariyerine Enerji Kat"(Energize your Career).

Experience sharing environments are supported in order to increase internal rotation and communication initiatives are carried out to support rotation and experience diversity.

In line with changes in the sector, the Future Fit project is being carried out to ensure preparedness for the risks of the future and to provide change in advance. Within the scope of the project, working styles, organizational structures, digitalization needs and skills needed by employees in both existing business areas and planned new business areas are determined and a transformation program will be put into implementation.

The technical competency project, which was initiated in the last quarter of 2022 and slated for completion by mid-2023, is targeted at determining and measuring the technical competencies of salaried employees working in production and maintenance groups of Tüpraş refineries and to preparing their development plans accordingly.

Availability Risks

In order to have an operational availability score ranked in the top quarter among worldwide refineries, Tüpraş manages its operational, reliability, integrity, maintenance and scheduled downtime activities in line with risk-based assessments. In order to minimize the availability risks;

- Proactive steps are identified and implemented for increasing the reliability and integrity of equipment according to the outcomes of Reliability-Oriented Maintenance, Risk-Based Technical Control and Protective Instrumentation Functioning Analyses.
- Investigation teams are set up for all incidents with a high-risk potential, root cause analyses are performed in relation to incidents, corrective/preventive actions are determined and implemented. In addition, in order to prevent the recurrence of events which may be triggered by these or similar types of mechanisms at our other refineries, occurrence assessments (simulation) and actions of the root causes of the events for our other units are also being carried out.
- Through the threat management system, mitigating measures are taken and monitored until high-risk reliability and integrity threats and root causes are eliminated.
- Under the problematic equipment management process; equipment failing frequently and causing high costs are analyzed, improvement and preventive solution actions are taken.
- Maintenance activities are prioritized according to risk assessment analyses and implemented. Thus, potential operational risks are predicted and minimized.
- Under the scheduled downtime management system, optimum scope of scheduled downtime is determined, and the resources and preparations necessary for safe completion of the downtimes within the planned timeline are made available. Meanwhile, the systematic review of detail preparation activities ahead of the scheduled downtime (readiness review), ensures a complete entry to the scheduled downtime.
- Through reliability and integrity audits performed every two years, refinery processes are evaluated comprehensively, performance deviations are identified, upon which corrective actions are taken and followed up.
- Operating parameters deviating from the Integrity Operating Window are digitally monitored on real-time basis, and actions are taken to bring the said parameters back within the defined limits as soon as possible. Thus, risks to process safety are minimized.
- For instant detection of dilution loss in lines and equipment resulting from corrosion, online thickness measurement sensors are installed in critical lines according to annual plans.
- With the integration of Instant Status Monitoring and Predictive Maintenance hardware and software systems on critical equipment, these critical equipment are detected before breaking down and can be subjected to maintenance on a case-by-case basis.

- Technological developments which will increase reliability and efficiency are closely followed, with evaluations of their applicability in refinery processes. As a result of these evaluations, operational site controls, maintenance monitoring, and technical control activities using robots, drones, Artificial Intelligence and mobile devices, which will ensure sustainable productivity growth in our processes, have been carried out using mobile devices. This allows an uninterrupted flow of information, with risks in relation to all of our operational processes followed up and their productivity enhanced.
- By creating performance and reliability models of refinery assets, field trials of Asset Management System Platforms, which will enable the identification of improvement areas through the digital twins of the assets, have started to be carried out jointly with technology manufacturers.
- Additional software and hardware are supplied for potential cyber security risks that may arise during maintenance activities.
- Our employees are equipped with the necessary competencies by driving the constant development of our human resource, processes, assets and production systems with an operational excellence point of view, and investments are made into digital Technologies that will support reliability and integrity.
- Performance indicators trends related to Operational, Reliability, Integrity and Maintenance are monitored periodically with deviation analyses, and performance and reliability improvement workshops are carried out together with related technical experts.

Security Risks

The risk assessment, which was developed by the Tüpraş Security Directorate within the scope of the SecuRisk Project to analyze and assess security risks, introduced in 2022 and implemented for four refineries, have been prepared on the basis of performance indicators of security systems. The new risk analysis and assessment method allows numeric measurement and monitoring of the effectiveness of the security system in preventing potential risks.

Risks arising from electronic security systems, physical security systems, human factors and lack of control in refineries are reviewed annually and checked employing the “Security Risk Assessment” studies. The recently devised method is intended to be dissuasive based on a proactive approach, to test the functionality of the security system against threats, to ensure optimal use of existing resources, and to minimize the security risk to be determined.

The Security Risk Assessment implemented within the scope of SecuRisk Project makes risk assessments of refineries in the event of:

- Bombing,
- Attacks using explosive-loaded drones (in Turkish: İHA),
- Vandalism,
- Civil commotions,
- Trading union actions,
- Theft,
- Violation of the Special Security Zone,
- Unauthorized access,
- Armed assault.

Security drills and security tours and inspections are carried out in all refineries, to minimize potential risks that may arise in such cases and to be able to respond with the methods that deliver the target.

Security risk assessment is repeated when an incident that may potentially affect risk assessment at our facilities or similar facilities, or when a security equipment has been supplied that would change the existing risk score. Furthermore, Tüpraş Security Management monitors key risk indicators at the security risk of refineries and Security Managers.

In line with the Refinery Physical Security Systems’ goal of ensuring process security, technological and physical measures that will improve the security system continue to be taken and projects are carried on for closing the potential gaps in systems.

RISK MANAGEMENT AND ACTIVITIES OF THE RISK MANAGEMENT COMMITTEE

5- STRATEGIC RISKS

Tüpraş takes potential short-, medium- and long-term risks into consideration when determining the actions to be taken to achieve its strategic goal and objectives in this vein within the scope of the Strategic Transformation Plan which it has announced to the general public. After the disclosure of the Strategic Transformation Plan, a Materiality Analysis was conducted in accordance with strategic priorities and global sustainability trends and in view of stakeholder expectations. Materiality Analysis help identify the issues with the greatest impact and strategically classify related sustainability issues.

The Company considers that short- and medium-term risks addressed strategically could include various sanctions imposed against the countries, OPEC decisions, natural and energy resource consumption restrictions in connection with sustainability, sensitivity against fossil fuels (ESG, Green Deal, the Paris Agreement), sustainability expectations by investors and in financing, changes to regulatory framework (climate change law, GHG Emissions limits, water management air pollution control, biodiversity, waste management, carbon pricing, intra-city diesel vehicle restrictions, etc.) and the acceleration of developments driven by the combat against climate change and accelerated energy transitions.

The Company considers long-term potential risks to include the rise in consumption of environment-friendly (waste-based, renewable and sustainable) fuel, developments related to alternative fuels (hydrogen, synthetic fuels, zero-carbon electricity, etc.), increased efficiency of internal combustion engines, increased manufacturing of electrically powered vehicles and increased electrification, lower emission limits, operational limitations, and higher carbon costs, increased support for decarbonization, stricter regulations, low-cost production and storage of renewable energy resources.

Along this line, it is targeted to establish a business model integrated with renewables portfolio and incorporating raw material and product diversity, to produce both the existing products and fuels similar to green hydrogen and biofuels in an environmentally-sensitive manner and to become a carbon-neutral energy company by 2050.

A close eye is kept on the developments in strategically priority areas, progress in the transformation plans of the players in the industry, and national and international legislation on climate change. The Company takes on an active role in negotiations with external stakeholders and national legislation processes. Teams set up under the organizational structuring in strategically priority areas and the individuals in charge, and risks and opportunities within the scope of innovative technology developments and startups are watched periodically. The strategy concerning various scenarios is reviewed annually in order to increase alignment with the fast evolving global energy dynamics.

Being one of the companies supporting the Task Force on Climate-related Financial Disclosures (TCFD), Tüpraş analyses the risks and opportunities arising from climate change and aims to report them to its stakeholders regularly. Climate Risks were added to Tüpraş Corporate Risk Management Inventory as a separate category in 2022.

In line with long-term strategic goals which target the risks specified within the scope of sustainability, the Company plans to create the necessary resources, first of all by focusing on increasing the competitiveness and sustainability of existing assets and thus investing in new strategic areas which will serve sustainability in the long-run. In this context, 30% of the investments to be carried out until 2030 are allocated to these areas, which are aimed to be carried out in accordance with EU Taxonomy.

6- COMPLIANCE AND LEGAL RISKS

This risk covers negatively affected activities following changes to the regulatory framework, misinterpretation of regulations and insufficient or incorrect documentation resulting in lower-than-expected rights and higher-than-expected liabilities.

Changes in the legislation are being followed to keep track of legal risks and relevant departments are informed.

In 2022, within the framework of the Competition Law compliance program, pre-assessments of new applications, projects and contracts that might be material with respect to the competition law were performed, action plans and strategies were developed about the measures that can be taken in order to eliminate potential risks.

The data processing inventory, created within the framework of efforts to achieve compliance with the Personal Data Protection Law, was updated. Requests from data subjects are handled and responded to within legally prescribed periods of time. Information and consent texts for the processing of personal data and agreements or letters of undertaking provisions were prepared or updated as necessary. Employees were provided with online training on the legislation on the protection of personal data and the compliance program. The updated personal data inventory, legal texts, and the compliance of Tüpraş's activities associated with PDP compliance program with the law and the Personal Data Protection Board decisions are being audited by an independent institution.

Within the frame of the efforts to comply with the Regulation on Commercial Communications and Commercial Electronic Messages drafted based on the Electronic Commerce Law, we have registered with the Commercial Electronic Message Management System that allows commercial electronic message opt-in, opt-out and complaints.

Within the scope of Anti-Bribery and Anti-Corruption Policy and regulations, bribery and corruption risks are considered in various aspects including risky analysis, determination of the status of third parties, gifts and entertainment, conflict of interest, controls regarding sponsorships and donations, determination of important considerations in relationships with public officers, continuous training and monitoring associated with whistleblowing processes, and addition of compliance-related articles including anti-bribery and anti-corruption to agreements to which we are party.

Online software programs that scan national, international sanctions and compliance legislation are used to audit, monitor and identify compliance risks in terms of relations with the relevant third parties. Besides the sanctions and compliance legislation, Tüpraş continuously and effectively controls and audits the compliance of its activities within the scope of our contractual obligations and our related Sanctions and Export Controls Policy, Supply Chain Compliance Policy. In the event that any of the third parties registered in the Company systems are found, during the course of scanning and detecting activities, to be subject to sanctions or their status changes, officials at Tüpraş receive a warning message. Thus, the status of all parties in terms of compliance and legislation is monitored effectively for as long as business relations continue. In addition to that, systemic development is undertaken for implementing similar controls regarding indirect suppliers engaged and banks, and a separate sanction scanning engine is used for vessel chartering. Agreement has been reached with a new and more comprehensive scanning engine, which will be used in 2023 in alternative media scanning.

During 2022, customized training and seminars for our related units and subsidiaries were given, in addition to regular training and seminars provided at Tüpraş in relation to sanction risks within the scope of Koç Holding Compliance Program. It is the common responsibility of all employees and managers to know, adopt and meticulously implement our Ethical Principles, and to ensure that the moral values of the Company are protected. In this context, the Koç Academy provided compliance training to all Company employees on Code of Ethics, Human Rights, Competition Law, Personal Data Protection, Sanctions and Export Controls, and Anti-Money Laundering and Countering the Financing of Terrorism in 2022. In addition to the training provided by the Koç Academy, the General Legal and Compliance Office also plans to provide training on compliance issues to include all employees both within and outside this scope.

Managed by independent service providers, the Ethics Line is being used under the leadership of Koç Holding, and stakeholders are able to report through this channel, remaining anonymous, if they choose so. Available online in over 50 countries offering service in 35 languages and in 15 languages via phone, the Ethics Line provides service 24/7. The notifications received are reviewed by the Tüpraş Risk Management and Audit Department, the Tüpraş the Chief Legal and Compliance Office, the Koç Holding Audit Group Presidency or the Koç Holding Legal and Compliance Office, exercising maximum care to protect confidentiality and not allowing retaliation. Following the examination, the Ethics Committee shall convene where necessary and sanctions are applied if required.

Employees of Chief Legal and Compliance Office regularly receive necessary technical and professional training.

RISK MANAGEMENT AND ACTIVITIES OF THE RISK MANAGEMENT COMMITTEE

7- REPUTATIONAL RISKS

Reputational risk can be defined as the potential negative reputation about the business practices of corporations. Reputational damage may result in the loss of respect for the Company in the eyes of the society, declined demand for products and services, and negatively impacted competitive strength.

All political, geopolitical, economic, geographical, social, governance and environmental development that might damage the respectability, in other words, the reputation of the brand need to be monitored carefully, and crises in connection with those developments need to be managed.

Tüpraş established corporate policies and procedures in order to keep its reputation intact at all times, and is executing its crisis management processes within this framework.

In order to effectively manage the risk of loss of reputation, Tüpraş regularly monitors all communication channels and carries out studies to reduce the impact and probability of such risks through a proactive approach.

8- CLIMATE RISKS

Climate risks and opportunities are managed in view of their maturity, along with their impact and likelihood. Management of the risks is a collaborative effort of many departments and Senior Management. In addition, the Sustainability Committee set up under the chairmanship of the CEO in 2022 and sub-working groups take active role in the process.

Climate risks are handled under 2 main headings: Transition Risks and Physical Risks.

Transition Risks

Under the Policy and Compliance heading:

- Changes in national and international carbon pricing policies and introduction of new legislation

Under the Market heading:

- Carbon pricing risk of primary suppliers,
- Climate-related rise in raw material prices,
- Declined demand in petroleum products that Tüpraş is a part of due to altered customer behaviors,
- Higher prices applied by the finance and insurance market to Tüpraş on account of the industry in which it is engaged (or termination of provision of services)

Under the Reputation heading:

- Damage to reputation before stakeholder groups such as customers, investors, employees and suppliers as a result of failure to or delay in transitioning to a low carbon economy,
- Declined competitive strength as a result of loss of reputation,
- Negatively influenced Company value,
- Perception of climate-related postings as green washing by stakeholders

Under the Technology heading:

- Falling behind in technological transformation,
- Failure to make technology investments at the right time,
- Failure to capture the desired achievement in new technologies adopted,
- Failed or delayed adaptation to technological developments that might positively affect the workforce and process productivity.

Physical Risks

Under the heading Chronic:

- Water Stress,
- Heat Waves,
- Cold Waves,
- Drought

Under the heading Acute,

- Floods/Inundations/Windstorms

that lead to negative effects on the sustainability of the operations, continued production and financial position of Tüpraş, and being obligated to incur additional costs due to physical risks.

G. INTERNAL CONTROL SYSTEM AND INTERNAL AUDIT

The internal control system at Tüpraş consists of standards within work flows, job descriptions, authorization system, policies and documented procedures. Tüpraş Risk Management and Audit Department oversees the internal control system in line with risk-based audit plans, adopting a proactive method.

Through audit activities carried out at Tüpraş and its Subsidiaries, the activities of the Company are audited in accordance with financial, operational, legal regulations as well as the Company's rules. During the audits, checks are conducted over the processes on the effectiveness, adequacy and compatibility of the internal controls carried out in order to ensure the effective, reliable and uninterrupted execution of the Company's activities and services, along with the integrity, consistency, reliability, timely availability and security of the information provided from the accounting and financial reporting system. The audits aim to provide reasonable assurance regarding the processes.

Audit findings are shared with the Company Management and the responsible individuals, and it is made sure that necessary corrective actions are taken. Audit findings for which actions will be taken are entered in the Tüpraş Risk and Actions Portal, and the actions necessary to be taken are followed up systematically in line with the severity of the finding.

Any risk pertaining to compliance with the Code of Ethics is also constantly taken into account during the audit procedures. Special investigations are also carried out based on the findings of the audits or notifications. Stakeholders may convey their complaints and notices to the Company, especially through the Tüpraş Stakeholder Communication Management, Ethics Line and Customer Notification Management System. These platforms are accessible to all kinds of stakeholders. Complaints and notifications received by the company are monitored and examined in detail by the Risk Management and Audit Department within the framework of confidentiality and in a non-retaliatory manner, taking into account the notifications which need to be processed. Where the examination detects a violation of the Code of Ethics, the Ethics Committee, which is affiliated to the Company's Board of Directors, shall convene and reach a decision.

Notifications are reviewed by the Chief Legal and Compliance Counsel at Tüpraş, or the Legal and Compliance Counsel at Koç Holding regarding any matters which are related to the Compliance process or are a violation of Private Law; or by the Risk Management and Audit Directorate at Tüpraş or the Audit Group at Koç Holding on matters related to other issues, always upholding to confidentiality and without allowing any retaliation.

The Risk Management and Audit Department, which organizationally reports to the Company's General Manager, also reports to the Audit Committee at the level of the Board of Directors.

The selection of the Independent Auditor responsible for the audit of the company's financial statements is approved by the Tüpraş General Assembly. The rotation of the firm responsible for the independent audit of the company and the responsible auditors is carried out in accordance with the CMB regulations. Independent auditors issue a declaration of independence to the Tüpraş Audit Committee.

ENGLISH TRANSLATION OF INDEPENDENT AUDITOR'S EARLY RISK DETECTION SYSTEM AND COMMITTEE REPORT



To the Board of Directors of Türkiye Petrol Rafinerileri A.Ş.

1. We have audited the early risk identification system and committee established by Türkiye Petrol Rafinerileri A.Ş. (the "Company").

Board of Directors' Responsibility

2. Pursuant to subparagraph 1 of Article 378 of Turkish Commercial Code ("TCC") No. 6102; Board of Directors is required to form an expert committee, and to run and to develop the necessary system for the purposes of early identification of causes that jeopardize the existence, development and continuity of the company; applying the necessary measures and remedies in this regard; and managing the related risks.

Auditor's responsibility

3. Our responsibility is to reach a conclusion on the early risk identification system and committee based on our audit. Our audit was conducted in accordance with TCC and "Principles on Independent Auditor's Report on the Early Risk Identification System and Committee" issued by the Public Oversight Accounting and Auditing Standards Authority. Those principles require us to identify whether the Company established the early risk identification system and committee or not and, if established requires us to assess whether the system and committee is operating or not within the framework of Article 378 of TCC. Our audit does not include evaluating the adequacy of the operations carried out by the management of the Company in order to manage these risks.

Information on the Early Risk Identification System and Committee

4. The Company established the early risk identification system and committee and it is comprised of 2 members. The Committee has submitted the relevant reports for the period 1 January - 31 December 2022 to the Board of Directors that had been prepared for the purpose of early identification of risks that jeopardize the existence of the Company and its development, applying necessary measures and remedies in this regard, and managing the risks.

Conclusion

5. Based on our audit, it has been concluded that Türkiye Petrol Rafinerileri A.Ş.'s early risk identification system and committee is sufficient, in all material respects, in accordance with Article 378 of TCC.

PwC Bağımsız Denetim ve
Serbest Muhasebeci Mali Müşavirlik A.Ş.

Cihan Harman, SMMM
Partner

Istanbul, 8 February 2023

EVALUATION OF OPERATING PRINCIPLES AND EFFECTIVENESS OF BOARD COMMITTEES

Based on the provisions stipulated in the Capital Markets Board of Turkey (CMB) Corporate Governance Communiqué no. II-17.1 (“the Communiqué”), by its decision no. 2022/16 dated 8 April 2022, the Board of Directors resolved to:

- Structure the Audit Committee with 2 members and appoint Mr. Muharrem Hilmi Kayhan as the Committee Chair, and Mr. Kamil Ömer Bozer as a Member;
- Structure the Corporate Governance Committee with 3 members and appoint Mr. Muharrem Hilmi Kayhan as the Committee Chair, and Mr. Yağız Eyüboğlu and Mr. Doğan Korkmaz as members, and; authorize the Corporate Governance Committee to carry out the tasks of the Nomination Committee and Remuneration Committee in accordance with the Communiqué,
- Structure the Risk Management Committee with 2 members and appoint Ms. Ayşe Canan Ediboğlu as the Committee Chair, and Mr. Erol Memioğlu as a member,
- Structure the Executive Committee with 6 members, and appoint Mr. Ömer Mehmet Koç as the Committee Chair, and Mr. Yıldırım Ali Koç, Mr. Mustafa Rahmi Koç, Ms. Semahat Sevim Arsel, and Ms. Caroline Nicole Koç as members,
- Structure the Ethics Committee with 5 members, and appoint Mr. İbrahim Yelmenoğlu, the Company General Manager, as its Chair, and Mr. Doğan Korkmaz, Assistant General Manager (CFO), Mr. Ahmet Aksoy, HR Director, Mr. Can Akçaoğlu, Chief Legal Officer, and Ms. Çiler Teber, Corporate Communications Manager, as members.

The Corporate Governance Principles mandate the Investor Relations Department to report directly to the General Manager or Assistant General Manager, who must be a member of the Corporate Governance Committee. Along this line, in the Board of Directors meeting held on 30 December 2015, it has been decided that the duties stipulated in Article 11 of the CMB’s Corporate Governance Communiqué no. II-17.1 be carried out under the management of Mr. Doğan Korkmaz, the Chief Financial Officer, and that he be assigned as a member of the Corporate Governance Committee.

In 2022, all Board Committees fulfilled their duties and responsibilities in accordance with the Corporate Governance Principles and their working principles. The Committees convened according to the annual meeting program, and submitted their reports containing information about their work and the results of the meetings held during the year to the Board of Directors. Full attendance was achieved by committee members in all meetings.

The Board of Directors is of the opinion that the activities of the Board of Directors Committees have generated the expected benefits.

Operating Principles and Activities of the Audit Committee

The Audit Committee was set up based on the Board of Directors decision dated 26 December 2003 to oversee the operation of the Company’s accounting and reporting systems under the applicable laws and regulations, public disclosure of financial information, and the operation and effectiveness of independent audit and internal control system. The Audit Committee held eight meetings in 2022.

Basically, the Board of Directors monitors financial control and audit activities via the Audit Committee. While fulfilling this function, the Audit Committee analyzes and assesses the reports from the Risk Management and Audit Department established to review, audit and report on the efficiency of Company processes from a financial perspective. The Audit Committee then gives the necessary instructions to the Company management and when deemed necessary, submits these for the attention and approval of the Board of Directors. Decisions made by the Committee are of a recommendation nature and the Board of Directors is the ultimate decision-making authority in related matters. The Chair and member of the Audit Committee are members of the Board of Directors with independent experience in audit, accounting and finance. The committee has convened six times in 2020 with the participation of both members.

EVALUATION OF OPERATING PRINCIPLES AND EFFECTIVENESS OF BOARD COMMITTEES

Duties, Responsibilities and Operating Principles of the Audit Committee:

The Committee's duties are as follows:

- Designate the independent audit firm, determine the scope of services to be procured therefrom, initiate the independent audit process upon preparation of independent audit engagement agreements, and oversee the work of the independent auditor at every stage,
- Evaluate the independent auditor's qualifications in terms of the independence criteria, the declaration of independence, and additional services that can be procured from the independent auditor,
- Assess the findings derived from the independent audit communicated by the independent auditor to the Committee, important considerations related to the Company's accounting policy and practices; alternative practice and public disclosure options within the frame of the CMB's accounting standards and accounting principles which were previously communicated by the independent auditor to the Company management; their possible outcomes and suggested implementation, and the important correspondences with the Company management,
- Review and finalize the complaints the Company receives about the Company's accounting, reporting and internal control systems and independent audit processes; establish the methods and criteria that will be applied for handling Company employees' notifications about accounting, reporting, internal control and independent audit within the frame of confidentiality principle,
- Obtain the opinions of the Company's responsible executives and independent auditors in relation to the accuracy and fairness of the annual and interim financial statements to be disclosed, as well as their conformity to the accounting principles followed by the Company, and report them in writing to the Board of Directors together with the Committee's own assessments,
- Carry out the duties that are/will be incumbent upon the Committee by the CMB's regulations and the Turkish Commercial Code.

https://trstaticfilessa.blob.core.windows.net/assets/uploads/en/corpgovernment/Working_Principles_Of_Audit_Committee.pdf

During 2022, the Audit Committee:

- Obtained the opinions of the Company's responsible executives and independent auditors in relation to the accuracy and fairness of the annual and interim financial statements to be disclosed, as well as their conformity to the accounting principles followed by the Company, and reported them in writing to the Board of Directors together with the Committee's own assessments,
- Oversaw the work of the independent auditor upon designation of the independent audit firm, determination of the scope of services to be procured therefrom, preparation of independent audit engagement agreements and initiation of the independent audit process,
- Reviewed the independent auditor's work schedule, the outcomes obtained and recommendations,
- Monitored the effectiveness of the internal control system, and studied the audit department's program, business results and recommendations, as well as related practices and results,
- Established the methods and criteria that will be applied for reviewing and finalizing the complaints the Company receives about the Company's accounting, reporting and internal control systems and independent audit processes; and for handling Company employees' notifications about accounting, reporting, internal control and independent audit within the frame of confidentiality principle.

Operating Principles and Activities of the Corporate Governance Committee

Established with the Board of Directors' resolution dated 20 November 2007 to oversee and improve the Company's compliance with Corporate Governance Principles and make recommendations to the Board of Directors on further improving the corporate governance practices, the Corporate Governance Committee establishes whether the Company achieves full compliance with the Corporate Governance Principles, determines the reasons for noncompliance, if applicable, and the conflicts of interest arising from failure to achieve full compliance. In addition, the Committee presents recommended improvements to the Board of Directors.

Under the provisions of the Corporate Governance Principles published by the Capital Markets Board of Turkey, the Corporate Governance Committee also fulfills the functions of nominating members to the Board of Directors, developing corporate governance practices in relation to the remuneration of the Board of Directors members and senior executives, and presenting suggestions and recommendations to the Board of Directors regarding the same. The Committee meets at the frequency required by the duties incumbent upon it. The Corporate Governance Committee held nine meetings in 2022.

Duties, Responsibilities and Operating Principles of the Corporate Governance Committee:

The Committee's duties are as follows:

- Establish whether corporate governance principles are being implemented, grounds for non-implementation (if applicable) and conflicts of interest arising from failure to achieve total alignment with these principles; recommend improvements to corporate governance practices to the Board of Directors,
- Oversee the activities of the Investor Relations Department,
- Review the Corporate Governance Principles Compliance Report that will be publicly disclosed, and verify the accuracy and consistency of the information therein against the information available to the Committee,
- Ensure the development, adoption and implementation of Corporate Governance Principles within the Company, work on topics where the principles are not implemented, and make recommendations to the Board of Directors for improving the extent of compliance,
- Follow up the Corporate Governance Principles across the world, and make recommendations to the Board of Directors for the implementation of necessary components at the Company.
- The functions of nomination and remuneration committee stipulated in the CMB regulations are fulfilled by the Company's Corporate Governance Committee. The duties of the Committee in this respect are as follows:
 - Create a transparent system for the identification, assessment and training of candidates fit for serving on the Board of Directors and in managerial positions with administrative responsibility; work on the development of related policies and strategies,
 - Evaluate nominations for independent member seats, including those nominated by the management and investors, taking into consideration whether the candidate(s) possess(es) the independence criteria, and present its evaluation of this matter for the approval of the Board of Directors,
 - In case of any vacancies on the Board of Directors seats, make assessments for electing independent members to the vacated seats who will serve until the next general assembly meeting so as to ensure that the minimum number of independent members is re-established, and present the conclusion in writing to the Board of Directors,
 - Make regular assessments about the structure and efficiency of the Board of Directors, and present its recommendations about possible changes in these matters to the Board of Directors,
 - Establish and monitor the approach, principles and practices in relation to performance appraisal and career planning of Board of Directors members and senior executives,
 - Determine its suggestions associated with the remuneration principles of the Board of Directors members and senior executives, taking into consideration the Company's long-term targets, and oversee the same,
 - Set the remuneration criteria, linking them to the performance of the Company and the Board member,
 - Present its suggestions regarding the remuneration to be paid to the Board of Directors members and senior executives taking into consideration the degree at which the criteria are attained.

The operating principles of the Corporate Governance Committee are posted on the Company website.

https://tprstaticfilessa.blob.core.windows.net/assets/uploads/en/corpgoverment/Working_Principles_Of_Tupras_Corporate_Governance_Committee.pdf

During 2022, the Corporate Governance Committee:

- Reviewed the Corporate Governance Principles Compliance Report that will be publicly disclosed, and verified the accuracy and consistency of the information therein against the information available to the Committee,
- Oversaw the activities of the Investor Relations Department, and presented information about the Department's activities to the Board of Directors,
- Obtained a written declaration of independence from the candidate standing for independent member's seat on the Board of Directors within the frame of the required criteria under the applicable regulation and the Company's Articles of Association as of his/her nomination to the Committee,
- Evaluated all nominations for independent member's seat, including those nominated by the management and investors, taking into consideration whether the candidate(s) possess(es) the independence criteria, and presented its evaluation of this matter for the approval of the Board of Directors,

EVALUATION OF OPERATING PRINCIPLES AND EFFECTIVENESS OF BOARD COMMITTEES

- Ensured the public disclosure of the final list of independent member nominees together with the General Assembly meeting announcement,
- Evaluated the system implemented for the identification, assessment and training of candidates fit for serving on the Board of Directors and in managerial positions with administrative responsibility,
- Evaluated the composition and efficiency of the Board of Directors,
- Evaluated the principles, criteria and practices to be employed in the remuneration of Board members and managers with administrative responsibility in view of the Company's long-term targets,
- Evaluated the policies prepared in order to ensure a more effective management of the Company's compliance risks and to better respond to the compliance expectations of local and international stakeholders.
- Worked in relation to the benefits provided to the Board of Directors members and senior executives.

Operating Principles and Activities of the Risk Management Committee

The Risk Management Committee was set up based on the Board of Directors decision dated 28 July 2010 to early detect and assess all kinds of strategic, operational, financial, legal and other risks that may endanger the Company's existence, development and continuation, to estimate the impacts and probabilities of these risks, and to manage these risks in accordance with the Company's risk taking profile. The Risk Management Committee held six meetings during the year.

Duties, Responsibilities and Operating Principles of the Risk Management Committee:

The Committee's duties are as follows:

- Define, assess, and monitor existing and potential risk elements that may impact the achievement of the Company's goals under the Enterprise Risk Management systematic, establish the principles for managing the related risks in accordance with the Company's risk taking profile, and ensure their use in decision-making mechanisms,
- Identify the risks that will be kept and managed, shared or totally eliminated in the Company according to probability and impact estimations,
- Ensure integration of risk management and internal control systems within the Company's corporate structure,
- Review risk management systems at least annually and oversee that the implementations in relevant departments undertaking the responsibility of risk management are in accordance with the Committee's decisions,
- Early diagnose technical bankruptcy and warn the Board of Directors in this respect, recommend precautions,
- Carry out the duties that are/will be incumbent upon the Committee by the CMB's regulations and the Turkish Commercial Code.

Operating principles of the Risk Management Committee are posted on the company website.

https://trstaticfilessa.blob.core.windows.net/assets/uploads/en/corpgoverment/Working_Principles_Of_Risk_Management_Comittee.pdf

During 2022, the Risk Management Committee:

- Reviewed the existing and potential risk elements within the frame of the operation of the Enterprise Risk Management function and made recommendations for further improvement,
- Identified the risks that will be kept and managed, shared or totally eliminated in the Company,
- Ensured the performance of the necessary work for identifying the opportunities that will increase the Company's profitability and effectiveness of its operations, as well as for identified opportunities, and supported the Board of Directors in accurately setting the Company strategy in view of potential risks and opportunities,
- Evaluated the company activities regarding the Company's information systems practices within the context of the obligations imposed on publicly-held companies by the CMB Communiqué numbered VII-128.9,
- Oversaw the reviewing of risk management systems at least annually and verified that the execution of the implementations by departments undertaking the responsibility of risk management are in accordance with the Committee's decisions.

The report dated 16 February 2022 prepared by PwC Bağımsız Denetim ve Serbest Muhasebeci Mali Müşavirlik concluded that the early detection of risk system in place at Türkiye Petrol Rafinerileri A.Ş. and the Risk Management Committee are adequate in all material respects under Article 378 of the TCC.

Executive Committee and its Operating Principles

The Executive Committee is set up based on the Board of Directors' decision dated 4 May 2012 to advise and make suggestions to the Board of Directors for increasing the efficiency of the Board of Directors and securing improvement in the fields of investment and business development in areas aligned with its strategic goals, by providing the coordination between the Board of Directors and the administrative structure. The rate of female members in the Executive Committee, which consists of five members, is 40%.

Duties, Responsibilities and Operating Principles of the Executive Committee:

The duties of the Committee are as follows:

- Ensure that necessary preparations and analyses have been completed for important matters that will be decided by the Board of Directors before they are submitted for the approval of all members, and make sure that they have been assessed with respect to various aspects such as their impact on operations, financial aspects, legal status and alignment with strategic priorities,
- Ensure that the matters that are required to be decided by the General Assembly or the Board of Directors are communicated to the Company management and deployed under specific guidelines and policies,
- Verify that the Company's activities are carried out in accordance with the Board of Directors decisions and annual business plans,
- Follow up the economic, social and political developments concerning the sector in which the Company is engaged, assess their effects and establish the strategies that will increase its competitive strength,
- Monitor the sector's dynamics and identify the probable opportunities in line with the set strategies,
- Monitor the Company's strengths and weaknesses through internal analyses to be conducted, and opportunities and threats through external analyses,
- Explore internal and external growth opportunities that will help the Company achieve its strategic goals,
- Supervise the functionality of the system that will ensure the Company's business programs are created, revised as necessary according to external developments, and used as a performance benchmark,
- Follow up the management of strategies and projects accepted by the Board of Directors,
- Consider important developments in the regulatory environment with a potential impact on the activities and their impact.

Operating principles of the Executive Committee are posted on the Company website.

[chrome-https://tprstaticflessa.blob.core.windows.net/assets/uploads/en/corpgoverment/Working_Principles_Of_Executive_Committee.pdf](https://tprstaticflessa.blob.core.windows.net/assets/uploads/en/corpgoverment/Working_Principles_Of_Executive_Committee.pdf)

During 2022, the Executive Committee:

- Verified that the Company's activities were carried out in accordance with the Board of Directors decisions and business plans, and regularly monitored the alignment of the Company management with the business plans and any deviations during the pandemic,
- Followed up the economic, social and political developments concerning the sector in which the Company is engaged, assessed their effects, set the strategies, and offered guidance to the Company management for potential threats and opportunities, by monitoring the sector's dynamics,
- Pursued growth opportunities that will help the Company achieve its strategic goals,
- Supervised the functionality of the system that ensures the Company's business programs are created, revised as necessary according to external developments and used as a performance benchmark,
- Oversaw the activities for diversifying the Company's financing means,
- Followed up the management of the strategies and projects accepted by the Board of Directors.

AUDIT COMMITTEE REPORT (RELATED TO FINANCIAL STATEMENTS)

TÜRKİYE PETROL RAFİNERİLERİ A.Ş.

AUDIT COMMITTEE REPORT RELATED TO FINANCIAL STATEMENTS

Decision Date: 08.02.2023

Decision No: 2023/2

Subject: Consolidated Financial Statements dated 31.12.2022

To the Board of Directors of Tüpraş

We convene to review and give our opinion on the financial statements of Türkiye Petrol Rafinerileri A.Ş. for the period of 1 January-31 December 2022 and also to review the independent audit report of PwC Bağımsız Denetim ve Serbest Muhasebeci Mali Müşavirlik A.Ş. The consolidated financial statements of Türkiye Petrol Rafinerileri A.Ş. have been prepared by the company management in accordance with the CMB Financial Reporting Communiqué numbered as II.14.1. According to the related Communiqué, entities shall prepare their financial statements in accordance with Turkish Financial Reporting Standards ("TFRS") and in line with the recommended formats of the CMB.

During this review, the fair presentation and accuracy of the financial statements referred to above in conformity with the accounting policies of the company have been elaborated. Independent auditors' and company management's opinions were requested as deemed necessary.

After the review and evaluations we made based on the information provided to us; we have concluded that the consolidated financial statements referred to above are fairly and accurately presented and are in line with the accounting policies of the company. Therefore, we would like to submit the aforementioned financial statements to the approval of the Board of Directors.

Sincerely,

[Signature]

[Signature]

Muharrem Hilmi Kayhan
Chair of Audit Committee

Kamil Ömer Bozer
Chair of Audit Committee

STATEMENT OF RESPONSIBILITY (RELATED TO APPROVAL OF FINANCIAL STATEMENTS)

STATEMENT OF RESPONSIBILITY PREPARED IN ACCORDANCE WITH ARTICLE 9 OF THE II-14.1 PRINCIPLES OF FINANCIAL REPORTING IN CAPITAL MARKETS COMMUNIQUE BY THE CAPITAL MARKETS BOARD

REGARDING THE APPROVAL OF FINANCIAL STATEMENTS BY THE BOARD OF DIRECTORS

Decision Date: 08.02.2023

Resolution No: 2023/6

Under the Capital Markets Board Regulations, within the framework of the information provided to us in relation to our tasks and responsibilities related to the Company, we hereby announce and declare that: the consolidated Balance Sheet, Statement of Income, Statement of Other Comprehensive Income, Statement of Cash Flow, Statement of Changes in Equity along with the related Notes prepared by the Company and audited by the independent auditor PwC Bağımsız Denetim ve Serbest Muhasebeci Mali Müşavirlik A.Ş. for the period of 01.01.2022 - 31.12.2022 under the CMB Financial Reporting Communiqué numbered as II.14.1. in accordance with Turkish Financial Reporting Standards (TFRS) and in line with the compulsory formats determined by the CMB;

- have been reviewed by us;
- do not contain any inaccuracy in all material respects and are free of omissions that may be regarded as misleading as of the issue date;
- The financial statements prepared in line with the Communiqué present fairly the assets, liabilities, financial position and the results of operations of the Company as well as of the companies included in the scope of consolidation.

Saygılarımızla,

[Signature]

Muharrem Hilmi Kayhan
Chair of Audit Committee

[Signature]

Kamil Ömer Bozer
Member of Audit Committee

[Signature]

Doğan Korkmaz
Assistant General Manager
Financial Affairs (CFO)

STATEMENT OF RESPONSIBILITY (RELATED TO ANNUAL REPORT)

TÜRKİYE PETROL RAFİNERİLERİ A.Ş.

AUDIT COMMITTEE REPORT

Decision Date: 14.02.2023

Decision No: 2023/3

Subject: Annual Report dated 31.12.2022

To the Board of Directors of Tüpraş

We have convened to review and give our opinion on the 2022 Annual Report, which has been prepared by our Company in accordance with the Turkish Commercial Code and the Capital Markets Board of Turkey Communiqué no. II.14.1 on Financial Reporting Principles in the Capital Market and Communiqué no. II.17.1 on Corporate Governance, and which has been independently audited by PwC Bağımsız Denetim ve Serbest Muhasebeci Mali Müşavirlik A.Ş.

We have reviewed the Annual Report prepared by our Company to the extent of the information available to us by virtue of our position and responsibility in the Company. During our review, opinions of the auditor of the independent audit firm and the responsible executives of the Company have been sought as needed.

As a result of our review and assessment based on the information provided to us; we have concluded that the disclosures in the Annual Report provide a true and fair view and are adequate, and that the report fairly represents the development and performance of the Company, together with those subject to consolidation, and includes the major risks and uncertainties that the Company is exposed to. Now therefore, we hereby submit the Annual Report for the approval of the Board of Directors.

Sincerely,

[Signature]

Muharrem Hilmi Kayhan
Chair of Audit Committee

[Signature]

Kamil Ömer Bozer
Chair of Audit Committee

STATEMENT OF RESPONSIBILITY (RELATED TO APPROVAL OF ANNUAL REPORT)

STATEMENT OF RESPONSIBILITY PREPARED IN ACCORDANCE WITH ARTICLE 9 OF THE II- 14.1. PRINCIPLES OF FINANCIAL REPORTING IN CAPITAL MARKETS COMMUNIQUE BY THE CAPITAL MARKETS BOARD

REGARDING THE APPROVAL OF ANNUAL REPORT BY THE BOARD OF DIRECTORS

Decision Date: 14.02.2023

Resolution No: 2023/12

Under the Capital Markets Board Regulations, within the framework of the information provided to us in relation to our tasks and responsibilities related to the Company, we hereby announce and declare that the attached Annual Report, which includes the Corporate Governance Compliance Report and Corporate Governance Information Form, for the year of 2022 prepared by the Company in accordance with Turkish Commercial Code and CMB Financial Reporting Communiqué numbered as II.14.1. and audited by PwC Bağımsız Denetim ve Serbest Muhasebeci Mali Müşavirlik A.Ş., according to Capital Markets Board Regulations;

- has been reviewed by us,
- does not contain any inaccuracy in all material respects and is free of omissions that may be regarded as misleading as of the issue date
- presents fairly the progress and the performance of the business, the financial position of the Company and the companies included in the scope of consolidation together with the material risks and uncertainties.

Regards

[Signature]

Muharrem Hilmi Kayhan
Chair of Audit Committee

[Signature]

Kamil Ömer Bozer
Member of Audit Committee

[Signature]

Doğan Korkmaz
Assistant General Manager
Financial Affairs (CFO)

Türkiye Petrol Rafinerileri A.Ş.
Consolidated Financial Statements
For The Period 1 January - 31 December 2022
Together With Independent Auditor's Report

Convenience translation of consolidated financial statements (Originally issued in Turkish)

INDEPENDENT AUDITOR'S REPORT

To the General Assembly of Türkiye Petrol Rafinerileri A.Ş.

A. Audit of the consolidated financial statements

1. Our opinion

We have audited the accompanying consolidated financial statements of Türkiye Petrol Rafinerileri A.Ş. (the "Company") and its subsidiaries (collectively referred to as the "Group") which comprise the consolidated statement of financial position as at 31 December 2022, the consolidated statement of profit or loss and other comprehensive income, the consolidated statement of changes in equity and the consolidated statement of cash flows for the year then ended and notes to the consolidated financial statements comprising a summary of significant accounting policies.

In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Group as at 31 December 2022, and its financial performance and its cash flows for the year then ended in accordance with Turkish Financial Reporting Standards ("TFRS").

2. Basis for opinion

Our audit was conducted in accordance with the Standards on Independent Auditing (the "SIA") that are part of Turkish Standards on Auditing issued by the Public Oversight Accounting and Auditing Standards Authority (the "POA"). Our responsibilities under these standards are further described in the "Auditor's Responsibilities for the Audit of the Consolidated Financial Statements" section of our report. We hereby declare that we are independent of the Group in accordance with the Ethical Rules for Independent Auditors (including International Independence Standards) (the "Ethical Rules") and the ethical requirements regarding independent audit in regulations issued by POA that are relevant to our audit of the financial statements. We have also fulfilled our other ethical responsibilities in accordance with the Ethical Rules and regulations. We believe that the audit evidence we have obtained during the independent audit provides a sufficient and appropriate basis for our opinion.

3. Kilit Denetim Konuları

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the consolidated financial statements of the current period. Key audit matters were addressed in the context of our independent audit of the consolidated financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

INDEPENDENT AUDITOR'S REPORT

Key Audit Matters	How the key audit matter was addressed in the audit
<p>Fair value of lands recognised using the revaluation method</p> <p>As further explained in Note 2.3, the Group started to account its lands, that are classified under property, plant and equipment, through revaluation method commencing from 31 March 2019. As of</p> <p>31 December 2022, the Group has performed a revaluation study of lands to reflect the changes in market conditions. As a result of the valuations made by an independent real estate appraisal firm, the total fair value of lands as of 31 December 2022 amounts to TRY15,500,361 thousand, representing a fair value increase of TRY3,242,588 thousand (net of deferred taxes) in 2022 is recognized in revaluation fund under equity.</p> <p>As further described in Note 2.3, the accounting policy of lands, that are classified under property, plant and equipment, is 'revaluation method'. The fair values of these assets are being determined by an independent valuation institution, that are accredited by the Capital Markets Board ("CMB") and are recognized in the consolidated financial statements following the Group management's assessment. Fair value of lands depends on the valuation methods used as well as the input and assumptions used in the valuation model. Fair values are directly affected by factors such as market conditions, specifications of each land, their physical conditions and geographic locations.</p> <p>Since the value of lands are material to the consolidated financial statements and in the determination of land fair values, the benchmarking analysis approach (market) is being used which include variables that can lead to changes in the fair values of the lands, 'fair value of lands recognized using the revaluation method' is identified as a key audit matter.</p>	<p>The audit procedures we performed on the accounting for lands under revaluation method are as follows:</p> <p>The capability, competency and objectivity of the independent property valuation institution appointed by the Group is assessed in accordance with SIA 500.</p> <p>The completeness of the lands subject to revaluation is checked by comparing accounting records to valuation reports.</p> <p>The deeds and ownership ratios of lands were tested through the sampling method.</p> <p>Besides, we appointed another independent property valuation institution, that is also accredited by the CMB and holds a license, as an "auditor's expert" to support the related audit process.</p> <p>The following audit procedures were performed based on the sampling method with the support of the auditor's expert:</p> <ul style="list-style-type: none"> - Comparison of the location, tenant and square meter information for the lands included in reports with the land registers, - Evaluation of the nature of the lands, - Evaluation of the appropriateness of the benchmarking analysis method used in revaluation of the relevant lands, - Determination of whether the lands that were the subject of calculations using the benchmark comparison method have features similar to the Group's lands or not, - Checking whether or not the valuation reports were prepared in line with the main principles. <p>Fair values in the valuation reports were compared with the notes to assess, whether the amounts in notes and in the consolidated financial statements are consistent with the valuation reports or not. In addition, the sufficiency of the note explanations under the TFRS were evaluated.</p> <p>We have no material findings as a result of the above audit procedures we performed in connection with the fair value of the lands recognized using the revaluation method.</p>

Key Audit Matters	How the key audit matter was addressed in the audit
<p>Recoverability of deferred tax assets recognised from investment incentives</p> <p>As of 31 December 2022 the Group's consolidated financial statements include deferred tax assets recognised from investment incentives amounting to TRY9,741,350 thousand.</p> <p>The Group's accounting policies and other related disclosures on deferred tax assets and liabilities are disclosed in Note 2.3 and Note 25 to the accompanying consolidated financial statements.</p> <p>The business model and future taxable profit projections used in assessing the recoverability of deferred tax assets recognised from investment incentives are based on critical management estimates. Considering the inherent uncertainties as to the realisation of such management estimates in the future, the necessity for specialist involvement in the assessment of the recoverability of deferred tax assets on investment incentives, as well as the materiality of such assets in the Group's consolidated financial statements, 'recoverability deferred tax assets recognised from investment incentives' is determined as a key audit matter.</p>	<p>In that context the following summarised audit procedures are performed:</p> <ul style="list-style-type: none"> - We held meetings with the Group management in order to understand the nature of related temporary differences and the investment incentives which form the basis to the deferred tax assets. - We evaluated the corporate tax calculation and investment incentive practices with the support of our tax specialists. - We reviewed the business model used in assessing the recoverability of deferred tax assets from such investment incentives and the critical management estimates through following procedures: <ul style="list-style-type: none"> - We tested the mathematical accuracy of the business model. - We compared the sales tonnage and price estimations used in the model against prior periods' actuals and other independent data sources. - We compared the future foreign exchange rate estimations used in the business model against the exchange rate estimations in the approved Group's budget/long term plans and independent data sources. - We tested the management's sensitivity analysis for key assumptions for the future utilisation of investment incentives. - We evaluated the deferred tax assets and liabilities disclosures' compliance with TFRS. <p>Based on the above procedures performed we had no material finding on the recoverability of deferred tax assets.</p>

4. Responsibilities of management and those charged with governance for the consolidated financial statements

The Group management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with TFRS, and for such internal control as management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, management is responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Group or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Group's financial reporting process.

5. Auditor's responsibilities for the audit of the consolidated financial statements

Responsibilities of independent auditors in an independent audit are as follows:

Our aim is to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an independent auditor's report that includes our opinion. Reasonable assurance expressed as a result of an independent audit conducted in accordance with SIA is a high level of assurance but does not guarantee that a material misstatement will always be detected. Misstatements can arise from fraud or error. Misstatements are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

INDEPENDENT AUDITOR'S REPORT

As part of an independent audit conducted in accordance with SIA, we exercise professional judgment and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement in the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Assess the internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our independent auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the Group audit. We remain solely responsible for our audit opinion

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence. We also communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards actions taken to eliminate threats or safeguards applied.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

B. Other responsibilities arising from regulatory requirements

1. No matter has come to our attention that is significant according to subparagraph 4 of Article 402 of Turkish Commercial Code ("TCC") No. 6102 and that causes us to believe that the Company's bookkeeping activities concerning the period from 1 January to 31 December 2022 period are not in compliance with the TCC and provisions of the Company's articles of association related to financial reporting.
2. In accordance with subparagraph 4 of Article 402 of the TCC, the Board of Directors submitted the necessary explanations to us and provided the documents required within the context of our audit.
3. In accordance with subparagraph 4 of Article 398 of the TCC, the auditor's report on the early risk identification system and committee was submitted to the Company's Board of Directors on 8 February 2023.

PwC Bağımsız Denetim ve
Serbest Muhasebeci Mali Müşavirlik A.Ş.

Cihan Harman, SMMM
Partner

Istanbul, 8 February 2023

TABLE OF CONTENTS

	Page
CONSOLIDATED STATEMENTS OF FINANCIAL POSITION	240
CONSOLIDATED STATEMENTS OF PROFIT OR LOSS AND OTHER COMPREHENSIVE INCOME	242
CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY	244
CONSOLIDATED STATEMENTS OF CASH FLOW	246
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS	247 - 330
NOTE 1 ORGANIZATION AND NATURE OF OPERATIONS OF THE GROUP	247
NOTE 2 BASIS OF PRESENTATION OF CONSOLIDATED FINANCIAL STATEMENTS	249
NOTE 3 BUSINESS COMBINATIONS	274
NOTE 4 SEGMENT REPORTING	275
NOTE 5 CASH AND CASH EQUIVALENTS	277
NOTE 6 FINANCIAL INVESTMENTS	279
NOTE 7 FINANCIAL LIABILITIES	280
NOTE 8 TRADE RECEIVABLES AND PAYABLES	285
NOTE 9 INVENTORIES	286
NOTE 10 INVESTMENTS ACCOUNTED FOR USING THE EQUITY METHOD	286
NOTE 11 PROPERTY, PLANT AND EQUIPMENT	289
NOTE 12 INTANGIBLE ASSETS	292
NOTE 13 PREPAID EXPENSES	293
NOTE 14 OTHER ASSETS AND LIABILITIES	293
NOTE 15 PROVISIONS	295
NOTE 16 LIABILITIES FOR EMPLOYEE BENEFITS	297
NOTE 17 DERIVATIVE INSTRUMENTS	298
NOTE 18 COMMITMENTS AND CONTINGENT ASSETS AND LIABILITIES	300
NOTE 19 EQUITY	303
NOTE 20 REVENUE AND COST OF SALES	304
NOTE 21 GENERAL ADMINISTRATIVE EXPENSES, MARKETING EXPENSES AND RESEARCH AND DEVELOPMENT EXPENSES	305
NOTE 22 OTHER OPERATING INCOME/(EXPENSES)	307
NOTE 23 INCOME/(EXPENSE) FROM INVESTMENT ACTIVITIES	307
NOTE 24 FINANCIAL INCOME/(EXPENSES)	308
NOTE 25 TAX ASSETS AND LIABILITIES	309
NOTE 26 EARNINGS PER SHARE	311
NOTE 27 RELATED PARTY TRANSACTIONS	311
NOTE 28 FINANCIAL INSTRUMENTS AND FINANCIAL RISK MANAGEMENT	315
NOTE 29 GOVERNMENT GRANTS	330
NOTE 30 SUBSEQUENT EVENTS	330

Türkiye Petrol Rafinerileri A.Ş.
Consolidated Statements of Financial Position
As at 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

ASSETS	Notes	Audited	Restated ⁽¹⁾	Restated ⁽¹⁾
		31 December 2022	Audited	Audited
		31 December 2021	31 December 2021	31 December 2020
Current Assets		119,710,705	66,515,384	31,281,757
Cash and cash equivalents	5	47,635,158	21,176,186	20,319,133
Financial investments	6	2,135,177	-	-
Trade receivables	8	21,417,520	13,796,682	1,840,427
Due from related parties	8, 27	3,187,872	1,745,525	360,931
Trade receivables from third parties		18,229,648	12,051,157	1,479,496
Other receivables		40,622	20,566	19,464
Other receivables from third parties		40,622	20,566	19,464
Derivative instruments	17	3,597,033	3,823,700	381,895
Inventories	9	36,046,008	23,757,526	7,700,630
Prepaid expenses	13	748,787	193,490	238,938
Other current assets	14	8,090,400	3,747,234	781,270
Non-Current Assets		49,181,630	39,741,727	32,332,472
Financial investments		66,325	5,697	4,004
Investments accounted for using the equity method	10	2,962,632	2,150,156	1,326,490
Property, plant and equipment	11	32,904,315	28,316,299	23,457,048
Right of use asset		219,531	185,775	202,147
Intangible assets		556,630	562,785	255,241
Goodwill		599	599	-
Other intangible assets	12	556,031	562,186	255,241
Derivative instruments	17	57,048	44,213	87,883
Prepaid expenses	13	618,384	123,436	145,543
Deferred tax assets	25	9,195,612	6,436,140	5,023,992
Other non-current assets	14	2,601,153	1,917,226	1,830,124
Total Assets		168,892,335	106,257,111	63,614,229

The accompanying notes form an integral part of these consolidated financial statements.

Türkiye Petrol Rafinerileri A.Ş.

Consolidated Statements of Financial Position

As at 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

LIABILITIES	Notes	Audited	Restated ⁽¹⁾	Restated ⁽¹⁾
		31 December 2022	Audited	Audited
		31 December 2022	31 December 2021	31 December 2020
Current liabilities		78,895,410	64,828,702	28,766,431
Short-term financial liabilities	7	863,318	631,946	2,099,840
Current portion of long-term financial liabilities	7	11,131,173	10,996,265	6,434,389
Trade payables	8	52,698,764	43,837,455	14,204,175
Due to related parties	8, 27	1,156,421	182,912	233,955
Trade payables, third parties		51,542,343	43,654,543	13,970,220
Liabilities for employee benefits	16	417,647	135,876	152,960
Other payables		262,395	323,018	308,769
Due to related parties	27	169,841	43,328	30,763
Other payables to third parties		92,554	279,690	278,006
Derivative instruments	17	994,512	3,466,572	769,707
Deferred income		116,249	32,315	129,254
Current income tax liabilities	25	955,255	69,764	2,459
Short-term provisions	15	530,528	219,166	174,151
Short-term provisions for employee benefits		47,604	19,387	24,572
Other provisions		482,924	199,779	149,579
Other current liabilities	14	10,925,569	5,116,325	4,490,727
Non-current liabilities		22,811,153	22,347,409	21,922,365
Long term borrowings		21,274,459	21,565,453	21,147,715
Other payables	7	-	-	207,407
Long-term provisions	15	1,190,116	454,999	361,327
Long-term provisions for employee benefits		1,190,116	454,999	361,327
Deferred income		3,199	9,987	9,504
Derivative instruments	17	298,200	73,058	78,001
Deferred tax liability	25	44,464	155,210	63,354
Other long-term liabilities		715	88,702	55,057
Total liabilities		101,706,563	87,176,111	50,688,796
Equity		67,185,772	19,081,000	12,925,433
Share capital	19	275,257	275,257	275,257
Adjustment to share capital	19	1,344,243	1,344,243	1,344,243
Share premium		1,000,699	1,000,699	1,000,699
Accumulated other comprehensive income/(expense) not to be reclassified to profit or loss		13,901,774	11,086,822	7,518,365
Gains/losses on revaluation and remeasurement		13,622,714	10,997,824	7,470,314
Gain on revaluation of properties		13,928,679	11,010,545	7,478,414
Actuarial gain/(loss) arising from defined benefit plans		(305,965)	(12,721)	(8,100)
Share of other comprehensive income of investments accounted for using equity method that will not be reclassified to profit or loss		279,060	88,998	48,051
Accumulated other comprehensive income/(expense) to be reclassified to profit or loss		1,169,774	(2,904,974)	(1,953,059)
Currency translation differences		622,209	297,679	(9,822)
Hedging gains/(losses)		(423,080)	(3,802,524)	(2,273,378)
Cash flow hedge gains/(losses)		(423,080)	(3,802,524)	(2,273,378)
Share of other comprehensive income of investments accounted for using equity method that will be reclassified to profit or loss		970,645	599,871	330,141
Restricted reserves	19	503,343	503,343	503,343
Retained earnings		7,503,568	4,008,731	6,357,914
Net income		41,044,621	3,494,837	(2,349,183)
Total equity attributable to equity holders of the parent		66,743,279	18,808,958	12,697,579
Non-controlling interests		442,493	272,042	227,854
Total equity and liabilities		168,892,335	106,257,111	63,614,229

These consolidated financial statements as of and for the year ended 31 December 2022 have been approved for issue by the Board of Directors on 8 February 2023.

⁽¹⁾ The restatement effects are explained in Note 2.2.1.

The accompanying notes form an integral part of these consolidated financial statements.

Türkiye Petrol Rafinerileri A.Ş.**Consolidated Statements of Profit or Loss and Other Comprehensive Income
For the Year Ended 31 December 2022**

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

	Notes	Audited	Restated ⁽¹⁾
		1 January - 31 December 2022	1 January - 31 December 2021
Revenue	20	481,764,656	152,492,019
Cost of sales	20	(418,987,726)	(136,631,978)
		62,776,930	15,860,041
General administrative expenses	21	(4,220,374)	(1,869,536)
Marketing expenses	21	(3,939,181)	(1,409,076)
Research and development expenses	21	(75,392)	(38,966)
Other operating income	22	4,371,412	1,245,864
Other operating expenses	22	(13,306,748)	(13,011,766)
Operating profit (loss)		45,606,647	776,561
Income/(expenses) from investment activities	23	53,298	107,754
Income (loss) from investments accounted by equity method	10	312,040	592,989
Operating profit before financial income (expense)		45,971,985	1,477,304
Financial income	24	6,186,893	12,855,321
Financial expense	24	(12,283,321)	(11,974,270)
Profit (loss) before tax from continued operations		39,875,557	2,358,355
Tax income (expense)		1,385,010	1,254,869
Current tax income (expense)		(2,679,309)	(96,680)
Deferred tax income (expense)	25	4,064,319	1,351,549
Net income (loss) from continued operations		41,260,567	3,613,224
Other comprehensive income:			
Items not to be reclassified to profit or loss		2,812,792	3,568,587
Revaluation gain (loss) on property	11	3,242,588	3,877,752
Actuarial gain (loss) arising from defined benefit plans		(366,809)	(5,779)
Share of other comprehensive income accounted for investment using equity method that will be not reclassified to profit or loss		190,062	40,947
Actuarial gain (loss) arising from defined benefit plans accounted for investment using equity method	10	(6,949)	(447)

The accompanying notes form an integral part of these consolidated financial statements.

Türkiye Petrol Rafinerileri A.Ş.**Consolidated Statements of Profit or Loss and Other Comprehensive Income
For the Year Ended 31 December 2022**

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

		Audited	Restated ⁽¹⁾ Audited
	Notes	1 January - 31 December 2022	1 January - 31 December 2021
Revaluation gain (loss) on property of investments accounted with using equity method	10	197,011	41,394
Tax effect of other comprehensive income (loss) not to be reclassified to profit or loss		(253,049)	(344,333)
Deferred tax income (expense)		(253,049)	(333,752)
Current income tax income (expense)		-	(10,581)
Items to be reclassified to profit or loss		4,071,453	(1,006,224)
Currency translation differences		324,530	307,501
Share of other comprehensive income accounted for investment using equity method that will be reclassified to profit or loss		370,774	269,730
Actuarial gain (loss) of revaluation or classification of investments using equity method	10	229,264	176,688
Gain (loss) from translation of foreign currency of investments using equity method	10	141,510	93,042
Income (expense) relating to avoidance of risk of cash flow		4,317,203	(1,946,688)
Income (loss) of avoidance of risk cash flow		4,317,203	(1,946,688)
Tax effect of other comprehensive income (loss) to be reclassified to profit or loss		(941,054)	363,233
Deferred tax income (expense)	25	(941,054)	363,233
Other comprehensive income (expense)		6,884,245	2,562,363
Total comprehensive income (expense)		48,144,812	6,175,587
Distribution of income for the period:			
Non-controlling interests		215,946	118,387
Attributable to equity holders of the parent		41,044,621	3,494,837
Distribution of total comprehensive income			
Non-controlling interests		210,491	64,208
Attributable to equity holders of the parent		47,934,321	6,111,379
Earnings (loss) per share from continued operations			
Earnings per share with nominal value Kr1 each (Kr)	26	149.11	12.70

⁽¹⁾ The restatement effects are explained in Note 2.2.1.

The accompanying notes form an integral part of these consolidated financial statements.

Türkiye Petrol Rafinerileri A.Ş.

Consolidated Statements of Changes in Equity

For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

	Gains/(losses) on valuation and remeasurement					
	Share Capital	Adjustments to share capital	Share premium	Gain on revaluation of properties	Actuarial gains/(losses) arising from defined benefit plans	Share of other comprehensive income of investments accounted for using equity method that will be not reclassified to profit or loss
31 December 2020	250,419	1,344,243	-	7,447,028	(7,841)	48,051
Transactions under common control	24,838	-	1,000,699	31,386	(259)	-
31 December 2020 (Restated) ⁽¹⁾	275,257	1,344,243	1,000,699	7,478,414	(8,100)	48,051
Transfers	-	-	-	-	-	-
Dividends paid	-	-	-	-	-	-
- Net profit for the period	-	-	-	-	-	-
- Other comprehensive income	-	-	-	3,532,131	(4,621)	40,947
Total comprehensive income	-	-	-	3,532,131	(4,621)	40,947
31 December 2021	275,257	1,344,243	1,000,699	11,010,545	(12,721)	88,998
Audited						
31 December 2021	250,419	1,344,243	-	10,957,223	(12,462)	88,998
Transactions under common control	24,838	-	1,000,699	53,322	(259)	-
31 December 2021 (Restated) ⁽¹⁾	275,257	1,344,243	1,000,699	11,010,545	(12,721)	88,998
Transfers	-	-	-	-	-	-
Dividends paid	-	-	-	-	-	-
- Net profit for the period	-	-	-	-	-	-
- Other comprehensive income	-	-	-	2,918,134	(293,244)	190,062
Total comprehensive income	-	-	-	2,918,134	(293,244)	190,062
31 December 2022	275,257	1,344,243	1,000,699	13,928,679	(305,965)	279,060

⁽¹⁾ The restatement effects are explained in Note 2.2.1.

⁽²⁾ As a result of the acquisition of Entek shares by partial division, the Company's paid-in capital was increased from TRY250,419 thousand to TRY275,256 thousand and was registered in the trade registry on 26 August 2022.

The accompanying notes form an integral part of these consolidated financial statements.

Hedge gain (losses)			Total retained earnings						
Currency translation differences	Cash flow hedge gains/(losses)	Share of other comprehensive income of investments accounted for using equity method that will be reclassified to profit or loss	Restricted reserves	Retained earnings	Net income/(expense)	Equity holders of parent	Non controlling interest	Total equity	
(9,822)	(2,243,649)	330,141	503,343	6,277,999	(2,493,511)	11,446,401	226,124	11,672,525	
-	(29,729)	-	-	79,915	144,328	1,251,178	1,730	1,252,908	
(9,822)	(2,273,378)	330,141	503,343	6,357,914	(2,349,183)	12,697,579	227,854	12,925,433	
-	-	-	-	(2,349,183)	2,349,183	-	-	-	
-	-	-	-	-	-	-	(20,020)	(20,020)	
-	-	-	-	-	3,494,837	3,494,837	118,387	3,613,224	
307,501	(1,529,146)	269,730	-	-	-	2,616,542	(54,179)	2,562,363	
307,501	(1,529,146)	269,730	-	-	3,494,837	6,111,379	64,208	6,175,587	
297,679	(3,802,524)	599,871	503,343	4,008,731	3,494,837	18,808,958	272,042	19,081,000	
297,679	(3,575,726)	599,871	503,343	3,784,488	3,319,134	17,557,210	270,307	17,827,517	
-	(226,798)	-	-	224,243	175,703	1,251,748	1,735	1,253,483	
297,679	(3,802,524)	599,871	503,343	4,008,731	3,494,837	18,808,958	272,042	19,081,000	
-	-	-	-	3,494,837	(3,494,837)	-	-	-	
-	-	-	-	-	-	-	(40,040)	(40,040)	
-	-	-	-	-	41,044,621	41,044,621	215,946	41,260,567	
324,530	3,379,444	370,774	-	-	-	6,889,700	(5,455)	6,884,245	
324,530	3,379,444	370,774	-	-	41,044,621	47,934,321	210,491	48,144,812	
622,209	(423,080)	970,645	503,343	7,503,568	41,044,621	66,743,279	442,493	67,185,772	

Türkiye Petrol Rafinerileri A.Ş.

Consolidated Statement of Cash Flow

For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

		Audited	Restated ¹⁾ Audited
	Notes	1 January - 31 December 2022	1 January - 31 December 2021
Cash flows from operating activities		43,913,911	(1,429,088)
Profit/(loss) for the period		41,260,567	3,613,224
Adjustment for reconciliation of profit/(loss) for the period		19,314,986	(302,528)
Adjustment for depreciation and amortisation expense	11, 12	934,912	853,530
Adjustments for Impairment Loss (Reversal of Impairment Loss)		468,317	-
Adjustments for impairment loss (reversal of impairment loss) of inventories	9	468,317	-
Adjustment for provisions	15	1,033,488	285,411
Adjustment for interest (income) and expense	24	1,421,093	682,812
Adjustment for unrealized foreign currency translation differences		(4,561,528)	(10,880,584)
Adjustment for fair value (gain) or loss		13,387,181	2,127,099
Adjustment for undistributed profit accounted by equity method	10	(312,040)	(592,989)
Adjustment for tax expenses(income)		(1,385,010)	(1,254,869)
Adjustment for (gain)/loss on sales of property, plant and equipment	23	13,170	(107,675)
Adjustment for other items related with cash flow of investment or financial activities		8,486,100	8,181,852
Other adjustments for reconciliation of profit/(loss)		(170,697)	402,885
Changes in working capital		(14,315,902)	(4,342,583)
Adjustment for decrease/(increase) in trade receivables		(7,654,771)	(12,099,380)
Adjustment for decrease/(increase) in other receivables related with operations		(5,733,462)	(3,005,769)
Adjustment for decrease/(increase) in derivative assets		213,832	(3,398,135)
Adjustment for decrease/(increase) in inventories		(12,756,799)	(16,056,896)
Adjustment for increase/(decrease) in trade payables		9,048,304	29,702,640
Adjustment for increase/(decrease) in other payables related with operations		4,813,912	(2,176,965)
Adjustment for decrease/(increase) in derivative liabilities		(2,246,918)	2,691,922
Cash flows from operating activities		46,259,651	(1,03,887)
Tax returns/(payments)		(1,828,635)	(40,062)
Other cash inflow/(outflow)		(517,105)	(357,139)
Cash flows from investing activities		(4,767,273)	(1,556,836)
Dividends received		240,055	80,000
Cash inflows from the sales of property, plant and equipment and intangible assets		16,334	169,643
Cash outflows from the purchase of property, plant and equipment and intangible assets		(2,775,298)	(1,370,769)
Cash outflows from the purchase of shares in other businesses or funds		(179,600)	(435,710)
Other cash inflow/(outflow)	6	(2,068,764)	-
Cash flows from financing activities		(20,046,415)	(11,035,826)
Cash inflows from financial liabilities	7	17,428,670	15,173,783
Cash outflows from financial liabilities	7	(24,313,541)	(21,640,328)
Cash inflows from derivative instruments		2,540,706	896,087
Cash outflows from derivative instruments		(14,427,650)	(4,920,032)
Cash outflows from payments of rent agreements	7	(82,481)	(35,698)
Dividends paid		(40,040)	(20,020)
Interest paid		(2,992,581)	(2,566,398)
Interest received		1,840,502	2,076,780
Net increase/(decrease) in cash and cash equivalents before the effect of foreign currency translation differences		19,100,223	(14,021,750)
Impact of foreign currency translation differences on cash and cash equivalents		4,561,528	10,880,229
Net increase/(decrease) in cash and cash equivalents		23,661,751	(3,141,521)
Cash and cash equivalents at the beginning of the period		16,905,131	20,046,652
Cash and cash equivalents at the end of the period	5	40,566,882	16,905,131

¹⁾ The restatement effects are explained in Note 2.2.1.

The accompanying notes form an integral part of these consolidated financial statements.

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements

For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

1. ORGANIZATION AND NATURE OF OPERATIONS OF THE GROUP

Türkiye Petrol Rafinerileri A.Ş. ("Tüpraş" or the "Company") was established on 16 November 1983. The Company is mainly engaged in the following fields:

- To provide and refine all kinds of crude oil, petroleum and chemical products, to sustain all kinds of commercial operations of produced and imported crude oil, petroleum and chemical products including export along with the storage and transportation activities during production and selling stages and to establish and operate domestic and foreign refineries for this purpose.
- To establish and operate factories and facilities in petrochemical and other related industries,
- To provide the necessary raw and supplementary materials and process, produce or trade these materials in order to obtain petrochemical and other related products,
- To package the products produced during various phases of production and to establish a packaging industry for this purpose, to evaluate and/or to sell waste, by products and substandard products, to establish and operate the necessary facilities for the destruction of the waste products,
- To establish and operate facilities and plants related with all kinds of energy and energy related industries within the framework of the laws and regulations. To obtain, use and trade all kinds of equipment, materials and chemical substances for this purpose,
- To purchase, sell, import, export, store, market all kinds of petroleum products, LPG and natural gas, to establish marketing and distributing companies or similar partnerships with legal entities or real persons or to acquire, transfer or sell the shares of partnerships, when necessary.

The main operations of Tüpraş and its subsidiaries (collectively referred as "the Group") are in Turkey and the Group's business segment has been identified as refining, trading of petroleum products, electricity production and supply.

The Company is registered at the Capital Markets Board ("CMB") of Turkey and its shares have been quoted at Borsa İstanbul A.Ş. ("BIST") since 1991. As of 31 December 2022, the principal shareholders and their respective shareholdings in the Company are as follow (Note 19, Note 2.2.1):

	(%)
Enerji Yatırımları A.Ş.	46.40
Koç Holding A.Ş.	6.35
Koç Family Members and Companies owned by Koç Family Members	0.47
Publicly held	46.78
	100.00

Enerji Yatırımları A.Ş., the parent of the Company is controlled by Koç Holding A.Ş., Koç Family and the companies owned by Koç Family.

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements

For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

1. ORGANIZATION AND NATURE OF OPERATIONS OF THE GROUP (CONTINUED)

The nature of the business of the subsidiaries and joint ventures of the Group is as follows:

Subsidiaries	Country of incorporation	Nature of business
Ditaş Deniz İşletmeciliği ve Tankerciliği A.Ş. ("Ditaş")	Turkey	Crude oil and petroleum products transportation
Üsküdar Tankercilik A.Ş. ("Üsküdar")	Turkey	Crude oil and petroleum products transportation
T Damla Denizcilik A.Ş. ("Damla")	Turkey	Mooring and tug service
Kadıköy Tankercilik A.Ş. ("Kadıköy")	Turkey	Crude oil and petroleum products transportation
Beykoz Tankercilik A.Ş. ("Beykoz")	Turkey	Crude oil and petroleum products transportation
Sarıyer Tankercilik A.Ş. ("Sarıyer")	Turkey	Crude oil and petroleum products transportation
Kartal Tankercilik A.Ş. ("Kartal")	Turkey	Crude oil and petroleum products transportation
Maltepe Tankercilik A.Ş. ("Maltepe")	Turkey	Crude oil and petroleum products transportation
Salacak Tankercilik A.Ş. ("Salacak")	Turkey	Crude oil and petroleum products transportation
Karşıyaka Tankercilik A.Ş. ("Karşıyaka")	Turkey	Crude oil and petroleum products transportation
Bakırköy Tankercilik A.Ş. ("Bakırköy")	Turkey	Crude oil and petroleum products transportation
Karaköy Tankercilik A.Ş. ("Karaköy")	Turkey	Crude oil and petroleum products transportation
Çengelköy Tankercilik A.Ş. ("Çengelköy")	Turkey	Crude oil and petroleum products transportation
Pendik Tankercilik A.Ş. ("Pendik")	Turkey	Crude oil and petroleum products transportation
Tuzla Tankercilik A.Ş. ("Tuzla")	Turkey	Crude oil and petroleum products transportation
Göztepe Tankercilik A.Ş. ("Göztepe")	Turkey	Crude oil and petroleum products transportation
Kuruçeşme Tankercilik A.Ş. ("Kuruçeşme")	Turkey	Crude oil and petroleum products transportation
Körfez Ulaştırma A.Ş. ("Körfez")	Turkey	Air carriage and transportation
Tupras Trading Ltd. ("Tupras Trading")	England	Crude oil and petroleum products trade
Entek Elektrik Üretimi A.Ş. ("Entek")	Turkey	Electricity and steam production and trade
Eltek Elektrik Enerjisi İthalat İhracat ve Toptan Ticaret A.Ş. ("Eltek")	Turkey	Electricity trade
Menzelet Kılavuzlu Elektrik Üretimi A.Ş. ("Menzelet Kılavuzlu")	Turkey	Electricity production and trade
Süloğlu Elektrik Üretimi A.Ş. ("Süloğlu")	Turkey	Electricity production and trade
Enspire Enerji Yatırımları ve Hizmetleri A.Ş. ("Enspire")	Turkey	Establishing a power generation facility
Tüpraş Enerji Girişimleri A.Ş. ("Tüpraş Ventures")	Turkey	Technology and venture investments

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements

For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira (“TRY”) unless otherwise indicated.)

1. ORGANIZATION AND NATURE OF OPERATIONS OF THE GROUP (CONTINUED)

Joint ventures	Country of Incorporation	Nature of business
OPET Petrolcülük A.Ş. (“Opet”)	Turkey	Petroleum products retail distribution
THY Opet Havacılık Yakıtları A.Ş.	Turkey	Jet fuel supply services
Opet International Limited	England	Petroleum products trading
Opet Trade B.V.	The Netherlands	Petroleum products trading
Opet Trade Singapore (In liquidation) ⁽¹⁾	Singapore	Petroleum products trading
Opet Market ve Akaryakıt İstasyon İşletmeciliği A.Ş.	Turkey	Petroleum products trading
Opet Fuchs Madeni Yağ San. ve Tic. A.Ş.	Turkey	Lube oil trading
Op Ay Akaryakıt Ticaret Ltd. Şti.	Turkey	Petroleum products trading
Akdeniz Akaryakıt Depolama Nakliyat ve Tic. A.Ş.	Turkey	Petroleum products trading
Opet Aygaz Gayrimenkul A.Ş.	Turkey	Real estate

⁽¹⁾ Ceased its activities since 15 July 2015.

The average number of employees of the Group as at 31 December 2022 is 6,043 (31 December 2021 - 5,981 and 31 December 2020- 5,441).

The address of the registered office of the Company is as follows:

Türkiye Petrol Rafinerileri A.Ş.
Gülbahar Mahallesi
Büyükdere Caddesi No:101/A
Şişli, İstanbul

2. BASIS OF PRESENTATION OF CONSOLIDATED FINANCIAL STATEMENTS

2.1. Basis of presentation

2.1.1 Financial reporting standards

The consolidated financial statements and disclosures have been prepared in accordance with the communiqué numbered II-14,1 “Communiqué on the Principles of Financial Reporting in Capital Markets” (the Communiqué) announced by the Capital Markets Board (“CMB”) on 13 September 2013 which is published on Official Gazette numbered 28676. In accordance with article 5th of the Communiqué, companies should apply Turkish Financial Reporting Standards (“TFRS”) and interpretations regarding these standards as published by the Public Oversight Accounting and Auditing Standards Authority of Turkey (“POA”).

The consolidated financial statements are presented in accordance with the formats specified in the “Announcement of TFRS Taxonomy” published by the POA on 4 October 2022 and the Financial Table Examples and User Guide published by the CMB.

The Group and the group companies established in Turkey maintain their books of account and prepare their statutory financial statements (“Statutory Financial Statements”) in accordance with rules and principles published by POA, the Turkish Commercial Code (“TCC”), tax legislation and the Uniform Chart of Accounts issued by the Ministry of Finance. These consolidated financial statements have been prepared in Turkish Lira in accordance with the Turkish Financial Reporting Standards, under the historical cost convention except for lands, financial investments and derivative instruments that are carried at their fair values. These consolidated financial statements are based on the statutory records with the required adjustments and reclassifications reflected for the purpose of fair presentation in accordance with the Turkish Financial Reporting Standards.

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements

For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

2. Basis of presentation of consolidated financial statements (Continued)

2.1. Basis of presentation (Continued)

2.1.1 Financial reporting standards (Continued)

Public Oversight Accounting and Auditing Standards Authority ("POA") made an announcement on 20 January 2022 about Application of Financial Reporting in Hyperinflationary Economies for Turkish Financial Reporting Standards and Reporting Standards for Large and Medium Sized Entities. In accordance with the announcement, companies that apply TFRS should not adjust financial statements for TAS 29 - Financial Reporting in Hyperinflationary Economies for the year 2021. As of the preparation date of this year end consolidated financial statements, POA did not make an additional announcement and no adjustment was made to these consolidated financial statements in accordance with TAS 29.

Functional and presentation currency

Items included in the financial statements of each of the Group's entities are measured using the currency of the primary economic environment in which the entity operates ('the functional currency'). The consolidated financial statements are presented in TRY, which is the functional currency of Tüpraş and the presentation currency of the Group.

Foreign group companies

Tupras Trading, a subsidiary of the Group, prepares its financial statements in US Dollar functional currency. The results of the relevant subsidiary are based on the average exchange rate for the relevant period, assets and liabilities are translated into TRY with the period-end exchange rate. Exchange differences arising from the translation of net assets at the beginning of the period into TRY and differences between average and period-end exchange rates are included in the foreign currency translation differences account in shareholders' equity and are associated with total comprehensive income.

2.1.2 Amendments in Turkish Financial Reporting Standards (TFRS)

The new standards, amendments and interpretations

The accounting policies adopted in preparation of the consolidated financial statements as at 31 December 2022 are consistent with those of the previous financial year, except for the adoption of new and amended TFRS and IFRIC interpretations effective as of 1 January 2022. The effects of these standards and interpretations on the Group's financial position and performance have been disclosed in the related paragraphs.

a) Standards, amendments, and interpretations applicable as of 31 December 2022:

- **Amendment to TFRS 16, 'Leases' - Covid-19 related rent concessions Extension of the practical expedient (effective 1 April 2021);** As a result of the coronavirus (COVID-19) pandemic, rent concessions have been granted to lessees. In May 2020, the IASB published an amendment to TFRS 16 that provided an optional practical expedient for lessees from assessing whether a rent concession related to COVID-19 is a lease modification. On 31 March 2021, the IASB published an additional amendment to extend the date of the practical expedient from 30 June 2021 to 30 June 2022. Lessees can elect to account for such rent concessions in the same way as they would if they were not lease modifications. In many cases, this will result in accounting for the concession as variable lease payments in the period(s) in which the event or condition that triggers the reduced payment occurs.
- **A number of narrow-scope amendments to TFRS 3, TAS 16, TAS 37 and some annual improvements on TFRS 1, TFRS 9, TAS 41 and TFRS 16;** effective from annual periods beginning on or after 1 January 2022.
- **Amendments to TFRS 3, 'Business combinations'** update a reference in TFRS 3 to the Conceptual Framework for Financial Reporting without changing the accounting requirements for business combinations.

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements

For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

2. Basis of presentation of consolidated financial statements (Continued)

2.1. Basis of presentation (Continued)

2.1.2 Amendments in Turkish Financial Reporting Standards (TFRS) (Continued)

- **Amendments to TAS 16**, 'Property, plant and equipment' prohibit a company from deducting from the cost of property, plant and equipment amounts received from selling items produced while the company is preparing the asset for its intended use. Instead, a company will recognise such sales proceeds and related cost in profit or loss.
- **Amendments to TAS 37**, 'Provisions, contingent liabilities and contingent assets' specify which costs a company includes when assessing whether a contract will be loss-making.

Annual improvements make minor amendments to TFRS 1, 'First-time Adoption of TFRS', TFRS 9, 'Financial Instruments', TAS 41, 'Agriculture' and the Illustrative Examples accompanying TFRS 16, 'Leases'.

The mentioned amendments do not have a significant impact on the financial position and performance of the Group.

b) Standards, amendments, and interpretations that are issued but not effective as of 31 December 2022:

- **Narrow scope amendments to TAS 1, Practice statement 2 and TAS 8**; effective from annual periods beginning on or after 1 January 2023. The amendments aim to improve accounting policy disclosures and to help users of the financial statements to distinguish between changes in accounting estimates and changes in accounting policies.
- **Amendment to TAS 12 - Deferred tax related to assets and liabilities arising from a single transaction**; effective from annual periods beginning on or after 1 January 2023. These amendments require companies to recognise deferred tax on transactions that, on initial recognition give rise to equal amounts of taxable and deductible temporary differences.
- **Amendment to TFRS 16 - Leases on sale and leaseback**; effective from annual periods beginning on or after 1 January 2024. These amendments include requirements for sale and leaseback transactions in TFRS 16 to explain how an entity accounts for a sale and leaseback after the date of the transaction. Sale and leaseback transactions where some or all the lease payments are variable lease payments that do not depend on an index or rate are most likely to be impacted.
- **Amendment to TAS 1 - Non current liabilities with covenants**; effective from annual periods beginning on or after 1 January 2024. These amendments clarify how conditions with which an entity must comply within twelve months after the reporting period affect the classification of a liability.
- **TFRS 17, 'Insurance Contracts', as amended in December 2021**; effective from annual periods beginning on or after 1 January 2023. This standard replaces TFRS 4, which currently permits a wide variety of practices in accounting for insurance contracts. TFRS 17 will fundamentally change the accounting by all entities that issue insurance contracts and investment contracts with discretionary participation features.

The mentioned amendments do not have a significant impact on the financial position and performance of the Group.

2.1.3 Financial statements of subsidiaries and joint ventures operating in foreign countries

Financial statements of subsidiaries and joint ventures operating in foreign countries are prepared according to the legislation of the country in which they operate, and adjusted to the Turkish Financial Reporting Standards to reflect the proper presentation and content. Foreign subsidiaries' and joint ventures' assets and liabilities are translated into TRY with the foreign exchange rate at the balance sheet date. Exchange differences arising from the retranslation of the opening net assets of foreign undertakings and differences between the average and balance sheet date rates are included in the statements of other comprehensive income and shareholders' equity.

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements

For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

2. Basis of presentation of consolidated financial statements (Continued)

2.1. Basis of presentation (Continued)

2.1.4. Principles of consolidation

a) The consolidated financial statements for year ended 31 December 2022 have been prepared in accordance with principles stated on the consolidated financial statements for the year ended 31 December 2021 and 31 December 2020 include financial statements of Tüpraş, and its subsidiaries.

b) As of 31 December 2022, 31 December 2021 and 31 December 2020 the voting rights and effective partnership shares of the subsidiaries and joint ventures that were consolidated are as follows.

	31 December 2022		31 December 2021		31 December 2020	
	Direct and indirect voting right possessed by the company (%)	Proportion of effective interest (%)	Direct and indirect voting right possessed by the company (%)	Proportion of effective interest (%)	Direct and indirect voting right possessed by the company (%)	Proportion of effective interest (%)
Bağlı Ortaklık						
Ditaş	79.98	79.98	79.98	79.98	79.98	79.98
Üsküdar	79.98	79.98	79.98	79.98	79.98	79.98
Damla	79.98	79.98	79.98	79.98	79.98	79.98
Beykoz	79.98	79.98	79.98	79.98	79.98	79.98
Kadıköy	79.98	79.98	79.98	79.98	79.98	79.98
Sarıyer	79.98	79.98	79.98	79.98	79.98	79.98
Kartal	79.98	79.98	79.98	79.98	79.98	79.98
Maltepe	79.98	79.98	79.98	79.98	79.98	79.98
Salacak	79.98	79.98	79.98	79.98	79.98	79.98
Karşıyaka	79.98	79.98	79.98	79.98	79.98	79.98
Bakırköy	79.98	79.98	79.98	79.98	79.98	79.98
Karaköy	79.98	79.98	79.98	79.98	79.98	79.98
Çengelköy	79.98	79.98	79.98	79.98	79.98	79.98
Pendik	79.98	79.98	79.98	79.98	79.98	79.98
Tuzla	79.98	79.98	79.98	79.98	79.98	79.98
Göztepe	79.98	79.98	79.98	79.98	79.98	79.98
Kuruçeşme ^(*)	79.98	79.98	-	-	-	-
Körfez	100.00	100.00	100.00	100.00	100.00	100.00
Tupras Trading	100.00	100.00	100.00	100.00	100.00	100.00
Entek ^(*)	99.23	99.23	99.23	99.23	99.23	99.23
Eltek ^(*)	99.23	99.23	99.23	99.23	99.23	99.23
Menzelet Kılavuzlu ^(*)	99.23	99.23	99.23	99.23	99.23	99.23
Süloğlu ^(*)	99.23	99.23	99.23	99.23	-	-
Enspire ^(*)	99.23	99.23	99.23	99.23	-	-
Tüpraş Ventures	100.00	100.00	-	-	-	-

^(*) The financial statements of Entek and its subsidiaries, which were acquired in 2022, have been consolidated retrospectively in the financial statements using the Pooling of Interest method published by Public Oversight Accounting and Auditing Standards Authority (Note 2.2.1).

^(*) Kuruçeşme Tankercilik A.Ş. was registered on 31 December 2022.

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements

For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

2. Basis of presentation of consolidated financial statements (Continued)

2.1. Basis of presentation (Continued)

2.1.4. Principles of consolidation (Continued)

The financial position statements and income statements of the subsidiaries have been consolidated using the full consolidation method, and the registered contributory value of the shares owned by the company is mutually clarified with the relevant equity. Transactions and balances within the scope of consolidation between the Company and Subsidiaries are mutually write off. The book values of the subsidiary shares owned by the Company and the dividends arising from these shares have been netted off from the related equity and comprehensive income statement accounts.

c) Joint ventures are companies in which the Group has joint control. Joint control is the contractually agreed sharing of control. The control, exists only when decisions about the relevant activities require the unanimous consent of the parties sharing control. The Group's interest in joint ventures is accounted for with equity method. Investments accounted by equity method are presented in consolidated statement of financial position with additions or deductions of changes on share of the Group on net assets of the affiliate and with deduction of provisions for the decline in the value.

The table below shows the total interest of the Group in its joint ventures accounted by using the equity method as at 31 December 2022, 31 December 2021 and 31 December 2020:

	31 December 2022		31 December 2021		31 December 2020	
	Direct and indirect voting right possessed by the company (%)	Proportion of effective interest (%)	Direct and indirect voting right possessed by the company (%)	Proportion of effective interest (%)	Direct and indirect voting right possessed by the company (%)	Proportion of effective interest (%)
Joint ventures accounted by equity method						
Opet	50.00	41.67	50.00	40.00	50.00	40.00
Opet International Limited ⁽¹⁾	50.00	41.67	50.00	40.00	50.00	40.00
Opet Trade B.V. ⁽¹⁾	50.00	41.67	50.00	40.00	50.00	40.00
Tasfiye halinde Opet Trade Singapore ^{(1) (2)}	50.00	41.67	50.00	40.00	50.00	40.00
Opet Market ve Akaryakıt İstasyon İşletmeciliği A.Ş. ⁽¹⁾	50.00	41.67	50.00	40.00	50.00	40.00
THY Opet Havacılık Yakıtları A.Ş. ⁽²⁾	25.00	20.84	25.00	20.00	25.00	20.00
Opet Fuchs Madeni Yağ San. ve Tic. A.Ş. ⁽²⁾	25.00	20.84	25.00	20.00	25.00	20.00
Op Ay Akaryakıt Ticaret Ltd. Şti. ⁽²⁾	25.00	20.84	25.00	20.00	25.00	20.00
Akdeniz Akaryakıt Depolama Nakliyat ve Tic. A.Ş. ⁽²⁾	16.65	13.88	16.65	13.32	16.65	13.32
Opet Aygaz Gayrimenkul A.Ş. ⁽²⁾	25.00	20.84	25.00	20.00	25.00	20.00
Ayas Enerji Üretim ve Ticaret A.Ş. ⁽²⁾⁽³⁾	-	-	49.62	49.62	49.62	49.62

⁽¹⁾ Related companies are accounted by consolidation in Opet's financial statements.

⁽²⁾ Related companies are accounted by equity method in Opet's financial statements.

⁽³⁾ Ceased its activities since 15 July 2015.

⁽⁴⁾ All shares of Ayas Enerji Üretim ve Ticaret A.Ş., which was accounted by the equity method in Entek's financial statements, were transferred on 16 December 2022.

d) The shares of the minority shareholders in the net assets and operating results of subsidiaries are presented as "non-controlling interests" in the consolidated financial statements.

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements

For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

2. Basis of presentation of consolidated financial statements (Continued)

2.2. Changes in accounting policies

2.2.1 Comparative information and restatement of prior period financial statements

Significant changes in accounting policies are applied retrospectively and prior period financial statements are restated.

The Group has prepared the consolidated statement of financial position as of 31 December 2022 in comparative with the consolidated statement of financial position prepared as of 31 December 2021 and 2020. The consolidated statement of comprehensive income, the statement of cash flow and the statement of changes in shareholders' equity for the period ended 31 December 2022 have been presented comparatively with the period ended 31 December 2021.

In order to comply with the presentation of the current period consolidated financial statements, comparative information is revised when deemed necessary and important differences are disclosed. The Group has restated its prior period financial statements in order to comply with the presentation of the current period consolidated financial statements.

Tüpraş took over Entek shares with a nominal value of TRY 942,727 thousand corresponding to 99.23% of Entek shares, from Koç Holding and Aygaz through a partial division. Tüpraş's capital amount was increased from TRY 250,419 thousand to TRY 275,257 thousand. The acquisition is treated as a business combination under common control because the same persons control the business before and after the combination. In accordance with the principle of "Accounting for Business Combinations Subject to Joint Control" published in the Gazette of Republic of Turkey dated 21 July 2018 and Board Decision taken on 11 October 2018 by the Public Oversight Accounting and Auditing Standards Authority (POA), the "Pooling of Interest" method was used to reflect the takeover on the Group's financial statements. The financial statements of the current and comparative period are presented as if the merger has been realized as of the beginning of the comparative period. The difference in the carrying amount of the acquired entity's net assets at the acquisition date is recognized in the "Share Premium" account.

Accordingly, the book values of the assets and liabilities of the acquire, which were included in the financial statements of the company holding joint control as of the acquisition date, is reflected in the financial statements retrospectively as of the beginning of the period which is disclosed comparatively. In this context, with the acquisition of Entek, the financial statements as of 31 December 2021 and 31 December 2020, the consolidated statement of profit or loss as of 31 December 2021, the statement of other comprehensive income, the statement of changes in shareholders' equity and the statement of cash flows have been restated.

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements

For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

2. Basis of presentation of consolidated financial statements (Continued)

2.2. Changes in accounting policies (Continued)

2.2.1 Comparative information and restatement of prior period financial statements (Continued)

The effects of the relevant regulations and classifications described above are presented below.

ASSETS	Reported ⁽¹⁾ prior period 31 December 2021	Entek and subsidiaries 31 December 2021	Effects of restatement including eliminations	Restated ⁽¹⁾ prior period 31 December 2021
Current Assets	65,428,752	1,086,632	-	66,515,384
Cash and cash equivalents	20,400,235	775,951	-	21,176,186
Trade receivables	13,516,823	279,859	-	13,796,682
Due from related parties	1,668,264	77,261	-	1,745,525
Trade receivables from third parties	11,848,559	202,598	-	12,051,157
Other receivables	20,541	25	-	20,566
Other receivables from third parties	20,541	25	-	20,566
Derivative instruments	3,817,972	5,728	-	3,823,700
Inventories	23,755,862	1,664	-	23,757,526
Prepaid expenses	186,381	7,109	-	193,490
Other current assets	3,730,938	16,296	-	3,747,234
Non-Current Assets	37,106,249	2,635,478	-	39,741,727
Financial investments	5,389	308	-	5,697
Investments accounted for using the equity method	2,150,156	-	-	2,150,156
Goodwill	-	599	-	599
Property, plant and equipment	26,288,463	2,027,836	-	28,316,299
Right of use asset	182,156	3,619	-	185,775
Intangible assets	66,801	495,385	-	562,186
Other intangible assets	66,801	495,385	-	562,186
Derivative instruments	44,213	-	-	44,213
Prepaid expenses	94,639	28,797	-	123,436
Deferred tax assets	6,377,848	58,292	-	6,436,140
Other non-current assets	1,896,584	20,642	-	1,917,226
Total Assets	102,535,001	3,722,110	-	106,257,111

⁽¹⁾ The reported column shows the consolidated financial statement before the Entek acquisition, and the restated column shows the consolidated financial statement after the Entek acquisition.

Türkiye Petrol Rafinerileri A.Ş.**Notes to the Consolidated Financial Statements
For the Year Ended 31 December 2022**

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

2. Basis of presentation of consolidated financial statements (Continued)**2.2. Changes in accounting policies (Continued)****2.2.1 Comparative information and restatement of prior period financial statements (Continued)**

LIABILITIES	Reported ⁽¹⁾ prior period 31 December 2021	Entek and subsidiaries 31 December 2021	Effects of restatement including eliminations s	Restated ⁽¹⁾ prior period 31 December 2021
Current liabilities	64,001,571	827,131	-	64,828,702
Short-term financial liabilities	563,221	68,725	-	631,946
Current portion of long term financial liabilities	10,835,745	160,520	-	10,996,265
Trade payables	43,704,239	133,216	-	43,837,455
Due to related parties	165,021	17,891	-	182,912
Trade payables, third parties	43,539,218	115,325	-	43,654,543
Liabilities for employee benefits	134,471	1,405	-	135,876
Other payables	90,127	232,891	-	323,018
Due to related parties	43,328	-	-	43,328
Other payables to third parties	46,799	232,891	-	279,690
Derivative instruments	3,302,177	164,395	-	3,466,572
Deferred income	32,315	-	-	32,315
Current income tax liabilities	38,393	31,371	-	69,764
Short-term provisions	200,116	19,050	-	219,166
Short-term provisions for employee benefits	19,387	-	-	19,387
Other provisions	180,729	19,050	-	199,779
Other current liabilities	5,100,767	15,558	-	5,116,325
Non-current liabilities	20,705,913	1,641,496	-	22,347,409
Long Term Borrowings	20,218,575	1,346,878	-	21,565,453
Long-term provisions	447,560	7,439	-	454,999
Long-term provisions for employee benefits	447,560	7,439	-	454,999
Deferred income	9,987	-	-	9,987
Derivative Instruments	29,117	43,941	-	73,058
Deferred tax liability	-	155,210	-	155,210
Other long term liabilities	674	88,028	-	88,702
Total liabilities	84,707,484	2,468,627	-	87,176,111

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements

For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

2. Basis of presentation of consolidated financial statements (Continued)

2.2. Changes in accounting policies (Continued)

2.2.1 Comparative information and restatement of prior period financial statements (Continued)

LIABILITIES	Reported ⁽¹⁾ prior period 31 December 2021	Entek and subsidiaries 31 December 2021	Effects of restatement including eliminations	Restated ⁽¹⁾ prior period 31 December 2021
Equity	17,827,517	1,253,483	-	19,081,000
Share capital	250,419	950,000	(925,162)	275,257
Adjustment to share capital	1,344,243	75,536	(75,536)	1,344,243
Share premium	-	-	1,000,699	1,000,699
Accumulated other comprehensive income/(expense)				
not to be reclassified to profit or loss	11,033,759	53,471	(408)	11,086,822
Gains/losses on revaluation and remeasurement	10,944,761	53,471	(408)	10,997,824
Gain on revaluation of properties	10,957,223	53,730	(408)	11,010,545
Actuarial gain/(loss) arising from defined benefit plans	(12,462)	(259)	-	(12,721)
Share of other comprehensive income of investments accounted for using equity method that will not be reclassified to profit or loss	88,998	-	-	88,998
Accumulated other comprehensive income/(expense)				
to be reclassified to profit or loss	(2,678,176)	(228,534)	1,736	(2,904,974)
Currency translation differences	297,679	-	-	297,679
Hedging gains/(losses)	(3,575,726)	(228,534)	1,736	(3,802,524)
Cash flow hedge gains/(losses)	(3,575,726)	(228,534)	1,736	(3,802,524)
Share of other comprehensive income of investments accounted for using equity method that will be reclassified to profit or loss	599,871	-	-	599,871
Restricted reserves	503,343	-	-	503,343
Retained earnings	3,784,488	225,960	(1,717)	4,008,731
Net income	3,319,134	177,050	(1,347)	3,494,837
Total equity attributable to equity holders of the parent	17,557,210	1,253,483	(1,735)	18,808,958
Non-controlling interests	270,307	-	1,735	272,042
Total equity and liabilities	102,535,001	3,722,110	-	106,257,111

⁽¹⁾ The reported column shows the consolidated financial statement before the Entek acquisition, and the restated column shows the consolidated financial statement after the Entek acquisition.

Türkiye Petrol Rafinerileri A.Ş.**Notes to the Consolidated Financial Statements
For the Year Ended 31 December 2022**

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

2. Basis of presentation of consolidated financial statements (Continued)**2.2. Changes in accounting policies (Continued)****2.2.1 Comparative information and restatement of prior period financial statements (Continued)**

ASSETS	Reported ⁽¹⁾ prior period 31 December 2020	Entek and subsidiaries 31 December 2020	Effects of restatement including eliminations	Restated ⁽¹⁾ prior period 31 December 2020
Current Assets	30,663,146	618,611	-	31,281,757
Cash and cash equivalents	19,825,292	493,841	-	20,319,133
Trade receivables	1,735,549	104,878	-	1,840,427
Due from related parties	324,555	36,376	-	360,931
Trade receivables from third parties	1,410,994	68,502	-	1,479,496
Other receivables	18,690	774	-	19,464
Other receivables from third parties	18,690	774	-	19,464
Derivative instruments	380,129	1,766	-	381,895
Inventories	7,700,630	-	-	7,700,630
Prepaid expenses	233,614	5,324	-	238,938
Other current assets	769,242	12,028	-	781,270
Non-Current Assets	30,505,376	1,827,096	-	32,332,472
Financial investments	3,696	308	-	4,004
Investments accounted for using the equity method	1,326,490	-	-	1,326,490
Property, plant and equipment	21,875,889	1,581,159	-	23,457,048
Right of use asset	199,005	3,142	-	202,147
Intangible assets	62,369	192,872	-	255,241
Other intangible assets	62,369	192,872	-	255,241
Derivative instruments	87,883	-	-	87,883
Prepaid expenses	134,786	10,757	-	145,543
Deferred tax assets	5,002,427	21,565	-	5,023,992
Other non-current assets	1,812,831	17,293	-	1,830,124
Total Assets	61,168,522	2,445,707	-	63,614,229
LIABILITIES				
Current liabilities	28,340,528	425,903	-	28,766,431

Türkiye Petrol Rafinerileri A.Ş.
Notes to the Consolidated Financial Statements
For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

2. Basis of presentation of consolidated financial statements (Continued)

2.2. Changes in accounting policies (Continued)

2.2.1 Comparative information and restatement of prior period financial statements (Continued)

	Reported ⁽¹⁾ prior period 31 December 2020	Entek and subsidiaries 31 December 2020	Effects of restatement including eliminations	Restated ⁽¹⁾ prior period 31 December 2020
ASSETS				
LIABILITIES				
Current liabilities	28,340,528	425,903	-	28,766,431
Short-term financial liabilities	2,097,808	2,032	-	2,099,840
Current portion of long term financial liabilities	6,403,937	30,452	-	6,434,389
Trade payables	14,137,468	66,707	-	14,204,175
Due to related parties	218,486	15,469	-	233,955
Trade payables, third parties	13,918,982	51,238	-	13,970,220
Liabilities for employee benefits	151,927	1,033	-	152,960
Other payables	64,113	244,656	-	308,769
Due to related parties	30,763	-	-	30,763
Other payables to third parties	33,350	244,656	-	278,006
Derivative instruments	762,828	6,879	-	769,707
Deferred income	129,254	-	-	129,254
Current income tax liabilities	2,459	-	-	2,459
Short-term provisions	142,088	32,063	-	174,151
Short-term provisions for employee benefits	24,572	-	-	24,572
Other provisions	117,516	32,063	-	149,579
Other current liabilities	4,448,646	42,081	-	4,490,727
Non-current liabilities	21,155,469	766,896	-	21,922,365
Long term borrowings	20,743,323	404,392	-	21,147,715
Other payables	-	207,407	-	207,407
Long-term provisions	356,405	4,922	-	361,327
Long-term provisions for employee benefits	356,405	4,922	-	361,327
Deferred income	9,504	-	-	9,504
Derivative Instruments	45,490	32,511	-	78,001
Deferred tax Liability	-	63,354	-	63,354
Other long term liabilities	747	54,310	-	55,057
Total liabilities	49,495,997	1,192,799	-	50,688,796

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

2. Basis of presentation of consolidated financial statements (Continued)

2.2. Changes in accounting policies (Continued)

2.2.1 Comparative information and restatement of prior period financial statements (Continued)

ASSETS	Reported ⁽¹⁾ prior period 31 December 2020	Entek and subsidiaries 31 December 2020	Effects of restatement including eliminations	Restated ⁽¹⁾ prior period 31 December 2020
Equity	11,672,525	1,252,908	-	12,925,433
Share capital	250,419	950,000	(925,162)	275,257
Adjustment to share capital	1,344,243	75,536	(75,536)	1,344,243
Share premium	-	-	1,000,699	1,000,699
Accumulated other comprehensive income/(expense)	-	-	-	-
not to be reclassified to profit or loss	7,487,238	31,367	(240)	7,518,365
Gains/losses on revaluation and remeasurement	7,439,187	31,367	(240)	7,470,314
Gain on revaluation of properties	7,447,028	31,626	(240)	7,478,414
Actuarial gain/(loss) arising from defined benefit plans	(7,841)	(259)	-	(8,100)
Share of other comprehensive income of investments accounted for using equity method that will not be reclassified to profit or loss	48,051	-	-	48,051
Accumulated other comprehensive income/(expense)	-	-	-	-
to be reclassified to profit or loss	(1,923,330)	(29,957)	228	(1,953,059)
Currency translation differences	(9,822)	-	-	(9,822)
Hedging gains/(losses)	(2,243,649)	(29,957)	228	(2,273,378)
Cash flow hedge gains/(losses)	(2,243,649)	(29,957)	228	(2,273,378)
Share of other comprehensive income of investments accounted for using equity method that will be reclassified to profit or loss	330,141	-	-	330,141
Restricted reserves	503,343	-	-	503,343
Retained earnings	6,277,999	80,529	(614)	6,357,914
Net income	(2,493,511)	145,433	(1,105)	(2,349,183)
Total equity attributable to equity holders of the parent	11,446,401	1,252,908	(1,730)	12,697,579
Non-controlling interests	226,124	-	1,730	227,854
Total equity and liabilities	61,168,522	2,445,707	-	63,614,229

⁽¹⁾ The reported column shows the consolidated financial statement before the Entek acquisition, and the restated column shows the consolidated financial statement after the Entek acquisition.

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements

For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

2. Basis of presentation of consolidated financial statements (Continued)

2.2. Changes in accounting policies (Continued)

2.2.1 Comparative information and restatement of prior period financial statements (Continued)

	Reported ⁽¹⁾ prior period 31 December 2021	Entek and subsidiaries 31 December 2021	Effects of restatement including eliminations	Restated ⁽¹⁾ prior period 31 December 2021
Revenue	150,731,968	1,760,051	-	152,492,019
Cost of sales	(135,281,326)	(1,350,652)	-	(136,631,978)
	15,450,642	409,399	-	15,860,041
General administrative expenses	(1,793,787)	(75,749)	-	(1,869,536)
Marketing expenses	(1,409,076)	-	-	(1,409,076)
Research and development expenses	(38,966)	-	-	(38,966)
Other operating income	1,222,382	23,482	-	1,245,864
Other operating expenses	(12,966,605)	(45,161)	-	(13,011,766)
Operating profit (loss)	464,590	311,971	-	776,561
Income/(expenses) from investment activities	107,950	(196)	-	107,754
Income (loss) from investments accounted by equity method	592,989		-	592,989
Operating profit before financial income (expense)	1,165,529	311,775	-	1,477,304
Financial income	12,555,341	299,980	-	12,855,321
Financial expense	(11,559,692)	(414,578)	-	(11,974,270)
Profit (loss) before tax from continued operations	2,161,178	197,177	-	2,358,355
Tax income (expense)	1,274,996	(20,127)	-	1,254,869
Taxes on income	(62,734)	(33,946)	-	(96,680)
Deferred tax income (expense)	1,337,730	13,819	-	1,351,549
Net income (loss) from continued operations	3,436,174	177,050	-	3,613,224

⁽¹⁾ The reported column shows the consolidated financial statement before the acquisition of Entek, and the restated column shows the consolidated financial statement after the acquisition of Entek

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements

For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

2. Basis of presentation of consolidated financial statements (Continued)

2.2. Changes in accounting policies (Continued)

2.2.1 Comparative information and restatement of prior period financial statements (Continued)

	Reported ⁽¹⁾ prior period 31 December 2021	Entek and subsidiaries 31 December 2021	Effect of restatement including eliminations	Restated ⁽¹⁾ prior period 31 December 2021
Other comprehensive income:				
Items not to be reclassified to profit or loss	3,546,483	22,104	-	3,568,587
Revaluation gain (loss) on property	3,853,192	24,560	-	3,877,752
Actuarial gain (loss) arising from defined benefit plans	(5,779)	-	-	(5,779)
Share of other comprehensive income accounted for investment using equity method that will be not reclassified to profit or loss	40,947	-	-	40,947
Actuarial gain (loss) arising from defined benefit plans accounted for investment using equity method	(447)	-	-	(447)
Revaluation gain (loss) on property of investments accounted with using equity method	41,394	-	-	41,394
Tax effect of other comprehensive income (loss) not to be reclassified to profit or loss	(341,877)	(2,456)	-	(344,333)
Deferred tax income (expense)	(331,296)	(2,456)	-	(333,752)
Current income tax income (expense)	(10,581)	-	-	(10,581)
			-	-
Items to be reclassified to profit or loss	(807,646)	(198,578)	-	(1,006,224)
Currency translation differences	307,501	-	-	307,501
Share of other comprehensive income accounted for investment using equity method that will be reclassified to profit or loss	269,730	-	-	269,730
Actuarial gain (loss) of revaluation or classification of investments using equity method	176,688	-	-	176,688
Gain (loss) from translation of foreign currency of investments using equity method	93,042	-	-	93,042
Income (expense) relating to avoidance of risk of cash flow	(1,753,865)	(192,823)	-	(1,946,688)
Income (loss) of avoidance of risk cash flow	(1,753,865)	(192,823)	-	(1,946,688)
Tax effect of other comprehensive income (loss) to be reclassified to profit or loss	368,988	(5,755)	-	363,233
Deferred tax income (expense)	368,988	(5,755)	-	363,233
			-	-
Other comprehensive income (expense)	2,738,837	(176,474)	-	2,562,363
Total comprehensive income (expense)	6,175,011	576	-	6,175,587
Distribution of income for the period:				
Non-controlling interests	117,041	1,346	-	118,387
Attributable to equity holders of the parent	3,319,133	175,704	-	3,494,837
			-	-
Distribution of total comprehensive income				
Non-controlling interests	64,203	5	-	64,208
Attributable to equity holders of the parent	6,110,808	571	-	6,111,379

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements

For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

2. Basis of presentation of consolidated financial statements (Continued)

2.2. Changes in accounting policies (Continued)

2.2.1 Comparative information and restatement of prior period financial statements (Continued)

	Reported ⁽¹⁾ prior period 31 December 2021	Entek and subsidiaries 31 December 2021	Effects of restatement including eliminations	Restated ⁽¹⁾ prior period 31 December 2021
Cash flows from operating activities	593,625	(2,022,713)	-	(1,429,088)
Profit/(loss) for the period	3,436,175	177,049	-	3,613,224
Adjustment for reconciliation of profit/(loss) for the period	(517,072)	214,544	-	(302,528)
Changes in working capital	(2,167,429)	(2,175,154)	-	(4,342,583)
Cash flows from operating activities	751,674	(1,783,561)	-	(1,031,887)
Cash flows from investing activities	(1,076,856)	(479,980)	-	(1,556,836)
Cash flows from financing activities	(11,501,460)	465,634	-	(11,035,826)
Net increase/(decrease) in cash and cash equivalents before the effect of foreign currency translation differences	(11,984,691)	(2,037,059)	-	(14,021,750)
Impact of foreign currency translation differences on cash and cash equivalents	10,617,543	262,686	-	10,880,229
Net increase/(decrease) in cash and cash equivalents	(1,367,148)	(1,774,373)	-	(3,141,521)
Cash and cash equivalents at the beginning of the period	17,506,177	2,540,475	-	20,046,652
Cash and cash equivalents at the end of the period	16,139,029	766,102	-	16,905,131

⁽¹⁾ The reported column shows the consolidated financial statement before the acquisition of Entek, and the restated column shows the consolidated financial statement after the acquisition of Entek.

2.2.2 Offsetting

Financial assets and liabilities are offset and the net amount is reported in the balance sheet when there is a legally enforceable right to offset the recognised amounts and there is an intention to settle on a net basis or realise the asset and settle the liability simultaneously.

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements

For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira (“TRY”) unless otherwise indicated.)

2. Basis of presentation of consolidated financial statements (Continued)

2.3. Summary of significant accounting policies

Cash and cash equivalents

Cash and cash equivalents consist of cash on hand, deposits at banks, highly liquid investments with maturity periods of three months or less and the revenue share collected is held at banks by the Petroleum Market License Regulation (Note 5). Cash and cash equivalents used in consolidated cash flow statement comprise cash and cash equivalents with short term maturities of less than 3 months, excluding accrued interest income and blocked deposits (Revenue share). The Group’s cash and cash equivalents are evaluated within the credit risk model and are not recognized in the consolidated income statement since the expected credit loss amount is not material. The calculation is reassessed at each reporting period.

Trade receivables

Trade receivables that are created by the Group by way of providing goods or services directly to a debtor are carried at amortised cost. A credit risk provision for trade receivables is established when there is objective evidence that the Group is not able to collect all amounts due. The amount of the provision is the difference between the carrying amount and the recoverable amount, being the present value of all cash flows, including amounts recoverable from guarantees and collateral, discounted based on the original effective interest rate of the originated receivables at inception. If the amount of the impairment subsequently decreases due to an event occurring after the write-down, the release of the provision is credited to other income (Note 8).

The Group has chosen “simplified approach” explained in TFRS 9 for the calculation of impairment of trade receivables (with maturities less than one year) that do contain a significant financing component and accounted at amortised cost. In accordance with the simplified approach, Group measures the loss allowances regarding its trade receivables at an amount equal to “lifetime expected credit losses” except incurred credit losses in which trade receivables are already impaired for a specific reason date. The Group uses a provision matrix in the calculation of expected credit losses. Provision rate is calculated based on the overdue days of trade receivables and the rates are revised each reporting period if necessary. Since the change in expected credit loss provisions is not material, it is not accounted in consolidated income statement. For each reporting period, the recalculation is made and revaluated.

The Group collects some of its receivables via factoring. The receivables subject to factoring transaction which risk of collection is undertaken by factoring company are deducted from the related receivable accounts. Since the time between the factoring dates and maturities of trade receivables subject to factoring transactions is not significant, the business model of the Group related with trade receivables has not been changed and has been accounted at the amortized cost.

Trade payables

Trade payables are recognized initially at fair value and subsequently measured at amortized cost using the effective interest method.

Financial assets and liabilities at fair value through profit or loss

The financial assets of the Group which are carried at fair value include derivative instruments that are not subject to hedge accounting. Derivative financial instruments are initially recognised at the acquisition cost reflecting the fair value on the date on which a derivative contract is entered into and are subsequently remeasured at fair value. Gains or losses arising from the valuation of these kinds of assets are recognized in the consolidated statement of income. Derivative instruments which are carried at fair value through profit or loss include forward foreign exchange and commodity purchase and sale transactions. Derivative instruments are recognized as asset when the fair value of the instrument is positive, as liability when the fair value of the instrument is negative (Note 17).

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements

For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

2. Basis of presentation of consolidated financial statements (Continued)

2.3. Summary of significant accounting policies (continued)

Financial assets and liabilities at fair value through other comprehensive income

The financial assets of the Group which are carried at fair value include derivative instruments that are subject to hedge accounting. Derivative financial instruments are initially recognised at the acquisition cost reflecting the fair value on the date on which a derivative contract is entered into and are subsequently remeasured at fair value. Gains and losses arising from the valuation of these kinds of assets are accounted as other comprehensive income/expense in the consolidated statement of comprehensive income related to cash flow hedge. Derivative instruments which are accounted in other comprehensive income include commodity purchase and sales transactions, interest rate swap transactions and cross currency swap transactions. Derivative instruments are recognized as asset when the fair value of the instrument is positive, as liability when the fair value of the instrument is negative (Note 17).

Cash flow hedge

Hedges of exposures to variability in cash flows that are attributable to a particular risk associated with a recognised asset or liability or a highly probable forecast transaction and could affect profit and loss are designated as cash flow hedges by the Group.

Changes in the fair value of derivatives, designated as cash flow hedges and qualified as effective, are recognised in equity as "hedge reserves". Where the forecasted transaction or firm commitment results in the recognition of an asset or of a liability, the gains and losses previously recognised under equity are transferred from equity and included in the initial measurement of the cost of the asset or liability. Otherwise, amounts recognised under equity are transferred to the consolidated income statement in the period in which the hedged firm commitment or forecasted transaction affects the consolidated income statement.

If the forecast transaction or firm commitment is no longer expected to occur, the cumulative gain or losses previously recognised in equity are transferred to the income statement. If the hedging instrument expires or is sold, terminated or exercised without replacement or rollover, or if its designation as a hedge is revoked, any cumulative gain or loss previously recognised in other comprehensive income remains in other comprehensive income until the forecast transaction or firm commitment affects profit or loss.

Recognition and de-recognition of financial instruments

All purchases and sales of financial assets are recognized on the trade date i.e. the date that the Group commits to purchase or to sell the asset. These purchases or sales are purchases or sales generally require delivery of assets within the time frame generally established by regulation or convention in the market place. A financial asset (or, where applicable a part of a financial asset or part of a group of similar financial assets) is derecognized where:

- the rights to receive cash flows from the asset have expired
- the Group retains the right to receive cash flows from the asset, but has assumed an obligation to pay them in full without material delay to a third party under a "pass-through" arrangement; or
- the Group has transferred its rights to receive cash flows from the asset and either (a) has transferred substantially all the risks and rewards of the asset, or (b) has neither transferred nor retained substantially all the risks and rewards of the asset, but has transferred control of the assets.

Where the Group has transferred its rights to receive cash flows from an asset and has neither transferred nor retained substantially all the risks and rewards of the asset nor transferred control of the asset, the asset is recognized to the extent of the Group's continuing involvement in the consolidated financial statements.

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements

For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

2. Basis of presentation of consolidated financial statements (Continued)

2.3. Summary of significant accounting policies (continued)

A financial liability is derecognized when the obligation under the liability is discharged or cancelled or expired.

Related parties

For the purpose of these consolidated financial statements, shareholders, key management personnel, Board of Directors members and Koç Group companies including their family members and companies controlled by or affiliated with them are considered and referred to as related parties (Note 27).

Inventories

Inventories are valued at the lower of acquisition cost or net realisable value. The cost components of inventories include materials, conversion costs and other costs that are necessary to bring the inventories to their present location and condition. The cost of inventories is determined on the weighted average cost basis. As during the production process more than one product is produced from single raw material inputted, the costs of conversion of each product are not separately identifiable. In order to allocate the costs of conversion between the products on a rational and consistent basis, the approach used by the Company for the allocation is based on the relative sales prices of each product. Net realisable value is the estimated selling price in the ordinary course of business, less the costs of completion and selling expenses (Note 9).

Spare parts and material stocks

Spare parts and material stocks are valued at the lower of cost or net realisable value. The cost elements of spare parts and material stocks include materials and other costs that are necessary to bring them to their present location and condition. The cost of spare parts and material stocks is determined on the weighted average cost basis. The Group has provided provision for the slow-moving spare parts.

Property, plant and equipment

Property, plant and equipment are carried at cost less accumulated depreciation. Historical costs include the costs directly related to the acquisition of property plant and equipment. Costs incurred after the acquisition can be added to the net book value of the assets or can be booked as another asset if and only if it is probable that the future economic benefits will flow to the Group and cost of the asset can be measured reliably. All other repair and maintenance costs are expensed in the consolidated statement of comprehensive income for the period. Depreciation is provided using the straight line method based on the estimated useful lives of gross book value of assets (Note 11).

The depreciation periods for property, plant and equipment, which approximate the economic useful lives of such assets, are as follows:

	Useful life
Land improvements	3-50 years
Buildings	5-50 years
Machinery and equipment	3-35 years
Motor vehicles	4-20 years
Furniture and fixtures	2-50 years
Special costs	5 years

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements

For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

2. Basis of presentation of consolidated financial statements (Continued)

2.3. Summary of significant accounting policies (continued)

Land is not depreciated as it is deemed to have an indefinite useful life. Where the carrying amount of an asset is greater than its estimated recoverable amount, it is written down immediately to its recoverable amount. Recoverable amount is the higher of asset net selling price or value in use. Net selling price is calculated by deducting the selling costs from the fair value of the asset. Value in use is calculated as the discounted value of the estimated future cash flows the entity expects to derive from the asset. An impairment loss is recognized for the amount by which the carrying amount of the asset exceeds its recoverable amount. Gains or losses on disposals of property, plant and equipment are determined by comparing proceeds with their restated carrying amounts and are included in the retained earnings, as appropriate. Market Approach has been used in determining the fair value of the lands owned by the Group. The fair value increases from revaluation of tangible assets are recognized in gain on revaluation of properties account which is under equity, after the netting of the deferred tax effect. Lands are not subject to depreciation since their useful lives are considered as indefinite.

Intangible assets

Intangible assets include rights and software and development costs (Note 12).

a) Rights and software

Rights and software are carried at cost less accumulated amortisation. Amortisation is calculated using the straight-line method over the estimated useful lives of such assets not exceeding 5 years.

b) Development costs

The accounting policy of development costs are explained in Research and Development Expenses.

Impairment of assets

The Group reviews all tangible and intangible assets except goodwill for indicators of impairment at every balance sheet date. If any indication of impairment exists, carrying value of the asset is compared with its recoverable amount which is the higher of value in use or fair value less costs to sell. Impairment exists when carrying value of the asset or cash generating unit that the asset belongs to is higher than the recoverable amount. An impairment loss is recognised immediately in the consolidated statement of comprehensive income.

An impairment loss recognised in prior periods for an asset is reversed if the subsequent increase in the asset's recoverable amount is caused by a specific event since the last impairment loss was recognised. Such a reversal amount cannot be higher than the previously recognised impairment and is recognized as income in the consolidated financial statements. The reversal of the impairment is recognized in the comprehensive income statement.

Net book value of goodwill is evaluated annually and impairment is recorded when necessary considering a significant on prolonged decline. Provision for impairment of goodwill is not canceled in subsequent periods.

Borrowing costs

Borrowings are recognized initially at the proceeds received, net of transaction costs incurred. In subsequent periods, borrowings are stated at amortized cost using the effective yield method; any difference between proceeds (net of transaction costs) and the redemption value is recognized in the consolidated statement of comprehensive income over the period of the borrowings.

Borrowing costs, which can be related to its purchase, construction or production when it comes to assets requiring a significant period of time to be ready for use and sales, are included in cost of asset until the related asset is made available for use or sales.

Other borrowing costs are charged to the consolidated statement of comprehensive income when they are incurred.

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements

For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

2. Basis of presentation of consolidated financial statements (Continued)

2.3. Summary of significant accounting policies (continued)

TFRS 16 Leases

The Group - as a lessee

At inception of a contract, the Group assesses whether a contract is, or contains a lease. A contract is, or contains, a lease if the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration.

To assess whether a contract conveys the right to control the use of an identified asset, The Group assess whether:

- The contract involved the use of an identified asset - this may be specified explicitly or implicitly.
- The asset should be physically distinct or represent substantially all of the capacity of a physically distinct asset. If the supplier has a substantive substitution right, the asset is not identified.
- The Group has the right to obtain substantially all of the economic benefits from the use of an asset throughout the period of use; and
- The Group has the right to direct use of the asset.
 - a) The Group concludes to have the right of use, when it is predetermined how and for what purpose the Group will use the asset.
 - b) The Group has the right to direct use of asset if either:
 - i. The Group has the right to operate (or to have the right to direct others to operate) the asset over its useful life and the lessor does not have the rights to change the terms to operate or;
 - ii. The Group designed the asset (or the specific features) in a way that predetermines how and for what purpose it is used.

At inception or on reassessment of a contract that contains a lease component, the Group allocates the consideration in the contract to each lease component on the basis of their relative stand-alone prices.

Right of use asset

The right of use asset is initially recognized at cost comprising of:

- a) Amount of the initial measurement of the lease liability;
- b) Any lease payments made at or before the commencement date, less any lease incentives received;
- c) Any initial direct costs incurred by the Group; and
- d) An estimate of costs to be incurred by the lessee for restoring the underlying asset to the condition required by the terms and conditions of the lease (unless those costs are incurred to produce inventories)

The Group re-measure the right of use asset:

- a) After netting-off depreciation and reducing impairment losses from right of use asset,
- b) Adjusted for certain re-measurements of the lease liability recognized at the present value

The Group applies TAS 16, "Property, Plant and Equipment" to amortize the right of use asset and to assess for any impairment.

TAS 36, "Impairment of Assets" is applied to determine whether an asset is impaired and to recognize any impairment loss.

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements

For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

2. Basis of presentation of consolidated financial statements (Continued)

2.3. Summary of significant accounting policies (continued)

Lease Liability

The lease liability is initially measured at the present value of the lease payments that are not paid at the commencement date. Lease liabilities are discounted to present value by using the interest rate implicit in the lease if readily determined or with the Group's incremental borrowing rate. Incremental borrowing rate is defined as borrowing rates of the Group companies at the date of contracts.

Lease payments included in the measurement of the lease liability comprise the following:

- a) Fixed payments, including in-substance fixed payments;
- b) Variable lease payments that depend on an index or a rate, initially measured using the index or rate as the commencement date,
- c) The exercise price under a purchase option that the Group is reasonably certain to exercise, lease payments in an optional renewable period if the Group is reasonably certain to exercise an extension option, and penalties for early termination of a lease unless the Group is reasonably certain to terminate early.

After initial recognition, the lease liability is measured:

- a) Increasing the carrying amount to reflect interest on lease liability
- b) Reducing the carrying amount to reflect the lease payments made and
- c) Remeasuring the carrying amount to reflect any reassessment or lease modifications. Group reflects the remeasurement amounts as an adjustment on right of use asset, in the statement of financial position.

Extension and termination options

In determining the lease liability, the Group considers the extension and termination options. The majority of extension and termination options held are exercisable both by the group and by the respective lessor. Extension and termination options are included in the lease term if the lease is reasonably certain to be extended and the options are enforceable by groups initiative in the contract. The group remeasures the lease term, if a significant event or a significant change in circumstances occurs which affects the initial assessment. As result of the evaluations performed in the current period, there is no lease obligation or right of use assets arising from the inclusion of extension and early termination options in the lease period.

Variable lease payments

Group's lease contracts also include variable lease payments. The variable lease payments are recognised in profit or loss in the related period according to TFRS 16.

Exemptions and simplifications

Short-term lease payments and payments for leases of low-value assets like IT equipments (mainly printers, laptops and mobile phones etc.) are not included in the measurement of the lease liabilities in the scope of TFRS 16. Lease payments of these contracts are continued to be recognised in profit or loss in the related period. The Group applied a single discount rate to a portfolio of leases which have similar characteristics (asset classes which have similar remaining rent periods in a similar economic environment)

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements

For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

2. Basis of presentation of consolidated financial statements (Continued)

2.3. Summary of significant accounting policies (continued)

The Group - as a lessor

The Group as a lessor is composed of operating leases. In operating leases, leased assets are classified in the consolidated balance sheet under investment property, tangible fixed assets or other current assets and the rent income obtained is reflected to the consolidated income statement in equal amounts during the leasing period. Rental income is recognized on a straight-line basis over the period of the lease in consolidated income statement.

Deferred taxes

Deferred income tax is provided in full, using the liability method, on all temporary differences arising between the tax bases of assets and liabilities and their carrying values in the consolidated financial statements. Deferred tax is calculated at the tax rates that are expected to apply in the period when the liability is settled or the asset realized, based on tax rates (and tax laws) that have been enacted or substantively enacted by the balance sheet date. Deferred tax is charged or credited to consolidated statement of income, except when it relates to items charged or credited directly to the equity in which case the deferred tax is also dealt within the equity.

Deferred tax liabilities are recognized for all taxable temporary differences, where deferred tax assets resulting from deductible temporary differences are recognized to the extent that it is probable that future taxable profit will be available against which the deductible temporary difference can be utilized.

The deferred tax asset is recognized at the rate of the earned tax benefit under the condition that benefitting from this advantage by earning taxable income in the future is highly probable for Government incentives.

Provided that deferred tax assets and deferred tax liabilities relate to income taxes levied by the same taxation authority and it is legally eligible, they may be offset against one another. Deferred tax assets and liabilities are classified as noncurrent assets and liabilities in the consolidated financial statements (Note 25).

Provision for employment termination benefits:

Employment termination benefits

a) Provision for employment termination benefits:

The provision for employment termination benefits, as required by Turkish Labour Law represents the present value of the future probable obligation of the Group arising from the retirement of its employees based on the actuarial projections.

TAS 19, "Employee Benefits" requires actuarial assumptions (net discount rate, turnover rate to estimate the probability of retirement etc.) to estimate the entity's obligation for employment termination benefits. The effects of differences between the actuarial assumptions and the actual outcome together with the effects of changes in actuarial assumptions compose the actuarial gains/losses.

In accordance with TAS 19, "Employee Benefits", the actuarial gains/losses to be recognised under other comprehensive income.

b) Defined benefit plans

The Group has to pay contributions to the Social Security Institution on a mandatory basis. The Group has no further payment obligations once the contributions have been paid. These contributions are recognised as an employee benefit expense when they are accrued.

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements

For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira (“TRY”) unless otherwise indicated.)

2. Basis of presentation of consolidated financial statements (Continued)

2.3. Summary of significant accounting policies (continued)

c) Unused vacation rights

Liabilities arising from unused vacations of the employees are accrued in the period when the unused vacations are qualified.

d) Seniority incentive bonus provision

The Group has an employee benefit plan called “Seniority Incentive Bonus” (“Bonus”) which is paid to employees with a certain level of seniority. Seniority incentive bonus provision represents the present value at the date of the consolidated balance sheet of the estimated total reserve of the probable future obligations (Note 15).

Transactions in foreign currency

Transactions in foreign currencies during the year have been translated at the exchange rates prevailing at the dates of the transactions. Monetary assets and liabilities denominated in foreign currencies are translated into Turkish Lira at the exchange rates prevailing at the balance sheet dates. Foreign exchange gains or losses arising from the settlement of such transactions and from the translation of monetary assets and liabilities are recognised in the consolidated statement of comprehensive income except the ones that are capitalized.

Revenue recognition

The Group adopted TFRS 15, “Revenue From Contracts with Customers” which proposes a five step model framework mentioned below for recognizing the revenue.

- Identify the contact with customers
- Identify separate performance obligations in the contract
- Determine the transaction price in contract
- Allocate the transaction price to the performance obligations in the contract
- Recognise revenue

The Group assess the goods or services promised in a contract with a customer and identify as a performance obligation each promise to transfer to the customer.

For each performance obligation identified, the entity determine at contract inception whether it satisfies the performance obligation over time or satisfies the performance obligation at a point in time. If the Group transfers control of a good or service over time and therefore satisfies a performance obligation and recognises revenue over time.

The Group recognise revenue when the entity satisfies a performance obligation by transferring a promised good or service to the customer. An asset is transferred when the customer obtains control of that asset or service.

The Group considers the following in the assessment of transfer of control of goods sold and services,

- a) The entity has a right to payment for the goods or service,
- b) The customer has legal title to the goods or service,
- c) The entity has transferred physical possession of the asset,
- d) The customer has the significant risks and rewards related to the ownership of the goods or services,
- e) The customer has accepted the goods or services.

The Group does not adjust the promised amount of consideration for the effects of a significant financing component since the Group expects, at contract inception, that the period between when the entity transfers a promised good or service to a customer and when the customer pays for that good or service will be one year or less. If the financing component is significant in revenue, future collections are discounted by the interest rate in financing component. The difference is recognised as income from operating activities in current period.

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements

For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

2. Basis of presentation of consolidated financial statements (Continued)

2.3. Summary of significant accounting policies (continued)

Provisions

Provisions are recognised when the Group has a present legal or constructive obligation as a result of past events, when it is probable that an outflow of resources will be required to settle the obligation, and when a reliable estimate of the amount can be made.

Provisions, as of the balance sheet date, are recorded with the best estimate of management in order to provide for the estimated obligation and are discounted, if they are material for the consolidated financial statements.

Commitments, contingent assets and liabilities

Possible assets or obligations that arise from past events and whose existence will be confirmed only by the occurrence or non-occurrence of one or more uncertain future events not wholly within the control of the Group are not included in the consolidated financial statements and are disclosed as contingent assets or liabilities (Note 18).

Dividends

Dividend income is recognised by the Group at the date the right to collect the dividend is realised. Dividend payables are recognised as liability in the consolidated financial statements in the period they are declared as a part of profit distribution.

Earnings per share

Earnings per share for each class of shares disclosed in the consolidated statement of comprehensive income is determined by dividing the consolidated net income for the year attributable to that class of shares by the weighted average number of shares of that class that have been outstanding during the year concerned.

In Turkey, companies can increase their share capital by making a pro-rata distribution of shares ("bonus shares") to existing shareholders from retained earnings and inflation adjustment to shareholders' equity. For the purpose of earnings per share computations, the weighted average number of shares outstanding during the period has been adjusted in respect of bonus shares issued without a corresponding change in resources by giving them retroactive effect for the period in which they were issued and for each earlier period.

Segment reporting

Entek Elektrik Üretim A.Ş. shares with a nominal value of TRY 942,727 thousand, which corresponds to 99.23% of Entek Elektrik Üretim A.Ş.'s capital registered in the assets of Koç Holding A.Ş. and Aygaz A.Ş., were taken over by the Company through partial spin-off on 26 August 2022 and Entek financial statements were included in the scope of consolidation with the consolidation method as of 31 December 2022. In this context, the segment reporting prepared for the refining and electricity sectors determined as the Group's field of activity is presented in the consolidated financial statements (Note 2.2.1).

Statement of cash flow

Cash flows during the period are classified and reported by operating, investing and financing activities in the cash flow statements. Cash flows from operating activities represent the cash flows generated from the Group's activities.

Cash flows related to investing activities represent the cash flows that are used in or provided from the investing activities of the Group (tangible and intangible assets and financial assets). Cash flows arising from financing activities represent the cash proceeds from the financing activities of the Group and the repayments of these funds.

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements

For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

2. Basis of presentation of consolidated financial statements (Continued)

2.3. Summary of significant accounting policies (continued)

Research and development costs

Research expenditures are recognized as an expense when they are incurred. Intangible assets arising from in-house development activities (or the improvement phase of an intergroup project) are recognized when all of the following conditions are met:

- existence of the technical feasibility of completing the intangible asset so that it will be available for use or sale,
- existence of the intention to complete the intangible asset and use or sell it,
- existence of the ability to use or sell the intangible asset,
- reliability of how the intangible asset will generate probable future economic benefits,
- the availability of adequate technical, financial and other resources to complete the development and to use or sell the intangible asset,
- existence of the ability to measure reliably the expenditure attributable to the intangible asset during its development.

Other development expenditures are recognized as an expense as incurred. Development costs previously recognized as an expense are not capitalized as an asset in a subsequent period.

Government grants

Government grants, Investment and research and development incentives are accounted at the fair values on accrual basis when the Group's incentive applications are approved by related authorities (Note 29).

Business combinations and goodwill

Business combinations are accounted for using the acquisition method in accordance with TFRS 3. The cost of a business combination, before 1 January 2011, is allocated by recognising the acquiree's identifiable assets, liabilities and contingent liabilities at the date of acquisition. Any excess of the acquirer's interest over the net fair value of the acquiree's identifiable assets, liabilities and contingent liabilities over the business combination cost is accounted for as goodwill. In business combinations, the acquirer recognizes identifiable assets, intangible assets (such as trademarks) and/or contingent liabilities which are not included in the acquiree's financial statements and which can be separated from goodwill, at their fair values in the consolidated financial statements. Goodwill recognised in business combinations is tested for impairment annually or more often under when circumstances indicating impairment risk.

The excess of the Group's share in the net fair value of the identifiable assets, liabilities and contingent liabilities over the cost of the business combination is accounted for as income in the related period.

For the purpose of impairment testing, goodwill acquired in a business combination shall, from the acquisition date, be allocated to each of the acquirer's cash-generating units, or groups of cash-generating units, that is expected to benefit from the synergies of combination. The Group considered the significant position of Opet in the domestic market and the synergy expected from its cooperation with Tüpraş as the main reason leading to generation of goodwill related to the Opet acquisition dated 28 December 2006. Therefore, the Group management evaluated Opet, its subsidiaries and its joint ventures as one cash-generating unit.

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements

For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

2. Basis of presentation of consolidated financial statements (Continued)

2.4. Changes in accounting policies, accounting estimates and errors

Significant changes in accounting policies based on new application of TFRS are applied retrospectively or prospectively based on the transition clauses. If there are no transition clauses, the changes in accounting policies, optional changes in accounting policies and correction of significant accounting errors are applied retrospectively and prior period financial statements are restated.

2.5. Significant accounting evaluations, assumptions and estimates

The estimates and assumptions that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities are outlined below:

a) *Deferred tax asset:*

Deferred tax assets are recognized to the extent that it is probable that future taxable profit will be available. If it is probable that future taxable profit will be available, deferred tax assets are accounted for over the deductible temporary differences, financial losses and tax advantages resulted from investment incentives that enables the Company pay lower corporate tax.

The Group assess the recoverability of deferred tax assets based on business models that contain management estimations related to taxable profit for future periods. The models include key management estimations such as sales quantities, sales prices and foreign exchange rates. Based on the sensitivity analysis performed, it is concluded that 10% increase/decrease in related estimations does not have any effect on the assessment of recoverability of deferred tax assets (Note 25).

b) *Cash flow hedge:*

As explained in Note 28, the Group uses investment credit amounting to USD205,010 thousand as a hedging instrument against the USD spot exchange rate risk the Group is exposed to due to highly probable export sales income, and applies cash flow hedge accounting as a result of the effectiveness tests performed. The estimations in budgets for export income used for effectiveness test include estimations such as sales quantities and sales prices. Based on the sensitivity analysis performed for the estimations used in effectiveness tests, the Group concluded that 10% increase/decrease in estimations do not have any significant effect on the assessment of effectiveness tests.

c) *Economic useful lives:*

Tangible assets, investment property and intangible assets, except for goodwill, have been depreciated and amortized by using estimated useful lives. Estimated useful lives determined by management have been disclosed in Note 2.3.

d) *Fair value of lands*

The Group accounts its lands at fair value, the fair values of these assets are determined by the independent valuation firm authorized by the Capital Markets Board and are taken as the value carried in the statement of financial position. The assumptions such as valuation method, market conditions, unique properties of each plot and land, physical condition, geographical location and benchmark values are used in determining the fair values (Note 11).

3. BUSINESS COMBINATIONS

Except for the business combination mentioned in Note 2.2.1, there is no business combination during the year ended 31 December 2022.

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements

For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

4. SEGMENT REPORTING

The Group management has decided to use industrial segments as the reporting format for operating segments, considering that the Group's risks and returns are affected by developments in the energy sector. The Group management thinks that the Group operates under the industrial divisions formed by these two sectors, since the Group's field of activity is the refining and the electricity sectors as of the date of acquisition of Entek shares. The Group has presented the segment reporting it has prepared for the refining and electricity sectors in the consolidated financial statements.

a) Analysis of information by segments

1 January - 31 December 2022	Refining	Electric	Cross-section correction	Consolidated Total
Revenue	474,235,186	7,529,470	-	481,764,656
Cost of sales	(412,975,180)	(6,012,546)	-	(418,987,726)
Gross profit (loss)	61,260,006	1,516,924	-	62,776,930
Operating expenses	(8,023,231)	(211,716)	-	(8,234,947)
Other operating income	4,341,951	29,461	-	4,371,412
Other operating expenses	(13,247,938)	(58,810)	-	(13,306,748)
Operating profit	44,330,788	1,275,859	-	45,606,647
Income/(expenses) from investment activities	36,662	7,205	9,431	53,298
Income (loss) from investments accounted by equity method	312,040		-	312,040
Operating profit before financial income (expense)	44,679,490	1,283,064	9,431	45,971,985
Financial income	5.776.339	410,554	-	6.186.893
Financial expense	(11.505.985)	(777,336)	-	(12.283.321)
Profit (loss) before tax from continued operations	38,949,844	916,282	9,431	39,875,557
Tax (expense) income from continued operations	371.926	1,013,084	-	1.385.010
Net income (loss) from continued operations	39.321.770	1,929,366	9,431	41.260.567

Türkiye Petrol Rafinerileri A.Ş.
Notes to the Consolidated Financial Statements
For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

4. SEGMENT REPORTING (Continued)

a) Analysis of information by segments (Continued)

1 January - 31 December 2021	Refining	Electric	Cross-section correction	Consolidated Total
Revenue	150,731,968	1,760,051	-	152,492,019
Cost of sales	(135,281,326)	(1,350,652)	-	(136,631,978)
Gross profit (loss)	15,450,642	409,399	-	15,860,041
Operating expenses	(3,241,829)	(75,749)	-	(3,317,578)
Other operating income	1,222,382	23,482	-	1,245,864
Other operating expenses	(12,966,605)	(45,161)	-	(13,011,766)
Operating profit	464,590	311,971	-	776,561
Income/(expenses) from investment activities	107,950	(196)	-	107,754
Income (loss) from investments accounted by equity method	592,989	-	-	592,989
Operating profit before financial income (expense)	1,165,529	311,775	-	1,477,304
Financial income	12,555,341	299,980	-	12,855,321
Financial expense	(11,559,692)	(414,578)	-	(11,974,270)
Profit (loss) before tax from continued operations	2,161,178	197,177	-	2,358,355
Tax (expense) income from continued operations	1,274,996	(20,127)	-	1,254,869
Net income (loss) from continued operations	3,436,174	177,050	-	3,613,224

b) Assets by segments

	31 December 2022	31 December 2021	31 December 2020
Refining	162.732.988	102,534,399	61,168,522
Electric	6.149.916	3,722,712	2,445,707
Cross-section correction	9,431	-	-
Total Assets	168.892.335	106,257,111	63,614,229

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements

For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

5. CASH AND CASH EQUIVALENTS

	31 December 2022	31 December 2021	31 December 2020
Cash at banks			
Demand deposits	863,000	472,689	142,028
Time deposits	39,703,882	16,432,442	17,845,988
Demand deposits (blocked)	2,706,134	1,536,868	11,543
Revenue share (blocked)	4,120,408	2,720,305	2,204,004
Time deposit interest accruals	241,734	13,882	115,570
Total	47,635,158	21,176,186	20,319,133

As required by the Petroleum Market License Regulation, the revenue share collected from the customers by the Group is held at banks and considered as blocked deposit in the Company's books. The revenue share was invested as demand deposits with government debt securities interest rate and overnight interest rate as at 31 December 2022, 31 December 2021 and 31 December 2020 (Note 14). In addition, demand blocked deposits amounting to TRY2,706,134 thousand are available for derivative transactions carried out in foreign exchanges (31 December 2021 - TRY1,536,868 thousand, 31 December 2020 - TRY11,543 thousand).

Time deposits and other cash and cash equivalents

As at 31 December 2022, 31 December 2021 and 31 December 2020 the maturity and the currency information of the time deposits, are as follows:

31 December 2022

	Effective rate of interest (%)	Less than 1 month	1 - 3 months	Total
TRY	25.48	23,009,851	500,000	23,509,851
USD	3.71	16,066,750	65,692	16,132,442
EUR	0.10	52,501	-	52,501
GBP	0.05	9,088	-	9,088
Time deposit		39,138,190	565,692	39,703,882

Türkiye Petrol Rafinerileri A.Ş.**Notes to the Consolidated Financial Statements
For the Year Ended 31 December 2022**

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

5. CASH AND CASH EQUIVALENTS (Continued)

31 December 2021

	Effective rate of interest (%)	Less than 1 month	1 - 3 months	Total
TRY	28.29	6,387,247	46,909	6,434,156
USD	1.15	9,278,427	708,247	9,986,674
EUR	0.02	9,537	-	9,537
GBP	0.05	2,075	-	2,075
Time deposit		15,677,286	755,156	16,432,442

31 December 2020

	Effective rate of interest (%)	Less than 1 month	1 - 3 months	Total
TRY	17.77	13,404,300	3,415,041	16,819,341
USD	3.33	477,852	516,405	994,257
EUR	1.16	30,268	-	30,268
GBP	0.20	2,122	-	2,122
Time deposit		13,914,542	3,931,446	17,845,988

Cash and cash equivalents included in the consolidated statements of cash flows for the periods ended 31 December 2022 and 2021 are as follows:

	31 December 2022	31 December 2021
Cash and cash equivalents	47,635,158	21,176,186
Less: Blocked deposits (Revenue share)	(4,120,408)	(2,720,305)
Less: Blocked deposits	(2,706,134)	(1,536,868)
Less: Time deposit interest accruals	(241,734)	(13,882)
Cash and cash equivalents	40,566,882	16,905,131

Türkiye Petrol Rafinerileri A.Ş.
Notes to the Consolidated Financial Statements
For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

6. FINANCIAL INVESTMENTS

Short-term financial investments:

	31 December 2022	31 December 2021	31 December 2020
Currency protected deposit	2,135,177	-	-
Total	2,135,177	-	-

Currency protected time deposit account is a deposit product that offers foreign exchange rate protection in case the US Dollar and Euro exchange rate increases more than the interest rate at maturity. Currency protected deposit accounts are accounted for as financial assets at fair value through profit or loss.

As of 31 December 2022, the nominal amount and fair value of financial assets that are currency protected deposits are as follows:

	31 December 2022		Term
	Nominal amount (original currency)	Fair value (TL equivalent)	
TRY	2,068,764	2,135,177	0-3 months
		2,135,177	

The financial investment movement table is presented below:

	2022	2021
1 January	-	-
Nominal amount	2,068,764	-
Fair value difference	66,413	-
31 December	2,135,177	-

Türkiye Petrol Rafinerileri A.Ş.
Notes to the Consolidated Financial Statements
For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

7. FINANCIAL LIABILITIES

	31 December 2022	31 December 2021	31 December 2020
Short-term borrowings:			
Short-term bank borrowings	840,440	631,409	2,086,018
Interest accruals of bank borrowings	22,878	537	13,822
Total	863,318	631,946	2,099,840
Short-term portion of long-term borrowings:			
Short-term portion of long-term bank borrowings	9,230,404	10,032,627	5,438,821
Bonds issued	1,390,000	500,000	650,000
Interest accruals of bank borrowings	306,432	295,663	240,840
Interest accruals of bonds issued	148,354	131,944	72,909
Lease liabilities	55,983	36,031	31,819
Total	11,131,173	10,996,265	6,434,389
Long-term borrowings:			
Bonds issued	7,911,504	10,613,976	15,285,320
Long-term bank borrowings	13,088,810	10,720,300	5,638,350
Interest accruals of bank borrowings	2,455	-	23,364
Lease liabilities	271,690	231,177	200,681
Total	21,274,459	21,565,453	21,147,715
Total borrowings	33,268,950	33,193,664	29,681,944

Tüpraş has issued a bond on 3 February 2021 with a nominal value of TRY1,100 million, with a maturity of 728 days, coupon payment every 3 months and repayment of principal and coupon at maturity, with 140 bps additional yields on 3MTLREF reference rate. Tüpraş has issued a bond on 31 December 2021 with a nominal value of TRY290 million, with a maturity of 728 days, coupon payment every 3 months and repayment of principal and coupon at maturity, with 140 bps additional yields. Tüpraş has issued a bond on 30 November 2020 with a nominal value of TRY500 million, with a maturity of 728 days, coupon payment every 3 months and repayment of principal and coupon at maturity, with 140 bps additional yields. The bond was redeemed and paid on 30 November 2022.

Tüpraş has issued a bond on 12 October 2017 with a nominal value of USD700 million, with a maturity of 7 years, coupon payment every 6 months and repayment of principal and coupon at maturity, with an annual interest rate of 4.5%, on the London Stock Exchange.

In 2011, Tüpraş has signed three loan agreements in order to finance Residuüm Upgrading Project ("RUP") and further to the agreements the loans amounting to USD1,998 million were utilized between 2011 and 2015 for credit insurance payments and capital expenditures. According to financing package loan was insured by SACE and CESCE have 12 years to maturity also there will be no principal and interest payment in first 4 years. The third loan has 7 years to maturity and there will be no principal payment in the first four years. The repayment of the loans has started in 2015 and as at 31 December 2022 the outstanding amount of the loans is USD193 million (31 December 2021 - USD385 million, 31 December 2020 - USD576 million).

As of 31 December 2022, Tüpraş has fulfilled its financial debt covenants arising from its borrowings.

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements

For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

7. FINANCIAL LIABILITIES (Continued)

Foreign currency balances and effective interest rates for the short and long-term financial liabilities as at 31 December 2022, 31 December 2021 and 31 December 2020 are as follows:

	31 December 2022		
	Effective interest rate (%)	Original currency	Thousand TRY
Short-term borrowings:			
TRY bank borrowings ⁽¹⁾	17.02	186,000,000	186,000
USD bank borrowing	4.09	34,999,983	654,440
			840,440
Interest accruals			22,878
Total short-term financial liabilities			863,318
Short-term portion of long-term borrowings			
TRY borrowings	17.12	3,663,003,794	3,663,005
TRY bonds issued	12.10	1,890,000,000	1,890,000
USD bank borrowings	5.36	271,008,642	5,067,401
TRY lease liabilities	24.38	42,369,551	42,369
EUR lease liabilities	3.04	332,733	6,633
GBP lease liabilities	4.16	310,327	6,979
			10,676,387
Interest accruals			454,786
Total short term portion of long-term borrowings			11,131,173
Long-term borrowings:			
TRY borrowings	18.47	2,696,099,203	2,696,099
USD borrowings	5.92	281,013,389	5,215,405
USD bonds issued	4.50	700,000,000	13,088,810
TRY lease liabilities	27.30	147,039,149	147,039
EUR lease liabilities	3.23	6,252,903	124,651
			21,272,004
Interest accruals			2,455
Total long-term borrowings			21,274,459

⁽¹⁾ As of 31 December 2022, no interest-free loans were used to pay SCT, Customs and SGK debts (31 December 2021 - TRY30,061 thousand, 31 December 2020 - TRY17,839 thousand interest-free loan was used).

Türkiye Petrol Rafinerileri A.Ş.
Notes to the Consolidated Financial Statements
For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

7. FINANCIAL LIABILITIES (Continued)

	31 December 2021		
	Effective interest rate (%)	Original currency	Thousand TRY
Short-term borrowings:			
TRY bank borrowings	16.78	98,249,003	98,249
USD bank borrowing	2.77	40,000,000	533,160
			631,409
Interest accruals			537
Total short-term financial liabilities			631,946
Short-term portion of long-term borrowings			
TRY borrowings	12.66	6,419,655,173	6,419,655
TRY bonds issued	18.49	500,000,000	500,000
USD bank borrowings	2.32	271,060,917	3,612,971
TRY lease liabilities	17.60	25,177,846	25,178
EUR lease liabilities	2.94	358,661	5,411
GBP lease liabilities	4.16	302,963	5,443
			10,568,658
Interest accruals			427,607
Total short term portion of long-term borrowings			10,996,265
Long-term borrowings:			
TRY borrowings	17.38	4,733,497,523	4,733,497
TRY bonds issued	18.35	1,390,000,000	1,390,000
USD borrowings	2.69	441,179,232	5,880,478
USD bonds issued	4.50	700,000,000	9,330,300
TRY lease liabilities	20.87	126,246,862	126,246
EUR lease liabilities	3.23	6,896,020	99,356
GBP lease liabilities	4.20	310,352	5,576
			21,565,453
Interest accruals			-
Total long-term borrowings			21,565,453

Türkiye Petrol Rafinerileri A.Ş.
Notes to the Consolidated Financial Statements
For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

7. FINANCIAL LIABILITIES (Continued)

	31 December 2020		Thousand TRY
	Effective interest rate (%)	Original currency	
Short-term borrowings:			
USD bank borrowings	0.65	118,000,000	866,179
TRY bank borrowings	8.80	1,219,838,682	1,219,839
Interest accruals			13,822
Total short-term financial liabilities			2,099,840
Short-term portion of long-term borrowings			
TRY borrowings	9.90	2,721,041,737	2,721,041
TRY bonds issued	16.57	650,000,000	650,000
USD bank borrowings	2.35	295,195,527	2,166,883
EUR borrowings	2.11	61,157,000	550,896
TRY lease liabilities	17.05	24,369,599	24,370
EUR lease liabilities	3.06	506,001	4,558
GBP lease liabilities	4.16	290,824	2,892
			6,120,640
Interest accruals			313,749
Total short term portion of long-term borrowings			6,434,389
Long-term borrowings:			
TRY borrowings	12.32	7,911,744,063	7,911,744
TRY bonds issued	18.07	500,000,000	500,000
USD borrowings	2.44	1,004,505,990	7,373,576
USD bonds issued	4.50	700,000,000	5,138,350
TRY lease liabilities	20.66	132,021,740	132,021
EUR lease liabilities	3.23	7,274,422	62,562
GBP lease liabilities	4.20	613,248	6,098
			21,124,351
Interest accruals			23,364
Total long-term borrowings			21,147,715

Türkiye Petrol Rafinerileri A.Ş.
Notes to the Consolidated Financial Statements
For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

7. FINANCIAL LIABILITIES (Continued)

As at 31 December 2022, 31 December 2021 and 31 December 2020, the redemption schedule of long-term bank borrowings is as follows:

	31 December 2022	31 December 2021	31 December 2020
1-2 years	17,514,350	9,154,876	12,452,652
2-3 years	1,911,115	10,488,813	2,262,953
3-4 years	294,140	375,531	5,737,553
4-5 years	294,774	801,315	132,625
Over 5 years	1,260,080	744,918	561,932
Total	21,274,459	21,565,453	21,147,715

The movement of borrowings as of 31 December 2022 and 31 December 2021 is as follows:

	2022	2021
1 January	33,193,664	29,681,944
New financial borrowings	17,326,098	15,173,783
Principal payments	(24,313,541)	(21,640,328)
Increase due to lease liabilities	102,572	23,531
Decrease due to payment of lease liabilities	(82,481)	(35,698)
Changes in interest accruals	53,877	78,831
Changes in foreign exchange rates	6,988,761	9,683,450
31 December	33,268,950	32,965,513

The interest rate sensitivity distribution of the remaining repricing period of the borrowings is as follows:

	31 December 2022	31 December 2021
1-90 days	9,127,933	11,092,788
91-365 days	5,013,982	4,944,143
1-5 year	17,866,951	15,831,820
5 year or more	1,260,084	1,324,913
Total	33,268,950	33,193,664

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements

For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

8. TRADE RECEIVABLES AND PAYABLES

Short-term trade receivables:

	31 December 2022	31 December 2021	31 December 2020
Trade receivables	18,311,455	12,099,002	1,489,605
Due from related parties (Note 27)	3,187,872	1,745,525	360,931
Doubtful trade receivables	5,622	5,625	5,364
Other trade receivables	6	29	7
Less: Unearned credit finance income	(81,813)	(47,874)	(10,116)
Less: Expected credit loss	(5,622)	(5,625)	(5,364)
Total short-term trade receivables (net)	21,417,520	13,796,682	1,840,427

Tüpraş discounts the domestic receivables by using domestic government bonds and foreign receivables by using monthly libor rates.

As of 31 December 2022, Tüpraş has offsetted TRY6,211,000 thousand that are collected from factoring companies as part of the irrevocable factoring from trade receivables. As of 31 December 2022, Tüpraş has no supplier financing transactions. As at 31 December 2021, Tüpraş has offsetted TRY642,051 thousand that are collected from factoring companies as part of the irrevocable factoring and TRY353,725 thousand deducted supplier financing transaction from trade receivables. As of 31 December 2020, Tüpraş has offsetted TRY2,976,335 thousand that are collected from factoring companies as part of the irrevocable factoring and TRY1,127,270 thousand deducted supplier financing transaction from trade receivables.

Movement of the provision for doubtful receivables for the years ended 31 December 2022 and 2021 is as follows:

	2022	2021
1 January	5,625	5,364
Charge for the period	-	389
Payments during the period	(3)	(128)
31 December	5,622	5,625

Short-term trade payables:

	31 December 2022	31 December 2021	31 December 2020
Trade payables	51,737,591	43,662,796	13,975,821
Due to related parties (Note 27)	1,156,421	182,912	233,955
Less: Unrealised credit finance charges trade payables	(195,248)	(8,253)	(5,601)
Total short-term trade payables (net)	52,698,764	43,837,455	14,204,175

Tüpraş discounts short-term trade payables by using monthly libor rates.

Türkiye Petrol Rafinerileri A.Ş.
Notes to the Consolidated Financial Statements
For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

9. INVENTORIES

	31 December 2022	31 December 2021	31 December 2020
Raw materials and supplies	7,151,989	2,859,550	969,551
Work-in-progress	9,174,496	4,416,821	1,706,414
Finished goods	8,824,262	5,844,006	2,468,321
Trade goods	1,497,384	157,566	75,071
Goods in transit	9,527,619	10,376,547	2,414,478
Other inventories	338,575	103,036	66,795
Total	36,514,325	23,757,526	7,700,630
Provision for impairment of inventory	(468,317)	-	-
Total	36,046,008	23,757,526	7,700,630

As of 31 December 2022 and 2021, movements of provision for inventory impairment are as follows:

	2022	2021
1 January	-	-
Changes in period	468,317	-
Provisions no longer required	-	-
31 December	468,317	-

As of 31 December 2022, sales prices are below costs as a result of the decrease in various product prices and TRY468,317 thousand provision for inventory impairment has been recognised (31 December 2021: None).

10. INVESTMENTS ACCOUNTED FOR USING THE EQUITY METHOD

	31 December 2022		31 December 2021		31 December 2020	
	Participation share (%)	Amount	Participation share (%)	Amount	Participation share (%)	Amount
OPET Petrolcülük A.Ş.	41.67	2,962,632	40.00	2,150,156	40.00	1,326,490
		2,962,632		2,150,156		1,326,490

The goodwill amounting to TRY189,073 thousand arising from the purchase of Opet shares on 28 December 2006 were classified on the investments accounted for using the equity method in the financial statements.

8 December 2022, shares corresponding to 1,67% of Opet's share capital were purchased for a total cash consideration of TRY 179.600 thousand and added to the value of participation.

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements

For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

10. INVESTMENTS ACCOUNTED FOR USING THE EQUITY METHOD (Continued)

The movement in the investments accounted for using the equity method during the period ended 31 December 2022 and 2021 is as follows:

	2022	2021
1 January	2,150,156	1,326,490
Investments accounted for using the equity method;		
Shares in current period profit	312,040	592,989
Dividend payment	(240,000)	(80,000)
Gain on revaluation of property	197,011	41,394
Actuarial gain/(loss) arising from defined benefit plans	(6,949)	(447)
Gain/(loss) on revaluation and premeasurement	229,264	176,688
Equity rate change effect	179,600	-
Currency translation differences	141,510	93,042
31 December	2,962,632	2,150,156

Summary of investments accounted for using the equity method (before Group's effective interest rate) are as follows:

	31 December 2022	31 December 2021	31 December 2020
Current assets	22,749,707	10,019,411	5,059,935
Non-current assets	6,920,789	4,632,856	3,701,575
Total assets	29,670,496	14,652,267	8,761,510
Short term liabilities	18,460,825	5,805,510	2,829,607
Long term liabilities	4,724,773	3,944,050	3,088,361
Equity	6,484,898	4,902,707	2,843,542
Total liabilities	29,670,496	14,652,267	8,761,510
	1 January -	1 January -	
	31 December 2022	31 December 2021	
Sales (net)	179,987,548	56,007,462	
Gross profit	5,282,970	3,441,883	
Operating profit	2,819,957	2,104,478	
Net (loss)/income for the period	780,101	1,482,472	

Türkiye Petrol Rafinerileri A.Ş.
Notes to the Consolidated Financial Statements
For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

10. INVESTMENTS ACCOUNTED FOR USING THE EQUITY METHOD (Continued)

Goodwill impairment test

The Group considers the significant position of Opet in the domestic market and the synergy expected from its cooperation with Tüpraş and Opet as the main source of generation of goodwill. Therefore, the Group management evaluated Opet, its subsidiaries and its joint ventures as a single cash generating unit and goodwill is allocated on Opet.

The cash-generating unit's fair value calculations include post-tax cash flow projections, which are based on TRY and are based on ten-year plans approved by Opet management. The Group considers analysis covering a period longer than five years is more appropriate as to evaluation of operating results and prospective assumptions in the sector and therefore impairment test is based on ten years budget. As of 31 December 2022, fair value of Opet is above 45% of the value carried in including goodwill.

Other key assumptions used in the fair value calculation model are stated below:

Gross margin	2.7% - 5.2%
Discount rate	13.3%

The budgeted gross margin has been determined by Opet management based on past performance of the company and expected market growth rate. The discount rate used is the post-tax discount rate and includes company specific risks. An increase/decrease of 1% on the post-tax discount rate used in the discounted cash flow calculations, Opet's fair value of goodwill would be 10% lower and 11% higher, respectively as at 31 December 2022.

As a result of the tests performed by using the assumptions above, no impairment on goodwill has been identified as at 31 December 2022. Since the asset's fair value less cost to sell is higher than its carrying amount, the Group management did not calculate the asset's value-in-use.

Competition Authority investigation:

With the decision of the Competition Board dated 27 August 2018; By determining the resale price of its dealers, an investigation was initiated against Opet to determine whether Article 4 of the Law on the Protection of Competition numbered 4054 was violated, and as a result of the investigation, the Authority sentenced Opet to a fine of TRY433,932. TRY 325,450, which is three-fourths of the administrative fine calculated within the framework of article 17 of the Misdemeanor Law No,5326, was paid by Opet to the Large Taxpayers Tax Office, without prejudice to all legal rights regarding the relevant decision. A lawsuit was filed by Opet for the annulment of the aforementioned decision, and a stay of execution decision was made in the aforementioned case. As a result of the trial, the Court decided to cancel the administrative fine and return it to Opet together with its legal interest. In September 2021, a penalty of TRY325,450 and legal interest of TRY22,550 were withdrawn. The Competition Authority's application, dated 13 September 2021, to the court of appeal for the annulment of the first instance court's annulment decision was unanimously rejected by the decision of the 8th Administrative Case Division of the Ankara Regional Administrative Court, dated 20 April 2022. The defendant administration appealed the decision of appeal on 30 May 2022 and the file is still under appeal.

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements

For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

11. PROPERTY, PLANT AND EQUIPMENT

The movements of property, plant and equipment and related accumulated depreciation for the period ended 31 December 2022 and 2021 is as follows:

	1 January 2022	Revaluation Increases	Currency translation differences	Additions	Transfers	Disposals	31 December 2022
Cost:							
Lands	12,257,773	3,242,588	-	-	-	-	15,500,361
Land improvements	4,256,802	-	-	175,086	677	(1,085)	4,431,480
Buildings	1,055,492	-	-	41,361	(9)	(55)	1,096,789
Machinery and equipment	15,854,944	-	-	406,485	37,573	(46,946)	16,252,056
Motor vehicles	2,251,927	-	-	427,402	-	(616)	2,678,713
Furniture and fixtures	226,286	-	-	177,228	1,548	(4,169)	400,893
Construction in progress	1,150,442	-	-	973,458	(43,362)	-	2,080,538
Special costs	63,845	-	-	1,947	-	-	65,792
Other tangible assets	36,531	-	-	30,999	3,521	(2,381)	68,670
	37,154,042	3,242,588	-	2,233,966	(52)	(55,252)	42,575,292
Accumulated depreciation:							
Land improvements	(1,930,097)	-	-	(168,724)	(17)	1,079	(2,097,759)
Buildings	(280,491)	-	-	(21,586)	(4)	52	(302,029)
Machinery and equipment	(6,081,573)	-	(39)	(527,750)	(46)	20,259	(6,589,149)
Motor vehicles	(395,470)	-	-	(74,392)	-	429	(469,433)
Furniture and fixtures	(125,267)	-	(18)	(39,941)	67	1,829	(163,330)
Special costs	(11,229)	-	(63)	(15,484)	-	-	(26,776)
Other tangible assets	(13,616)	-	-	(10,990)	-	2,105	(22,501)
	(8,837,743)	-	(120)	(858,867)	-	25,753	(9,670,977)
Net book value	28,316,299	-	-	-	-	-	32,904,315

Türkiye Petrol Rafinerileri A.Ş.
Notes to the Consolidated Financial Statements
For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

11. PROPERTY, PLANT AND EQUIPMENT (Continued)

	1 Ocak 2021	Yeniden Değerleme Artışları	Yabancı Para Çevrim Farkı	İlaveler	İktisaplar	Transferler	Çıkışlar	31 Aralık 2021
Maliyet:								
Arazi ve arsalar	8.377.651	3.877.752	-	-	2.370	-	-	12.257.773
Yeraltı ve yerüstü düzenleri	4.074.511	-	-	154.810	28.300	-	(819)	4.256.802
Binalar	933.716	-	-	121.292	2.123	-	(1.639)	1.055.492
Makine, tesis ve cihazlar	14.788.545	-	3.957	620.086	429.052	15.242	(1.938)	15.854.944
Taşıtlar	2.093.568	-	-	245.530	367	-	(87.538)	2.251.927
Döşeme ve demirbaşlar	179.088	-	-	51.924	937	-	(5.663)	226.286
Yapılmakta olan yatırımlar	1.080.854	-	-	89.766	-	(20.178)	-	1.150.442
Özel maliyetler	3.730	-	-	60.115	-	-	-	63.845
Diğer maddi duran varlıklar	16.775	-	-	15.050	49	4.681	(24)	36.531
	31.548.438	3.877.752	3.957	1.358.573	463.198	(255)	(97.621)	37.154.042
Birikmiş amortisman:								
Yeraltı ve yerüstü düzenleri	(1.771.422)	-	-	(159.447)	-	-	772	(1.930.097)
Binalar	(262.095)	-	-	(19.753)	-	-	1.357	(280.491)
Makine, tesis ve cihazlar	(5.608.959)	-	(489)	(473.172)	-	(333)	1.380	(6.081.573)
Taşıtlar	(341.142)	-	-	(82.904)	(355)	-	28.931	(395.470)
Döşeme ve demirbaşlar	(99.829)	-	-	(27.720)	(862)	-	3.144	(125.267)
Özel maliyetler	(672)	-	-	(10.557)	-	-	-	(11.229)
Diğer maddi duran varlıklar	(7.271)	-	-	(6.302)	(47)	-	4	(13.616)
	(8.091.390)	-	(489)	(779.855)	(1.264)	(333)	35.588	(8.837.743)
Net defter değeri	23.457.048							28.316.299

Total depreciation expense amounting to TRY858,867 thousand (31 December 2021 - TRY779,855 thousand) related to tangible fixed assets in the comprehensive consolidated income statement for the period ended as of 31 December 2022 has been allocated to cost of goods sold amounting to TRY625,524 thousand (31 December 2021 - TRY623,482 thousand), to general administration expenses amounting to TRY126,278 thousand (31 December 2021 - TRY48,906 thousand), to marketing, amounting to TRY92,702 thousand (31 December 2021 - TRY92,887 thousand), to research and development expenses amounting to TRY14,363 thousand (31 December 2021 - TRY14,580).

The depreciation expense related to right-of-use assets in the consolidated statement of comprehensive income for the period ended as of 31 December 2022 at TRY32,115 thousand (31 December 2021 - TRY37,269 thousand), is classified to general administrative expenses amounting to TRY15,208 thousand (31 December 2021 - TRY25,372 thousand), to marketing, amounting to TRY8,759 thousand (31 December 2021 - TRY6,691), and to cost of goods sold amounting to TRY8,148 thousand (31 December 2021 - TRY5,206).

Türkiye Petrol Rafinerileri A.Ş.
Notes to the Consolidated Financial Statements
For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

11. PROPERTY, PLANT AND EQUIPMENT (Continued)

As of 31 December 2022, there are no mortgage on property, plant and equipment (31 December 2021: None). The Group has revaluated all of the lands to their fair values which assets' cost value is amounting to TRY70,472 thousand in accordance with TAS 16, Property, Plant and Equipment as of 31 December 2021 and included the revaluation increase amounting to TRY15,429,889 thousand in consolidated financial statements (31 December 2021: TRY12,187,301 thousand).

The valuation of Tüpraş lands were carried out by Açık Kurumsal Gayrimenkul Değerleme ve Danışmanlık A.Ş., a CMB accredited company; the valuation of Entek lands were carried out by TSKB Gayrimenkul Değerleme A.Ş. and Aden Gayrimenkul Değerleme ve Danışmanlık A.Ş., both CMB accredited companies; and the valuation of the lands of OPET and its subsidiaries, which are consolidated according to the equity method, were carried out by TSKB Gayrimenkul Değerleme A.Ş., a CMB accredited company.

As of 31 December 2022, there are no pledge on property, plant and equipment (31 December 2021: None).

	Fair value level as of reporting date			
	31 December 2022	Level 1	Level 2	Level 3
Lands	15,500,361	-	15,500,361	-
	Fair value level as of reporting date			
	31 December 2021	Level 1	Level 2	Level 3
Lands	12,257,773	-	12,257,773	-
	Fair value level as of reporting date			
	31 December 2020	Level 1	Level 2	Level 3
Lands	8,377,651	-	8,377,651	-

Türkiye Petrol Rafinerileri A.Ş.
Notes to the Consolidated Financial Statements
For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

12. INTANGIBLE ASSETS

Other intangible assets:

The movements of intangible assets and related accumulated amortization for the period ended 31 December 2022 and 2021 are as follows:

	1 January 2022	Additions	Transfers	Disposals	31 December 2022	
Cost:						
Rights and software	128,623	33,964	-	-	162,587	
Development expenses	124,603	2,639	-	-	127,242	
Other intangible assets	571,039	1,125	52	(200)	572,016	
	824,265	37,728	52	(200)	861,845	
Accumulated amortization:						
Rights and software	(93,657)	(15,722)	-	-	(109,379)	
Development expenses	(92,749)	(10,464)	-	-	(103,213)	
Other intangible assets	(75,673)	(17,744)	-	195	(93,222)	
	(262,079)	(43,930)	-	195	(305,814)	
Net book value	562,186				556,031	
	1 January 2021	Acquisitions	Additions	Transfers	Disposals	31 December 2021
Cost:						
Rights and software	110,437	18,257	20	-	(91)	128,623
Development expenses	115,194	10,944	-	(1,536)	1	124,603
Other intangible assets	256,966	2,151	310,203	1,791	(72)	571,039
	482,597	31,352	310,223	255	(162)	824,265
Accumulated amortization:						
Rights and software	(80,848)	(12,880)	(5)	-	76	(93,657)
Development expenses	(82,366)	(10,717)	-	333	1	(92,749)
Other intangible assets	(64,142)	(11,681)	-	-	150	(75,673)
	(227,356)	(35,278)	(5)	333	227	(262,079)
Net book value	255,241					562,186

Total amortization expenses amounting to TRY43,930 thousand (31 December 2021: TRY35,278 thousand) in the consolidated statement of comprehensive income for the period ended 31 December 2022 have been allocated to the general administration expenses amounting to TRY28,070 thousand (31 December 2021: TRY24,462 thousand) and the cost of sales amounting to TRY15,860 thousand (31 December 2021: TRY10,816 thousand).

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements

For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

13. PREPAID EXPENSES

Short term prepaid expenses

	31 December 2022	31 December 2021	31 December 2020
Insurance and other expenses	291,474	161,985	137,807
Advances given	457,313	31,505	101,131
Total	748,787	193,490	238,938

Long term prepaid expenses

	30 June 2022	31 December 2021	31 December 2020
Advances given to third parties for property, plant and equipment	603,734	107,948	141,119
Advances given to related parties for property, plant and equipment (Note 27)	291	5,643	2,126
Other prepaid expenses	14,359	9,845	2,298
Total	618,384	123,436	145,543

14. OTHER ASSETS AND LIABILITIES

Other current assets:

	31 December 2022	31 December 2021	31 December 2020
Deferred VAT	2,677,230	2,686,223	41,516
Deferred Value Added Tax ("VAT")	2,370,747	533,243	382,032
Deferred Special Consumption Tax ("SCT")	737,222	239,502	123,601
Taxes and funds to be offsetted	1,793,142	102,401	78,565
Spare parts and material stocks	84,131	60,131	89,655
Income accruals	74,677	81,538	16,793
Income accruals from commodity hedge ⁽¹⁾	288,075	-	22,746
Other current assets	65,176	44,196	26,362
Total	8,090,400	3,747,234	781,270

⁽¹⁾ As of 31 December 2022 and 31 December 2021, income accruals from forward goods purchase and sale transactions consist of income accruals from derivative transactions made by Tüpraş for hedging purposes. The expense accruals recognized under cost of goods sold and paid on 9 January 2023 (31 December 2020- Paid on 8 January 2021).

Other non-current assets:

	31 December 2022	31 December 2021	31 December 2020
Spare parts and material stocks	2,595,287	1,898,482	1,780,871
Other	5,866	18,744	49,253
Total	2,601,153	1,917,226	1,830,124

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements

For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira (“TRY”) unless otherwise indicated.)

14. OTHER ASSETS AND LIABILITIES (Continued)

Other short-term liabilities:

	31 December 2022	31 December 2021	31 December 2020
Revenue share	3,383,851	2,730,078	2,210,451
SCT payable	2,010,561	794,803	1,090,914
Deferred Value Added Tax (“VAT”)	2,370,747	533,243	382,032
Taxes and liabilities payable	1,953,306	123,943	112,479
Deferred Special Consumption Tax (“SCT”)	737,222	239,502	123,601
VAT payable	181,802	93,217	275,366
Expense accruals from commodity hedge ⁽¹⁾	80,133	6,885	-
Expense accrual for forward goods-purchasing and selling transactions ⁽¹⁾	79,045	528,339	247,432
Other	128,903	66,315	48,452
	10,925,569	5,116,325	4,490,727

⁽¹⁾ As of 31 December 2022, 31 December 2021 and 31 December 2020, expense accruals consist of commodity derivative transactions for inventory of Tüpraş which are exposed to commodity price risk. The expense accruals recognized under cost of goods sold and paid on 9 January 2023 (31 December 2021- Paid on 7 January 2022, 31 December 2020- Paid on 8 January 2021).

Deferred VAT and SCT include VAT and SCT amounts related to export committed sales and are classified within “Other current assets” under assets and within “Other current liabilities” under liabilities. Such SCT and VAT amounts are offset when the export transaction is certified and the related taxes are cancelled by the tax office.

According to the Petroleum Market Law, financing needs of refinery owners to maintain the National Petroleum Stock are supplied by the revenue share, which is a surplus added to the sales price, limited to a ceiling of USD 10/ton as determined by Energy Market Regulatory Authority (“EMRA”). In the case of importation of petroleum products, the revenue share is to be paid to the refinery owner by the importer.

The Group has been collecting the revenue share over the sales of petroleum products and non-refinery imports of petroleum products since 1 January 2005, the date the relevant article of the regulation came into force.

The Group has been collecting revenue share for LPG sales since 16 September 2005 in addition to the revenue share collected for petroleum products, in accordance with the Liquefied Petroleum Gas (“LPG”) Market Regulation.

It has been decided by the National Petroleum Reserves Commission that the investment management of the revenue share collected will be conducted by the General Directorate of Tüpraş, and the collected amount will be invested in overnight reverse repurchase agreements.

As a result of these regulations, the revenue share amounting to TRY3,383,851 thousand accumulated as at 31 December 2022 (31 December 2021: TRY2,730,078 thousand, 31 December 2020: TRY2,210,451 thousand) which is not recognized in the comprehensive income statement, has been classified as “Revenue Share” within “Other short-term liabilities”. TRY4,120,408 thousand is (31 December 2021: TRY2,720,305 thousand, 31 December 2020: TRY2,204,004 thousand) blocked in banks as demand deposits with government debt securities interest rate and overnight interest rate related to the calculated revenue share has been classified as Revenue share “Blocked” within “Cash and cash equivalents” (Note 5).

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements

For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

15. PROVISIONS

Provision for employee benefits:

Short-term provision for employee benefits:

	31 December 2022	31 December 2021	31 December 2020
Seniority incentive bonus provision	10,198	6,558	13,067
Personnel bonus accruals	37,406	12,829	11,505
Total	47,604	19,387	24,572

Long-term employee benefits:

	31 December 2022	31 December 2021	31 December 2020
Provision for employment termination benefits	1,052,351	371,235	276,240
Provision for unused vacation	124,011	68,699	73,209
Seniority incentive bonus provision	13,754	15,065	11,878
Total	1,190,116	454,999	361,327

Seniority incentive bonus provision:

Seniority incentive bonus is paid to personnel together with their monthly salary when certain seniority levels are reached. The bonus amounts to 45 days of salary for 5 years of seniority level, 55 days of salary for 10 years of seniority level, 70 days of salary for 15 years of seniority level, 80 days of salary for 20 years of seniority level, 90 days of salary for 25 years of seniority level, 100 days of salary for 30 years of seniority level, 105 days of salary for 35 years of seniority level and 110 days of salary for 40 years of seniority level, paid once for each seniority level.

The movements in the provision for seniority incentive bonus during the period are as follows:

	2022	2021
1 January	27,894	23,383
Charge for the period	60,479	19,642
Payments during the period	(37,213)	(15,131)
31 December	51,160	27,894

Provision for employment termination benefits:

Under the Labour Law, the Group is required to pay termination benefits to each employee who has completed one year of service and whose employment is terminated without due cause, is called up for military service, dies or who retires after completing 25 years of service (20 years for women) and achieves the retirement age (58 for women and 60 for men), Since the legislation was changed on 23 May 2002, there are certain transitional provisions relating to length of service prior to retirement.

The liability is not funded, as there is no funding requirement.

The provision has been calculated by estimating the present value of the future probable obligation of the Company arising from the retirement of the employees.

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements

For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

15. PROVISIONS (Continued)

Provision for employment termination benefits: (Continued)

TAS 19 requires that actuarial valuation methods to be developed to estimate the Group's employment termination benefit provision. The following actuarial assumptions have been used in the calculation of the total provision:

	31 December 2022	31 December 2021	31 December 2020
Discount rate (%)	0.55%	4.45%	4.63%
Turnover rate to estimate probability of retirement (%)	99.24%	99.30%	99.38%

The principal assumption is that maximum liability of employment termination benefits for each year of service will increase in line with inflation. Thus, the discount rate applied represents the expected real rate after adjusting for the anticipated effects of future inflation. Employment termination benefits of the joint ventures of the Group, which are registered in Turkey are calculated from the maximum amount of TRY19,982,83 which is effective as at 1 January 2023 (31 December 2021 - TRY10,848,59, 31 December 2020 - TRY7,638,96).

The movement in the provision for employment termination benefits during the period is as follows:

	2022	2021
1 January	371,235	276,240
Interest expense	40,218	19,360
Actuarial (gain)/loss	366,809	5,779
Increase during the period	305,797	110,692
Acquisitions	-	185
Payments during the period	(31,708)	(41,021)
31 December	1,052,351	371,235

	31 December 2022		31 December 2021		31 December 2020	
	Net discount rate		Net discount rate		Net discount rate	
	100 Base Increase	100 Base Decrease	100 Base Increase	100 Base Decrease	100 Base Increase	100 Base Decrease
Sensitivity analysis						
Ratio	1,55%	(0,45)%	5,45%	3,45%	5,63%	3,63%
Provision for employee termination benefit adjustment	125.902	(160.051)	30.020	(37.159)	34.956	(8.553)

Provision for unused vacation:

The movement in the provision for unused vacation during the period is as follows:

	2022	2021
1 January	68,699	73,209
Charge for the period	61,865	3,002
Payments during the period	(6,553)	(7,512)
31 December	124,011	68,699

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements

For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

15. PROVISIONS (Continued)

Other short term provisions:

	31 December 2022	31 December 2021	31 December 2020
EMRA participation share ⁽¹⁾	120,172	78,170	41,458
Provision for demurrage	268,254	72,961	48,820
Provisions for pending claims and law suits	33,818	20,978	23,070
Other	60,680	27,670	36,231
	482,924	199,779	149,579

⁽¹⁾ EMRA participation share is the participation fee that is paid by the refinery license owners in accordance with the Petroleum Market License Regulation, calculated by multiplying net sales with the participation share rate determined by EMRA.

Movement of the short-term provisions for the period ended 31 December 2022 and 2021 are as follow:

	Provision for pending claims and lawsuits	EMRA participation share	Provision for demurrage	Other	Total
1 January 2022	20,978	78,170	72,961	27,670	199,779
Changes for the period, net	14,947	120,171	397,001	33,010	565,129
Payments during the period, net	(2,107)	(78,169)	(201,708)	-	(281,984)
31 December 2022	33,818	120,172	268,254	60,680	482,924
1 January 2021	23,070	41,458	48,820	36,231	149,579
Changes for the period, net	(1,102)	78,171	64,207	(8,561)	132,715
Payments during the period, net	(990)	(41,459)	(40,066)	-	(82,515)
31 December 2021	20,978	78,170	72,961	27,670	199,779

16. LIABILITIES FOR EMPLOYEE BENEFITS

	31 December 2022	31 December 2021	31 December 2020
Due to the personnel	253,084	89,007	113,713
Social security withholdings payment	164,563	46,869	39,247
Total	417,647	135,876	152,960

Türkiye Petrol Rafinerileri A.Ş.
Notes to the Consolidated Financial Statements
For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

17. DERIVATIVE INSTRUMENTS

	31 December 2022			
	Fair values			
	Purchase contract amount	Sales contract amount	Assets	Liabilities
<i>Cash flow hedge</i>				
Interest rate swap	2,175,174	2,175,174	51,350	8,368
Cross currency swap	231,290	51,634	229,188	-
Commodity derivative	42,836,125	42,836,125	3,239,526	700,087
<i>Derivatives held for trading</i>				
Currency forwards	5,570,109	5,582,094	-	208,553
Commodity derivative	369,401	482,831	76,969	77,504
Interest rate swap	-	-	-	-
Short term derivative instruments			3,597,033	994,512
<i>Cash flow hedge</i>				
Interest rate swap	1,068,431	1,068,431	57,048	-
Cross currency swap	198,760	437,540	-	298,200
Interest rate swap	-	-	-	-
Long term derivative instruments			57,048	298,200
Total derivative instruments			3,654,081	1,292,712

As of 31 December 2022, forward foreign exchange transactions consist of forward and currency swap transactions which generate a sales obligation of TRY5,582,094 thousand in exchange of USD297,894 thousand. (As of 31 December 2021, forward foreign exchange transactions consist of forward and currency swap transactions which generate a sales obligation of TRY17,366,337 thousand in exchange of USD1,356,089 thousand. As of 31 December 2020, forward foreign exchange transactions consist of forward and currency swap transactions which generate a sales obligation of TRY16,070,341 thousand in exchange of USD2,060,500 thousand.)

As of 31 December 2022, interest rate swap consists of exchange of floating rate instalment payments of long-term borrowings and bonds amounting to USD147,265 thousand (31 December 2021: USD217,672 thousand, 31 December 2020: USD298,472) and TRY490,000 (31 December 2021: TRY1,740,000 thousand, 31 December 2020: USD1,400,000) thousand with fixed rate installment payments for cash flow hedging. There are no EUR denominated interest rate swap transactions as of 31 December 2022 (31 December 2021: None 31 December 2020: EUR8,857 thousand).

As of 31 December 2022, cross currency fixed interest rate swap transactions consist of the swap transactions consisting of the exchange of floating interest rate borrowings indexed to foreign currency amounting to USD 22,999 thousand (31 December 2021 - USD 23,558 thousand, 31 December 2020 - USD 144,423 thousand) with fixed interest rate payments amounting to TRY 122,689 thousand (31 December 2021 - TRY 54,655 thousand, 31 December 2020 - TRY 606,314 thousand).

31 December 2021				31 December 2020			
Fair values				Fair values			
Purchase contract amount	Sales contract amount	Assets	Liabilities	Purchase contract amount	Sales contract amount	Assets	Liabilities
2,950,611	2,729,767	73,916	39,781	729,500	729,500	-	53,442
157,006	364,743	229,912	171,004	885,015	613,238	318,377	18,222
17,593,118	17,593,118	2,472,790	2,925,263	51,015	51,017	20,939	32,067
18,075,316	17,366,337	1,047,082	260,308	15,125,099	16,070,341	42,132	665,976
10,100,317	10,100,317	-	70,217	-	-	-	-
-	-	-	-	-	-	447	-
		3,823,700	3,466,572			381,895	769,707
1,690,745	1,690,745	-	73,058	2,126,201	2,126,201	-	78,001
157,003	27,327	44,213	-	172,928	54,654	87,313	-
-	-	-	-	750,000	750,000	570	-
		44,213	73,058			87,883	78,001
		3,867,913	3,539,630			469,778	847,708

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements

For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

17. DERIVATIVE INSTRUMENTS (Continued)

As of 31 December 2022, commodity forward transactions consist of product purchase and sale transactions. As of 31 December 2021 and 31 December 2020, forward goods purchase and sale transactions consist of product crack margin fixing transactions and goods purchase and sale transactions. As of 31 December 2021, forward sales product crack margin fixing transactions are 551 thousand barrels of gasoline, 214 thousand barrels of jet fuel, 1.061 thousand barrels of diesel and 214 thousand barrels of fuel oil transactions for the first quarter of 2022. As of December 31, 2020, future sales product crack margin fixing transactions are 374 thousand barrels of gasoline, 265 thousand barrels of jet fuel, 749 thousand barrels of diesel and 172 thousand barrels of fuel oil for the 1st quarter period of 2021. Commodity purchase and sale transactions consist of 97.742 thousand barrels (31 December 2021 - 10.865 thousand barrels, 31 December 2020 - None) of crude oil purchase and sale transactions with various maturities in order to hedge the risk of crude oil price changes in the Group's highly probable future sales.

There is no ineffective portion of these derivative instrument transactions.

18. COMMITMENTS AND CONTINGENT ASSETS AND LIABILITIES

	31 December 2022		31 December 2021		31 December 2020	
	Original currency ⁽¹⁾ :	TRY amount:	Original currency ⁽¹⁾ :	TRY amount:	Original currency ⁽¹⁾ :	TRY amount:
Guarantees received:						
Letter of guarantees received		5,419,947		2,066,302		1,446,358
- Letter of guarantees in TRY	3,456,913	3,456,913	948,741	948,741	775,268	775,268
- Letter of guarantees in USD	80,335	1,502,511	21,763	290,084	36,186	265,624
- Letter of guarantees in EUR	21,692	432,427	54,712	825,429	44,517	401,005
- Letter of guarantees in other currencies	-	28,096	-	2,048	-	4,461
Guarantee notes received		423		733		679
- Guarantee notes in TRY	423	423	733	733	679	679
Guarantee letters received		1,000,818		727,787		417,926
- Guarantee letters received in TRY	50,000	50,000	50,000	50,000	50,000	50,000
- Guarantee letters received in USD	50,851	950,818	50,851	677,787	50,000	367,025
- Guarantee letters received in EUR	-	-	-	-	100	901
Guarantee letters of credit		323,985		119,507		205,520
- Letters of credit in USD	17,327	323,985	8,966	119,507	27,998	205,520
Direct debiting limits		899,939		610,515		407,475
- TRY direct debiting limits	899,939	899,939	610,515	610,515	407,475	407,475
Total guarantees received		7,645,114		3,524,844		2,477,958

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements

For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

18. COMMITMENTS AND CONTINGENT ASSETS AND LIABILITIES (Continued)

	31 December 2022		31 December 2021		31 December 2020	
	Original currency ⁽¹⁾ :	TRY amount:	Original currency ⁽¹⁾ :	TRY amount:	Original currency ⁽¹⁾ :	TRY amount:
Guarantees given:						
Letter of credits given		9,782,951		15,973,754		3,953,337
- Letter of credits in USD	523,200	9,782,951	1,196,876	15,953,154	535,781	3,932,903
- Letter of credits in EUR	-	-	1,011	15,256	2,268	20,434
- Letter of credits in other currencies	-	-	-	5,344	-	-
Letter of guarantees given		8,425,157		2,959,205		1,963,157
- Letter of guarantees in TRY	8,421,415	8,421,415	2,945,223	2,945,223	1,803,618	1,803,618
- Letter of guarantees in USD	200	3,742	200	2,667	20,200	148,279
- Letter of guarantees in EUR	-	-	750	11,315	1,250	11,260
Letters of guarantee given to customs offices		1,768,072		800,740		897,796
- Letter of guarantees in TRY	1,648,463	1,648,463	710,220	710,220	843,749	843,749
- Letter of guarantees in USD	-	-	-	-	-	-
- Letter of guarantees in EUR	6,000	119,609	6,000	90,520	6,000	54,047
Guarantee bond		22,087				
- Guarantee bond in TRY	1,626	1,626				
- Guarantee bond in USD	1,094	20,462				
Letters of guarantee given to banks		870,962		860,398		753,762
- Letter of guarantees in USD	46,580	870,962	64,551	860,398	89,322	655,667
- Letter of guarantees in EUR	-	-	-	-	10,890	98,095
Guarantess	104,000	1,944,623	104,000	1,386,216	-	-
Total guarantees given		22,813,853		21,980,313		7,568,052

⁽¹⁾ Original balance amounts are expressed in thousands of currencies

As at 31 December 2022, 31 December 2021 and 31 December 2020 letter of guarantees received are composed of guarantees from customers and suppliers. Guarantees given are composed letter of credit with of guarantees given to government entities and customs offices. As at 31 December 2022, letters of guarantee given to banks are given for loans which were used by Companies within scope of consolidation amounting to TRY817,272 thousand (31 December 2021: TRY809,367 thousand, 31 December 2020: TRY92,365 thousand) and for derivative financial instruments amounting to TRY53,691 thousand (31 December 2021: TRY51,031 thousand, 31 December 2020: TRY7,847 thousand).

Türkiye Petrol Rafinerileri A.Ş.
Notes to the Consolidated Financial Statements
For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

18. COMMITMENTS AND CONTINGENT ASSETS AND LIABILITIES (Continued)

Collaterals, pledges, mortgages given by the Group as at 31 December 2022, 31 December 2021 and 31 December 2020 are as follows:

	31 December 2022	31 December 2021	31 December 2020
A. CPMs given for companies in the name of its own legal personality	19,998,267	18,975,945	6,814,290
- TRY	10,071,503	3,655,443	2,647,367
- USD	9,807,154	15,198,067	4,081,182
- EUR	119,609	117,091	85,741
- Other	-	5,344	-
B. CPMs given on behalf of the fully consolidated companies	2,815,586	3,004,368	753,762
- USD	2,815,586	3,004,368	655,667
- EUR	-	-	98,095
C. CPMs given for continuation of its economic activities on behalf of third parties	-	-	-
D. Total amount of other CPMs	-	-	-
i) Total amount of CPMs given on behalf of the majority shareholder	-	-	-
ii) Total amount of CPMs given to on behalf of other Group companies which are not in scope of B and C.	-	-	-
iii) Total amount of CPMs given on behalf of third parties which are not in scope of C.	-	-	-
Total	22.813.853	21,980,313	7,568,052

A commission at an amount of TRY33,678 thousand is recognized as of 31 December 2021 related to letter of guarantees given in favor of partnerships included in full consolidation (31 December 2021 - 17,957 thousand, 31 December 2020 - TRY5,970 thousand).

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements

For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

19. EQUITY

The Company's shareholders and their shareholding percentages as at 31 December 2022, 31 December 2021 and 31 December 2020 are as follows:

	31 December 2022	Share (%)	31 December 2021	Share (%)	31 December 2020	Share (%)
Enerji Yatırımları A.Ş.	127,714	46.40	127,714	46.40	127,714	46.40
Koç Holding A.Ş.	17,471	6.35	17,471	6.35	17,471	6.35
Koç Family Members and Companies owned by Koç Family Members	1,308	0.47	1,308	0.47	1,308	0.47
Publicly held	128,764	46.78	128,764	46.78	128,764	46.78
Paid-in Capital	275,257	100.00	275,257	100.00	275,257	100.00
Adjustments to share capital	1,344,243		1,344,243		1,344,243	
Total Capital	1,619,500		1,619,500		1,619,500	

⁽¹⁾ As a result of the acquisition of Entek shares by partial division, the Company's paid-in capital was increased from 250,419 thousand TL to 275,257 thousand TL and was registered in the trade registry on 26 August 2022.

Adjustment to share capital represents the difference between the inflation adjusted amounts of cash and cash equivalents of the paid-in capital and the amounts before the inflation adjustment.

Registered capital of the Company is TRY500,000 thousand and is divided into 50,000,000,000 shares with a registered nominal value of 1 Kuruş ("Kr") (31 December 2021: 1Kr) each. The authorised and paid-in share capital of the Company comprises 27,525,651,399 Group A shares with a registered nominal value of 1Kr and one Group C share with privileges belonging to the Privatisation Administration.

As per the articles of association of the Company, one member of the Board of Directors should be nominated by the Group C shareholders. Board of Directors' decisions on the supply needs of petroleum products of the Turkish Military Forces requires the consent of the member representing the Group C shareholders.

Retained earnings, as per the statutory financial statements other than legal reserves, are available for distribution, subject to the legal reserve requirement referred to below.

Restricted reserves

The legal reserves consist of first and second reserves, appropriated in accordance with the Turkish Commercial Code ("TCC"). The TCC stipulates that the first legal reserve is appropriated out of statutory profits at the rate of 5% per annum until the total reserve reaches 20% of the Company's paid-in share capital. The second legal reserve is appropriated at the rate of 10% per annum of all cash distributions in excess of 5% of the paid-in share capital. Under the TCC, the legal reserves can only be used to offset loss and are not available for any other usage unless the reserve exceeds 50% of paid-in share capital

In accordance with Turkish Financial Reporting Standards the aforementioned amounts should be classified under "Restricted Reserves". At 31 December 2022, the restricted reserves of the Company amount to TRY503,343 thousand (31 December 2021 - TRY503,343 thousand, 31 December 2020 - TRY503,343 thousand).

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements

For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

19. EQUITY (Continued)

Dividend distribution

Listed companies distribute dividend in accordance with the Communiqué No. II-19.1 issued by the CMB which is effective from 1 February 2014.

Companies distribute dividends in accordance with their dividend payment policies settled and dividend payment decision taken in general assembly and also in conformity with relevant legislations. The communiqué does not constitute a minimum dividend rate. Companies distribute dividend in accordance with the method defined in their dividend policy or articles of incorporation. In addition, dividend can be distributed by fixed or variable instalments and advance dividend can be paid in accordance with profit on year end financial statements of the Company.

In accordance with the Turkish Commercial Code (TCC), unless the required reserves and the dividend for shareholders as determined in the article of association or in the dividend distribution policy of the company are set aside, no decision may be made to set aside other reserves, to transfer profits to the subsequent year or to distribute dividends to the holders of usufruct right certificates, to the members of the board of directors or to the employees; and no dividend can be distributed to these persons unless the determined dividend for shareholders is paid in cash.

As of 31 December 2022, the total amount of resources that can be subject to dividend distribution after deducting accumulated losses and legal reserves that must be set aside without additional corporate tax burden in the legal records of Tüpraş is TRY 28,862,595 thousand.

At the Ordinary General Assembly Meeting dated 30 March 2022, in the financial statements prepared in accordance with the Tax Procedural Law records; although the operations in 2021 resulted in a current year profit of TRY676,189 thousand; due to the previous year loss of TRY4,201,409 thousand, it is declared that dividends will not be distributed and the net period profit which was obtained according to the financial statements prepared in accordance with TFRS amounting to TRY3,319,134 thousand attributable to the equity holders of the parent will be transferred to the retained earnings.

20. REVENUE AND COST OF SALES

	1 January - 31 December 2022	1 January - 31 December 2021
Domestic revenue	397,295,142	120,259,146
Export revenue	91,291,312	34,211,922
Gross revenue	488,586,454	154,471,068
Less: Sales discounts	(6,664,017)	(1,883,693)
Less: Sales returns	(157,781)	(95,356)
Sales (net)	481,764,656	152,492,019
Cost of goods sold	(418,987,726)	(136,631,978)
Gross profit	62,776,930	15,860,041

Türkiye Petrol Rafinerileri A.Ş.
Notes to the Consolidated Financial Statements
For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

20. REVENUE AND COST OF SALES (Continued)

Cost of sales:

	1 January - 31 December 2022	1 January - 31 December 2021
Raw material, manufactured and consumable material	398,870,790	130,190,736
Energy expenses	13,727,750	3,197,225
Personnel expenses	1,945,231	1,180,719
Depreciation and amortization (Note 11-12)	649,532	638,541
Other production expenses	3,794,423	1,424,757
Cost of sales	418,987,726	136,631,978

21. GENERAL ADMINISTRATIVE EXPENSES, MARKETING EXPENSES AND RESEARCH AND DEVELOPMENT EXPENSES

General administrative expenses:

	1 January - 31 December 2022	1 January - 31 December 2021
Personnel expenses	1,708,477	736,174
Insurance expenses	461,920	266,189
Tax duties and fees	394,247	217,595
Depreciation and amortization (Note 11-12)	169,556	100,831
Outsourced services	436,603	154,325
Office expenses	255,502	87,022
Subscription fees	136,341	86,532
Lawsuit and consultancy expenses	124,296	54,754
Donations	269,521	31,006
Transportation and travel expenses	20,505	7,011
Other	243,406	128,097
Total general administrative expenses	4,220,374	1,869,536

Türkiye Petrol Rafinerileri A.Ş.
Notes to the Consolidated Financial Statements
For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

21. GENERAL ADMINISTRATIVE EXPENSES, MARKETING EXPENSES AND RESEARCH AND DEVELOPMENT EXPENSES
(Continued)

Marketing expenses:

	1 January - 31 December 2022	1 January - 31 December 2021
Transportation, storage and insurance expenses	2,949,595	900,964
Personnel expenses	378,889	191,290
Energy expenses	163,843	32,634
Depreciation and amortization (Note 11)	101,461	99,578
Advertising expenses	86,791	30,671
Outsourced services	81,472	60,690
Other	177,130	93,249
Total marketing expenses	3,939,181	1,409,076

Research and development expenses:

	1 January - 31 December 2022	1 January - 31 December 2021
Personnel expenses	43,218	15,810
Depreciation and amortization (Not 11)	14,363	14,580
Energy expenses	5,632	1,157
Lawsuit and consultancy expenses	276	3,218
Outsourced services	873	1,114
Licence expenses	123	21
Other	10,907	3,066
Total research and development expenses	75,392	38,966

Depreciation expenses, which have been recorded under cost of goods sold between 1 January to 31 December 2021, have been appropriately allocated to cost centers as of 31 December 2022.

Fees for Services Obtained from Independent Auditor/Independent Audit Firm

The Group's explanation regarding the fees for the services received from the independent audit firms, which is based on the letter of POA dated 19 August 2021, the preparation principles of which are based on the Board Decision published in the Official Gazette on 30 March 2021, are as follows:

	2022 ⁽¹⁾	2021 ⁽¹⁾
Audit and assurance fee	9,076	2,869
Tax consulting fee	511	400
Other assurance services fee	565	18
Other service fee apart from audit	70	2
	10,222	3,289

⁽¹⁾ The fees above have been determined through including the legal audit and other related service fees of all subsidiaries and joint ventures, and the foreign currency fees of foreign subsidiaries and affiliates have been converted into TL using the annual average rates of the relevant years.

Türkiye Petrol Rafinerileri A.Ş.
Notes to the Consolidated Financial Statements
For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

22. OTHER OPERATING INCOME/(EXPENSES)

Other operating income:	1 January - 31 December 2022	1 January - 31 December 2021
Credit finance gains	3,473,276	835,695
Foreign exchange gain from trade receivables	705,612	182,115
Rent expenses	11,174	7,696
Other	181,350	220,358
Total other operating income	4,371,412	1,245,864
Other operating expense:	1 January - 31 December 2022	1 January - 31 December 2021
Foreign exchange loss from trade payables	(11,725,523)	(12,726,985)
Credit finance charges	(1,187,229)	(135,344)
Other	(393,996)	(149,437)
Total other operating expense	(13,306,748)	(13,011,766)

23. INCOME/(EXPENSE) FROM INVESTMENT ACTIVITIES

	1 January - 31 December 2022	1 January - 31 December 2021
Gain/(loss) on sales of property plant and equipment and intangible assets	(13,170)	107,675
Financial investments fair value change	66,413	
Dividend income	55	79
Total income/(expense) from investment activities	53,298	107,754

Türkiye Petrol Rafinerileri A.Ş.
Notes to the Consolidated Financial Statements
For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

24. FINANCIAL INCOME/(EXPENSES)

	1 January - 31 December 2022	1 January - 31 December 2021
Financial income:		
Foreign exchange gains on deposits	4,561,528	10,880,229
Interest income on deposits	1,612,650	1,975,092
Interest income on derivative instruments	-	-
Financial investment interest income	12,715	-
Total financial income	6,186,893	12,855,321
Financial expense:		
Foreign exchange losses on borrowings	(8,486,100)	(8,181,852)
Interest expenses	(3,046,458)	(2,657,904)
Losses on derivative instruments	(654,052)	(1,112,949)
Other	(96,711)	(21,565)
Total financial expense	(12,283,321)	(11,974,270)

As of 31 December 2022, interest expense amounting to TRY 30,646 thousand (31 December 2021 - TRY 30,382 thousand) arising from leasing transactions is included in interest expense and foreign exchange loss amounting to TRY 37,987 thousand (31 December 2021 - TRY 47,798 thousand) arising from leasing transactions is included in foreign exchange loss on financial liabilities.

Gains and losses arising from derivative instruments include gains and losses on forward foreign currency transactions and interest rate swap transactions.

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements

For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

25. TAX ASSETS AND LIABILITIES

	31 December 2022	31 December 2021	31 December 2020
Current period corporate tax provision	2,714,126	79,907	13,310
Current year tax assets	(1,758,871)	(10,143)	(10,851)
	955,255	69,764	2,459

Turkish tax legislation does not permit a parent company, its subsidiaries and its joint ventures to file a consolidated tax return. Therefore, provisions for taxes, as reflected in these consolidated financial statements, have been calculated on an individual-entity basis.

The corporation tax rate for the fiscal year 2022 is 20% (2021: 25%, 2020:22%). The corporate tax rate for the 2023 year has been determined as 23%. Corporation tax is payable on the total income of the companies after adjusting for certain disallowable expenses, corporate income tax exemptions (participation exemption, investment allowance, etc.) and allowances (as research and development expenditures deduction).

The law on amending the Tax Procedure Law and the Corporate Tax Law was enacted on 20 January 2022, It has been enacted with the number 7352 and it has been decided that the financial statements will not be subject to inflation adjustment in the 2022 and 2023 accounting periods, including the temporary accounting periods, and in the provisional tax periods of the 2023 accounting period, regardless of whether the conditions for the inflation adjustment within the scope of the repeated Article 298 are met.

Reconciliation of the income before tax with the calculated corporate tax is as follows:

	2022	2021
Profit/(Loss) before taxation	39,875,557	2,358,355
Less: Shares in profit/loss of joint ventures	312,040	592,989
Profit before tax (Excluding the profit/loss shares of Joint Ventures)	39,563,517	1,765,366
Expected tax expense ⁽¹⁾	(9,099,609)	(441,342)
Investment incentive income	9,193,102	1,718,057
Deductions and exemptions	413,304	176,194
Changes in the tax rate	152,018	36,773
Effect on revaluation of fixed assets and other assets subject to depreciation ⁽²⁾	1,225,188	124,205
Disallowable expenses and differences		
Not subject to taxation	(498,993)	(359,018)
Taxation on income	1,385,010	1,254,869

⁽¹⁾ The current year tax rate is taken into account as 23%.

⁽²⁾ In accordance with the regulation numbered 7326, published in Official Gazette on 9 June 2021, the opportunity to revalue the immovable registered in assets and the economic assets subject to depreciation on the effective date of the law. The assets included in the scope will be depreciated over the revalued amount and a tax of 2% will be paid over the value increase amount. Within the scope of the aforementioned change in law, a deferred tax asset has been created in the statement of financial position based on the revaluation entries made for fixed assets in the statutory ledger and deferred tax income related to this asset has been recognized in consolidated other comprehensive income.

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements

For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

25. TAX ASSETS AND LIABILITIES (Continued)

The analysis of cumulative temporary differences and the related deferred tax assets and liabilities in respect of items for which deferred income tax has been provided as at 31 December 2022, 31 December 2021 and 31 December 2020 using the enacted tax rates are as follows:

	Cumulative temporary differences			Deferred tax (liability)/asset		
	31 December 2022	31 December 2021	31 December 2020	31 December 2022	31 December 2021	31 December 2020
Investment incentives ⁽¹⁾	(48,706,750)	(34,664,738)	29,592,896	9,741,350	6,278,887	4,557,566
Accumulated deductible financial losses ⁽²⁾	(184,517)	(2,592,801)	(4,202,677)	36,904	520,799	840,535
Difference between the carrying values and tax base of property, plant, equipment and intangible assets	7,426,682	(4,735,231)	7,654,962	1,429,862	418,241	(689,583)
Employment termination benefits	(686,501)	(377,580)	(271,906)	137,493	71,384	54,382
Inventories	1,466,052	149,788	(185,705)	(293,210)	(34,451)	37,141
Provision for unused vacation liability	(99,863)	(55,089)	(62,013)	20,059	11,035	12,403
Deferred financial income (expense), net	(108,067)	(1,408,806)	(322,080)	28,090	320,740	69,394
Provision lawsuits	(33,818)	(20,087)	(27,080)	6,814	4,620	5,416
Fair value difference of derivative instruments	2,586,950	469,703	(332,804)	(508,507)	(103,347)	70,573
Gain on revaluation of tangibles	15,341,907	12,127,601	-	(1,534,191)	(1,212,767)	-
Cash capital incentives	(23,790)	(23,790)	-	4,758	4,758	-
Other	(669,613)	(366,617)	(67,102)	81,726	1,031	2,811
				9,151,148	6,280,930	4,960,638

⁽¹⁾ In the first quarter of 2011, within the scope of the decree of the Council of Ministers dated 14 July 2009 and numbered 2009/15199, the Company was granted a Large-Scaled Investment Incentive Certificate for Residuum Upgrading Project (RUP). Investment expenditures made within the scope of this certificate are subject to 30% contribution from the government, where the contribution is provided as a reduction in corporate tax payable by 50%. As of 7 October 2013, Residuum Upgrading Project was granted Strategic Investment Incentive by Incentive Implementation and Foreign Investment Department of Ministry of Economy of Republic of Turkey which became applicable after 19 October 2012. Expenditures made within the scope of Strategic Investment Incentive Certificate are subject to 50% contribution from the government, where the contribution is provided as a reduction in corporate tax payable by 90%. The company has performed the revaluation of the unutilized investment incentives for both certificates by using the 122,93% revaluation rate, which was announced for the second provisional tax period of 2021 by the Ministry of Finance. In addition to the government contribution within the scope of Strategic Investment Incentive, the Company benefits from VAT exemption, VAT refund, customs duty exemption, incentive for employer share of insurance premium and interest incentive from this certificate.

There are two priority and one regional comprehensive incentive certificates for the expansion investments made by Körfez, one of the company's subsidiaries. Within the scope of these 3 incentive certificates, in order to continue its main activities, investment expenditures were made for technical machinery as well as locomotives and wagon investments. With these documents, the company benefits from a 40% investment contribution rate, 80% corporate tax reduction, VAT exemption, customs tax exemption, employer's insurance premium support and interest support incentives

⁽²⁾ Deferred tax assets amounting to TRY 36,904 thousand to be used in the next 5 years arising from deductible tax losses amounting to TRY 184,517 thousand realized on 31 December 2022. Deferred tax assets amounting to TRY 520,799 thousand to be used in the next 5 years arising from deductible tax losses amounting to TRY 2,592,801 thousand realized on 31 December 2021. Deferred tax assets amounting to TRY 840,535 thousand to be used in the next 5 years arising from deductible tax losses amounting to TRY 4,202,677 thousand realized on 31 December 2020.

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements

For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

25. TAX ASSETS AND LIABILITIES (Continued)

The company has assessed that the necessary taxable profit will arise in the following periods, the deferred tax asset has been recognised in the current period.

The movement of deferred taxes is as follows:

	2022	2021
Deferred tax asset/(liability), net		
1 January	6,280,930	4,960,638
Charge for the period	4,064,319	1,351,549
Charge to equity:		
- Hedging cash flow gains/(losses)	(941,054)	363,233
- Actuarial gains/(losses) arising from defined benefit plans	71,213	1,120
- Acquisitions	-	(9,896)
- Revaluation of property gains/(losses)	(324,260)	(385,714)
	9,151,148	6,280,930

26. EARNINGS PER SHARE

	1 January - 31 December 2022	1 January - 31 December 2021
Profit for the year attributable to shareholders	41,044,621	3,494,837
Weighted average number of Shares with nominal value of Kr1 each	27,525,651,400	27,525,651,400
Basic and diluted earnings per share in Kr	149.11	12.70

27. RELATED PARTY TRANSACTIONS

Related party transactions were classified according to the following groups and contain all descriptions in this footnote,

⁽¹⁾ Joint ventures

⁽²⁾ Koç Holding group companies

⁽³⁾ Parent, ultimate parent

a) Deposits:

	31 December 2022	31 December 2021	31 December 2020
Yapı ve Kredi Bankası A.Ş. ⁽²⁾	10,785,491	7,152,649	6,288,137
Total	10,785,491	7,152,649	6,288,137

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements

For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

27. RELATED PARTY TRANSACTIONS (Continued)

b) Trade receivables:

	31 December 2022	31 December 2021	31 December 2020
Opet Petrolcülük A.Ş. ⁽¹⁾	2,666,239	1,382,904	226,489
THY OPET Havacılık Yakıtları A.Ş. ⁽¹⁾	252,453	186,648	51,113
Aygaz A.Ş. ⁽²⁾	108,337	75,814	24,516
Demir Export ⁽²⁾	18,692	4,413	3,742
Opet Fuchs Madeni Yağ San. ve Tic. A.Ş. ⁽¹⁾	23,502	21,993	19,237
Other ⁽²⁾	118,649	73,753	35,834
Total	3,187,872	1,745,525	360,931

As of 31 December 2022, Tüpraş has deducted the amount of TRY 1,385,000 thousand collected from factoring companies from trade receivables from related parties (As of 31 December 2021, Tüpraş has deducted the amount of TRY 70,000 thousand collected from factoring companies from trade receivables from related parties. As of 31 December 2020, Tüpraş has deducted the amount of TRY 250,000 thousand collected from factoring companies from trade receivables from related parties. As of 31 December 2020, there is a supplier financing of TRY153,100 thousand. As of 31 December 2020, there is a supplier financing of TRY 507,000 thousand).

c) Trade payables:

	31 December 2022	31 December 2021	31 December 2020
Opet Petrolcülük A.Ş. ⁽¹⁾	899,130	41,580	16,923
Koç Sistem Bilgi ve İletişim A.Ş. ⁽²⁾	90,151	42,077	25,098
Zer Merkezi Hizmetler ve Ticaret A.Ş. ⁽²⁾	66,168	28,830	16,566
Aygaz A.Ş. ⁽²⁾	15,639	16,170	8,104
Setur Servis Turistik A.Ş. ⁽²⁾	10,879	3,262	3,149
Otokoç Otomotiv Tic. ve San. A.Ş. ⁽²⁾	7,163	5,721	5,086
RAM Sigorta Aracılık Hizmetleri A.Ş. ⁽²⁾	807	5,357	15,431
Aygaz Doğalgaz Toptan Satış A.Ş. ⁽²⁾	-	-	78,084
Ark İnşaat A.Ş. ⁽²⁾	-	-	44,880
Other ⁽²⁾	66,484	39,915	20,634
Total	1,156,421	182,912	233,955

d) Other payables:

	31 December 2022	31 December 2021	31 December 2020
Koç Holding A.Ş. ⁽³⁾	169,841	43,328	30,763
Total	169,841	43,328	30,763

Türkiye Petrol Rafinerileri A.Ş.
Notes to the Consolidated Financial Statements
For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

27. RELATED PARTY TRANSACTIONS (Continued)

e) Advances given for property, plant and equipment

	31 December 2022	31 December 2021	31 December 2020
Ark İnşaat A.Ş. ⁽²⁾	291	5,643	2,126
Total	291	5,643	2,126

f) Bank loans:

	31 December 2022	31 December 2021	31 December 2020
Yapı ve Kredi Bankası A.Ş. ⁽²⁾	-	837,391	821,310
Total	-	837,391	821,310

g) Lease liabilities:

	31 December 2022	31 December 2021	31 December 2020
Otokoç Otomotiv Tic. ve San. A.Ş. ⁽²⁾	82,583	19,308	22,477
Koç Ailesi ⁽³⁾	18,549	67,827	63,286
Temel Ticaret ve Yatırım A.Ş.	7,226	1,175	-
Zer Merkezi Hizmetler ve Ticaret A.Ş. ⁽²⁾	-	20	31
Total	108,358	88,330	85,794

h) Product and service sales:

	1 January - 31 December 2022	1 January - 31 December 2021
Opet Petrolcülük A.Ş. ⁽¹⁾	89,800,411	32,434,706
THY OPET Havacılık Yakıtları A.Ş. ⁽¹⁾	7,486,998	3,326,389
Aygaz A.Ş. ⁽²⁾	3,467,802	1,458,967
Opet Fuchs Madeni Yağ A.Ş. ⁽¹⁾	264,560	146,248
Other ⁽²⁾	122,103	448,946
Total	101,141,874	37,815,256

Türkiye Petrol Rafinerileri A.Ş. Notes to the Consolidated Financial Statements For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

27. RELATED PARTY TRANSACTIONS (Continued)

i) Product and service purchases:

	1 January - 31 December 2022	1 January - 31 December 2021
Opet Petrolcülük A.Ş. ⁽¹⁾	7,307,930	476,462
Aygaz A.Ş. ⁽²⁾	768,262	279,649
Ram Sigorta Aracılık Hizmetleri A.Ş. ^{(2) (1)}	586,615	279,358
Zer Merkezi Hizmetler ve Ticaret A.Ş. ⁽²⁾	376,179	135,402
Koç Sistem Bilgi ve İletişim A.Ş. ⁽²⁾	160,186	67,471
Ark İnşaat San. Tic. A.Ş. ⁽²⁾	131,504	115,159
Koç Holding A.Ş. ^{(3) (*)}	131,318	51,172
THY OPET Havacılık Yakıtları A.Ş. ⁽¹⁾	73,013	68
Otokoç Otomotiv Tic. ve San. A.Ş. ⁽²⁾	36,142	27,651
Opet Fuchs ⁽¹⁾	28,157	-
Aygaz Doğalgaz Toptan Satış A.Ş. ⁽²⁾	-	393,250
Other ⁽²⁾	196,162	178,943
Total	9,795,468	2,004,585

⁽¹⁾ It includes the paid and accrued premium amounts within the scope of policies signed with insurance companies which are not related parties, via Ram Sigorta Aracılık Hizmetleri A.Ş. which operates as an insurance agency.

^(*) Consists of the Group's share of invoices issued by Koç Holding, the ultimate parent of Tüpraş in accordance with the "11-Intra-group Services" of General Communique numbered 1 on Distribution of Hidden Income through Transfer Pricing which represents the services provided for financing, legal, tax and remuneration of senior management by the ultimate parent to its group companies.

j) Fixed asset purchases:

	1 January - 31 December 2022	1 January - 31 December 2021
Koç Sistem Bilgi ve İletişim A.Ş. ⁽²⁾	64,639	22,329
Ark İnşaat A.Ş. ⁽²⁾	18,153	11,228
RMK Marine Gemi Yapım Sanayii ve Deniz Taşımacılığı İşletmesi A.Ş. ⁽²⁾	11,720	4,549
Zer Merkezi Hizmetler ve Ticaret A.Ş. ⁽²⁾	3,488	-
Other ⁽²⁾	6,897	2,687
Total	104,897	40,793

k) Remuneration of board of directors and executive management:

The senior management of the Group is determined as members and chair of the Board of Directors and General Manager and General Manager Deputies. The total amount of benefits provided to senior management is TRY 283,306 thousand as of period ending on 31 December 2022 (31 December 2021 - TRY 102,536 thousand). All of this amount consists of short term benefits (2021: All of this amount consists of short term benefits).

Türkiye Petrol Rafinerileri A.Ş.
Notes to the Consolidated Financial Statements
For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

27. RELATED PARTY TRANSACTIONS (Continued)

l) Financial expenses paid to related parties:

	1 January - 31 December 2022	1 January - 31 December 2021
Yapı ve Kredi Bankası A.Ş. ⁽²⁾	50.976	91.058
Yapı Kredi Faktoring A.Ş. ⁽²⁾	27.957	3.515
Yapı Kredi Portföy Yönetimi	35	-
Total	78.967	94.573

m) Time deposit interest income:

	1 January - 31 December 2022	1 January - 31 December 2021
Yapı ve Kredi Bankası A.Ş. ⁽²⁾	374,853	912,341
Yapı Kredi Portföy Yönetimi	32,898	-
Total	407,751	912,341

n) Donations:

As of 31 December 2022, total donation amount paid to related parties is TRY 241,069 thousand (31 December 2021 - TRY 2,162 thousand).

28. FINANCIAL INSTRUMENTS AND FINANCIAL RISK MANAGEMENT

The Group's activities expose it to a variety of financial risks, including the effects of changes in debt and equity market prices, foreign currency exchange rates and interest rates. The Group's overall risk management program focuses on the unpredictability of financial markets and seeks to minimize potential adverse effects on the financial performance of the Group.

Liquidity risk:

The ability to fund the existing and prospective debt requirements is managed by maintaining the availability of adequate fund providers from high quality lenders.

Prudent liquidity risk management comprises maintaining sufficient cash, the availability of funding through an adequate amount of committed credit facilities and the ability to close out open positions.

Türkiye Petrol Rafinerileri A.Ş.
Notes to the Consolidated Financial Statements
For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

28. FINANCIAL INSTRUMENTS AND FINANCIAL RISK MANAGEMENT (Continued)

The table below demonstrates the Group's future cash outflows due to financial liabilities as at 31 December 2022 and 31 December 2021. The amounts demonstrated are undiscounted cash flows on agreements and the Group manages its liquidity risk by taking into account its expected undiscounted cash flows.

31 December 2022

Contractual maturities	Carrying value	Contractual cash outflows	Up to 3 months	3-12 months	1-5 years	More than 5 years
Total liabilities (non derivative)	86.230.109	88.122.144	58.452.638	9.689.197	19.281.994	698.315
Bank borrowings	18.314.113	19.726.892	3.867.427	9.374.865	6.138.694	345.905
Bonds and notes issued	14.627.164	14.627.164	1.416.995	121.359	13.088.810	-
Lease liabilities	327.673	611.682	11.809	192.973	54.490	352.410
Trade payables	52.698.764	52.894.012	52.894.012	-	-	-
Other liabilities	262.395	262.395	262.395	-	-	-

Contractual maturities	Carrying value	Contractual cash outflows	Up to 3 months	3-12 months	1-5 years	More than 5 years
Derivative instruments (net)	2.361.368	(46.957)	6.423	190.063	(254.742)	11.299
Derivative cash inflows	3.654.081	7.428.786	405.362	6.930.753	81.372	11.299
Derivative cash outflows	1.292.712	7.475.742	398.938	6.740.690	336.114	-

31 December 2021

Contractual maturities	Carrying value	Contractual cash outflows	Up to 3 months	3-12 months	1-5 years	More than 5 years
Total liabilities (non derivative)	77.354.137	80.901.558	46.896.813	11.037.331	21.175.648	1.791.767
Bank borrowings	21.574.212	24.723.448	2.662.739	10.251.929	10.401.166	1.407.614,901
Bonds and notes issued	11.352.244	11.354.525	47.715	586.510	10.720.300	0
Lease liabilities	267.208	654.859	17.633	198.892	54.182	384.152
Trade payables	43.837.455	43.845.708	43.845.708	-	-	-
Other liabilities	323.018	323.018	323.018	-	-	-

Contractual maturities	Carrying value	Contractual cash outflows	Up to 3 months	3-12 months	1-5 years	More than 5 years
Derivative instruments (net)	328.283	1.149.160	876.118	167.996	105.046	-
Derivative cash inflows	3.867.913	21.581.368	18.136.864	2.168.367	1.276.137	-
Derivative cash outflows	3.539.630	20.432.208	17.260.746	2.000.371	1.171.091	-

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements

For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

28. FINANCIAL INSTRUMENTS AND FINANCIAL RISK MANAGEMENT (Continued)

31 December 2020

Contractual maturities	Carrying value	Contractual cash outflows	Up to 3 months	3-12 months	1-5 years	More than 5 years
Total liabilities (non derivative)	44.194.888	46.899.012	17.938.515	7.102.970	21.529.628	327.899
Bank borrowings	23.088.185	24.626.097	2.713.636	6.696.450	15.216.011	-
Bonds and notes issued	6.361.259	7.278.922	698.060	296.884	6.283.978	-
Lease liabilities	232.500	475.448	8.274	109.636	29.639	327.899
Trade payables	14.204.175	14.209.776	14.209.776	-	-	-
Other liabilities	308.769	308.769	308.769	-	-	-

Contractual maturities	Carrying value	Contractual cash outflows	Up to 3 months	3-12 months	1-5 years	More than 5 years
Derivative instruments (net)	(377,930)	(683,868)	(737,173)	(22,263)	96,780	(21,212)
Derivative cash inflows	469,778	19,817,616	15,857,748	1,655,147	2,293,422	11,299
Derivative cash outflows	847,708	20,501,484	16,594,921	1,677,410	2,196,642	32,511

Cash outflows will be provided through cash inflows from sales and financing if deemed necessary.

Credit risk:

The Group is subject to credit risk arising from trade receivables related to credit sales, deposits at banks. These risks are managed by limiting the aggregate risk from any individual counterparty and obtaining sufficient collateral where necessary and making only cash based sales to customers considered as having a higher risk. Collectability of trade receivables are evaluated by management depending on their past experiences and current economic condition, and are presented in the consolidated financial statements net of adequate doubtful provision.

The majority of Tüpraş's customers are financially strong fuel distribution companies or governmental organizations. As of December 31, 2022, 2021 and 2020, the share of the Group's receivables from its top 5 customers in total trade receivables is 61%, 68% and 57%, respectively. However, considering the amount of the Group's uncollectible receivables by years and considering the above reasons, the Group management is of the opinion that the credit risk arising from trade receivables is low. The Group applies the same credit risk management principles in the management of financial assets. Investments are made in instruments with the highest liquidity and the institutions with which the transactions are made are selected among financially strong banks. The Group does not consider that there is no impairment risk related to bank deposits as there are no bank deposits that are uncollectible, overdue or renegotiated.

Türkiye Petrol Rafinerileri A.Ş.
Notes to the Consolidated Financial Statements
For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

28. FINANCIAL INSTRUMENTS AND FINANCIAL RISK MANAGEMENT (Continued)

Credit risks of the Group for each financial instrument type as at 31 December 2022, 31 December 2021 and 31 December 2020 are as follows:

31 December 2022	Receivables				Bank deposits	Derivative instruments	Other
	Trade Receivables		Other Receivables				
	Related Parties	Other Parties	Related Parties	Other Parties			
Maximum exposed credit risk as of reporting date	3,187,872	18,229,648	-	40,622	47,635,158	3,654,081	-
- Secured portion of the maximum credit risk by guarantees, etc.	-	2,906,682	-	-	-	-	-
A. Net book value of financial asset either are not due or not impaired	3,187,872	18,079,489	-	40,622	47,635,158	3,654,081	-
B. Net book value of overdue but not impaired financial assets	-	150,159	-	-	-	-	-
C. Net book value of the impaired assets	-	-	-	-	-	-	-
- Overdue(gross book value)	-	5,528	-	2,612	-	-	-
- Impairment (-)	-	(5,528)	-	(2,612)	-	-	-
- Secured portion of the net value by guarantees, etc.*	-	-	-	-	-	-	-
- Not due yet (gross book value)	-	-	-	-	-	-	-
- Impairment (-)	-	-	-	-	-	-	-
- Secured portion of the net value by guarantees, etc.	-	-	-	-	-	-	-
D. Components which are including credit risk except financial statement	-	-	-	-	-	-	-

Türkiye Petrol Rafinerileri A.Ş.
Notes to the Consolidated Financial Statements
For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

28. FINANCIAL INSTRUMENTS AND FINANCIAL RISK MANAGEMENT (Continued)

31 December 2021	Receivables				Bank deposits	Derivative instruments	Other
	Trade Receivables		Other Receivables				
	Related Parties	Other Parties	Related Parties	Other Parties			
Maximum exposed credit risk as of reporting date	1,745,525	12,051,157	-	20,566	21,176,186	3,867,913	-
- Secured portion of the maximum credit risk by guarantees, etc.	-	803,208	-	-	-	-	-
A. Net book value of financial asset either are not due or not impaired	1,745,525	11,864,217	-	20,566	21,176,186	3,867,913	-
B. Net book value of overdue but not impaired financial assets	-	186,940	-	-	-	-	-
C. Net book value of the impaired assets	-	-	-	-	-	-	-
- Overdue(gross book value)	-	5,528	-	2,612	-	-	-
- Impairment (-)	-	(5,528)	-	(2,612)	-	-	-
- Secured portion of the net value by guarantees, etc.*	-	-	-	-	-	-	-
- Not due yet (gross book value)	-	-	-	-	-	-	-
- Impairment (-)	-	-	-	-	-	-	-
- Secured portion of the net value by guarantees, etc.	-	-	-	-	-	-	-
D. Components which are including credit risk except financial statement	-	-	-	-	-	-	-

Türkiye Petrol Rafinerileri A.Ş.**Notes to the Consolidated Financial Statements
For the Year Ended 31 December 2022**

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

28. FINANCIAL INSTRUMENTS AND FINANCIAL RISK MANAGEMENT (Continued)

31 December 2020	Receivables				Bank deposits	Derivative instruments	Other
	Trade Receivables		Other Receivables				
	Related Parties	Other Parties	Related Parties	Other Parties			
Maximum exposed credit risk as of reporting date	360,931	1,479,496	-	19,464	20,319,133	469,778	-
- Secured portion of the maximum credit risk by guarantees, etc.	-	367,278	-	-	-	-	-
A. Net book value of financial asset either are not due or not impaired	360,931	1,289,887	-	19,464	20,319,133	469,778	-
B. Net book value of overdue but not impaired financial assets	-	189,609	-	-	-	-	-
C. Net book value of the impaired assets	-	-	-	-	-	-	-
- Overdue(gross book value)	-	5,264	-	1,389	-	-	-
- Impairment (-)	-	(5,264)	-	(1,389)	-	-	-
- Secured portion of the net value by guarantees, etc.*	-	-	-	-	-	-	-
- Not due yet (gross book value)	-	-	-	-	-	-	-
- Impairment (-)	-	-	-	-	-	-	-
- Secured portion of the net value by guarantees, etc.	-	-	-	-	-	-	-
D. Components which are including credit risk except financial statement	-	-	-	-	-	-	-

Maturity analysis of past due and not impaired trade receivables

31 December 2022	Receivables		Bank deposits	Derivative instruments	Other
	Trade Receivables	Other Receivables			
Overdue (1-30 days)	78,972	-	-	-	-
Overdue (1-3 months)	66,297	-	-	-	-
Overdue (3-12 months)	3,175	-	-	-	-
Overdue (1-5 years)	1,715	-	-	-	-
Overdue (5+ years)	-	-	-	-	-

31 December 2021	Receivables		Bank deposits	Derivative instruments	Other
	Trade receivables	Other Receivables			
Overdue (1-30 days)	133,507	-	-	-	-
Overdue (1-3 months)	6,081	-	-	-	-
Overdue (3-12 months)	36,404	-	-	-	-
Overdue (1-5 years)	10,948	-	-	-	-
Overdue (5+ years)	-	-	-	-	-

Türkiye Petrol Rafinerileri A.Ş.
Notes to the Consolidated Financial Statements
For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

28. FINANCIAL INSTRUMENTS AND FINANCIAL RISK MANAGEMENT (Continued)

	Receivables		Bank deposits	Derivative instruments	Other
	Trade receivables	Other Receivables			
31 December 2020					
Overdue (1-30 days)	150,402	-	-	-	-
Overdue (1-3 months)	22,675	-	-	-	-
Overdue (3-12 months)	11,475	-	-	-	-
Overdue (1-5 years)	5,057	-	-	-	-
Overdue (5+ years)	-	-	-	-	-

During the impairment test of financial assets, the Group has considered the indicators regarding uncollectibility of receivables that are due. The Group has guarantees received amounting to TRY29,097 thousand (31 December 2021: TRY70,726 thousand, 31 December 2020: TRY:89,116 thousand) for trade receivables overdue but not impaired, Major part of receivables without guarantees are from government entities which regularly made sales, any collection risk is not projected.

The credit quality of trade receivables that are neither past due nor impaired

The Group categorizes the details of credit quality of trade receivables that are neither past due nor impaired or receivables whose conditions are examined under four groups. The details of credit quality of such trade receivables as at 31 December 2022 and 31 December 2021 and 31 December 2020 are as follows:

	31 December 2022	31 December 2021	31 December 2020
Group 1	2.488	24.306	9.468
Group 2	4.503.595	3.329.855	591.137
Group 3	16.273.084	9.862.833	877.508
Group 4	488.194	392.748	172.705
Toplam	21.267.361	13.609.742	1.650.818

Group 1 - New customers (less than three months)

Group 2 - State owned enterprises

Group 3 - Existing customers with no payment defaults in previous periods (have been customers by more than three months)

Group 4 - Customers with previous record of collection delays but from which all receivables due are collected
(Excluding Group 1 and 2)

Market risk:

Tüpraş identifies commodity price, interest rate and currency risk as major components of market risk, Foreign exchange and interest risk are evaluated separately based on portfolio and product.

Commodity price risk

The Company is exposed to effects of fluctuation in oil prices related to its crude oil inventory held for production, For the elimination of commodity price risk, the management regularly reviews the amount of stocks.

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements

For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira (“TRY”) unless otherwise indicated.)

28. FINANCIAL INSTRUMENTS AND FINANCIAL RISK MANAGEMENT (Continued)

Commodity price risk (Continued)

Sales prices’ of Tüpraş’s products, are determined based on Mediterranean product prices, which is described as the “closest accessible free market formation in the world” by the Turkish Petroleum Market Law N, 5015, and USD selling rates. Within the framework of legal definitions, changes of prices in Mediterranean petroleum products market and changes in USD exchange rate are assessed daily by the management and the new selling price based on these two factors is updated when it differs significantly upwards or downwards from the current sales price.

Since instability in crude oil prices may cause unwanted and unexpected fluctuations in net profit and cash flows, the Company has constituted hedging policy in order to eliminate this risk, Within this framework, short and long term hedging transactions are made by using various derivative instruments (Note 17).

Product crack risk

Besides the fluctuations in crude oil prices, in order to eliminate fluctuation risk in product prices profit margins of the products (crack) can be fixed by using various derivative instruments (hedging). Therefore, a hedging policy has been created by comparing historical price levels and by hedging a certain percentage of the total sales volume at certain crack levels (Note 17).

Interest rate risk

The Group is exposed to foreign exchange risk due to operations in foreign currency. These risks are managed by analysis of the foreign currency monetary assets and liabilities in the consolidated financial statements, by a comprehensive risk tracking system which includes natural hedging and similar practices.

The table below summarizes the net balance sheet foreign currency position risk and components that are managed within the risk tracking system of the Group as at 31 December 2022, 31 December 2021 and 31 December 2020:

	31 December 2022	31 December 2021	31 December 2020
Financial instruments with fixed interest rate			
Financial assets			
Time deposits	44,066,024	19,166,629	19,673,367
Financial liabilities	23,138,186	21,416,491	20,003,939
Financial instruments with floating interest rate			
Financial liabilities ⁽¹⁾	10,130,765	11,777,173	9,241,129

⁽¹⁾ As of 31 December 2022, there is interest rate swap and cross currency interest rate swap transactions for loans with floating interest rate amounting to USD 170,264 thousand (31 December 2021: USD241.230 thousand, 31 December 2020: USD442,895 thousand) and TRY490,000 thousand (31 December 2021: TRY1,740,000 thousand, 31 December 2020: TRY1,400,000 thousand). There are no EUR interest rate swap transactions as of 31 December 2021. (31 December 2020: EUR8,857 thousand) (Note 17).

As at 31 December 2022, had the interest rate for borrowings denominated in USD strengthened by 100 base points (1%), with all other variables held constant, profit before tax would be TRY 12,739 thousand lower/higher (31 December 2021: TRY15,756 thousand, 31 December 2020: TRY9,128 thousand). As at 31 December 2022, had the interest rate for borrowings denominated in EURO strengthened/weakened by 100 base points (1%), with all other variables held constant, profit before tax would not be changed (31 December 2020: None). As at 31 December 2022, had the interest rate for borrowings denominated in TRY strengthened/weakened by 100 base points (1%), with all other variables held constant, profit before tax would be TRY 5,206 thousand lower/higher (31 December 2021: TRY1,759, 31 December 2020: TRY1,344).

Expected repricing and maturity dates do not differ from the contract dates excluding borrowings; therefore no additional table is presented. The maturity groupings of borrowings at 31 December 2022, 2021 and 2020 based on their contractual repricing dates are disclosed in Note 7.

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements

For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

28. FINANCIAL INSTRUMENTS AND FINANCIAL RISK MANAGEMENT (Continued)

Foreign exchange risk

The Group is exposed to foreign exchange risk due to operations in foreign currency. These risks are managed by analysis of the foreign currency monetary assets and liabilities in the consolidated financial statements, by a comprehensive risk tracking system which includes natural hedging and similar practices.

The table below summarizes the net balance sheet foreign currency position risk and components that are managed within the risk tracking system of the Group as at 31 December 2022, 31 December 2021 and 31 December 2020:

	31 December 2022		31 December 2021		31 December 2020	
	TRY	USD ⁽¹⁾	TRY	USD ⁽¹⁾	TRY	USD ⁽¹⁾
Monetary assets	24,961,804	1,334,977	16,778,466	1,258,794	1,527,988	208,159
Monetary liabilities	(70,242,219)	(3,756,610)	(64,579,085)	(4,845,006)	(29,577,085)	(4,029,301)
Monetary assets/(liabilities) foreign currency position	(45,280,415)	(2,421,633)	(47,800,619)	(3,586,212)	(28,049,097)	(3,821,142)
Non-monetary assets	434,631	23,244	14,358	1,077	105,732	14,404
Net foreign currency position of derivative financial instruments	5,215,079	278,907	17,833,889	1,337,977	16,032,087	2,184,059
Net foreign currency asset/(liability) position	(39,630,705)	(2,119,482)	(29,952,372)	(2,247,158)	(11,911,278)	(1,622,679)
Cash flow hedging ⁽²⁾	3,833,336	205,010	5,809,043	435,820	4,360,123	593,982
Net foreign currency position after cash flow hedging	(35,797,369)	(1,914,472)	(24,143,329)	(1,811,338)	(7,551,155)	(1,028,697)
Inventory in natural hedge scope ⁽³⁾	35,834,819	1,916,475	24,197,942	1,815,436	7,220,776	983,690
Payment commitments (-)	-	-	-	-	-	-
Net foreign currency position after cash flow hedging and natural hedge	37,450	2,003	54,613	4,097	(330,379)	(45,007)

⁽¹⁾ Dollar equivalent amounts are determined through dividing total TRY equivalent positions to exchange rate of dollar as at balance sheet date.

⁽²⁾ The Group uses investment loans amounting to USD205,010 thousand, which is equivalent to TRY3,833,336 thousand (USD435,820 thousand/ TRY5,809,043 thousand in 31 December 2021, USD593,982 thousand/TRY4,360,123 thousand in 31 December 2020) as prevention against USD/ TRY spot foreign exchange risk of USD denominated export revenue, which is highly probable to be realized. Based on the outcome of effectiveness test performed on related process, the Group has considered that the process is fully effective and therefore applied cash flow hedge accounting. As of 31 December 2022, TRY3,153,308 thousand of (31 December 2021: TRY4,331,350, 31 December 2020: TRY2,736,854) foreign exchange loss that arose from investment loans is classified under equity "Cash flow hedge gains (losses)" which has no effect on current year income statement. As of 31 December 2022, the foreign exchange loss amounting to TRY2,686,207 thousand corresponding to the export income of investment loans denominated in USD has been transferred to the foreign exchange loss in the income statement from "Cash flow hedge gains (losses)" account under equity. Moreover, as of 31 December 2022, foreign exchange loss of these loans in 2022 amounting to TRY1,508,166 were added to the "Cash flow hedge gains (losses)" account under equity.

⁽³⁾ The Group manages its foreign currency risk arising from foreign currency denominated financial liabilities and trade payables by regularly considering and reflecting the foreign exchange rate changes in the determination of petroleum product prices. As at 31 December 2022, the Group has crude oil and petroleum products inventories amounting to TRY35,834,819 thousand (31 December 2021: TRY24,197,942 thousand, 31 December 2020: TRY7,220,776 thousand)

Türkiye Petrol Rafinerileri A.Ş.
Notes to the Consolidated Financial Statements
For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

28. FINANCIAL INSTRUMENTS AND FINANCIAL RISK MANAGEMENT (Continued)

Foreign exchange position table					
31 December 2022					
	TRY equivalent (In terms of functional currency)	USD	EUR	GBP	Other
Trade receivables	684,274	36,498	79	-	252
Monetary financial assets (including cash, banks)	24,269,419	1,293,278	3,090	1,144	-
Other	427,802	21,720	527	497	-
Current assets	25,381,495	1,351,496	3,696	1,641	252
Monetary financial assets	8,111	434	-	-	-
Other	6,829	-	-	304	-
Non-current assets	14,940	434	-	304	-
Total assets	25,396,435	1,351,930	3,696	1,945	252
Trade payables	44,483,940	2,352,258	24,753	324	-
Financial liabilities	6,095,967	325,289	333	310	-
Other monetary liabilities	1,173,502	56,707	637	4,467	-
Other payables	57,488	2,892	154	16	-
Current liabilities	51,810,897	2,737,146	25,877	5,117	-
Financial liabilities	18,431,322	979,055	6,253	-	-
Other monetary liabilities	-	-	-	-	-
Non-current liabilities	18,431,322	979,055	6,253	-	-
Total liabilities	70,242,219	3,716,201	32,130	5,117	-
Net asset/(liability) position of off-balance sheet foreign currency derivatives	5,215,079	278,906	-	-	-
Total amount of off-balance sheet derivative financial assets	50,864,265	2,720,261	-	-	-
Total amount of off-balance sheet derivative financial liabilities	(45,649,186)	(2,441,355)	-	-	-
Net foreign currency asset/(liability) position	(39,630,705)	(2,085,365)	(28,434)	(3,172)	252
Cash flow hedging	3,833,336	205,010	-	-	-
Net foreign currency position after cash flow hedging	(35,797,369)	(1,880,355)	(28,434)	(3,172)	252
Net monetary foreign currency asset/(liability) position	(45,222,927)	(2,383,099)	(28,807)	(3,957)	252
Fair value of derivative instruments Used for hedging	(277,565)	(14,844)	-	-	-

As at 31 December 2022, the Group has TRY37,450 thousand as net foreign currency surplus after natural hedging (31 December 2021: TRY54,613 thousand net foreign currency surplus, 31 December 2020: TRY330,379 thousand net foreign currency deficit) (Page 67).

	31 December 2021					31 December 2020				
TRY equivalent (In terms of functional currency)	USD	EUR	GBP	Other	TRY equivalent (In terms of functional currency)	USD	EUR	GBP	Other	
2,287,339	171,536	62	-	-	359,288	45,786	2,570	1	40	
14,491,127	1,061,256	1,222	18,212	-	1,168,700	153,857	3,969	357	10	
9,491	237	108	262	(6)	103,077	13,540	255	139	-	
16,787,957	1,233,029	1,392	18,474	(6)	1,631,065	213,183	6,794	497	50	
-	-	-	-	-	-	-	-	-	-	
4,867	-	-	271	-	2,655	-	-	267	-	
4,867	-	-	271	-	2,655	-	-	267	-	
16,792,824	1,233,029	1,392	18,745	(6)	1,633,720	213,183	6,794	764	50	
41,255,266	3,078,146	14,210	-	12,280	13,033,281	1,759,780	12,341	74	3,715	
4,372,467	327,227	359	303	-	3,689,682	426,152	62,015	291	-	
3,571,426	267,944	-	-	-	379,918	50,265	36	1,068	-	
-	-	-	-	-	-	-	-	-	-	
49,199,159	3,673,317	14,569	303	12,280	17,102,881	2,236,197	74,392	1,433	3,715	
15,356,392	1,144,231	6,586	310	-	12,428,714	1,683,816	6,945	613	-	
23,534	1,766	-	-	-	45,490	6,197	-	-	-	
15,379,926	1,145,997	6,586	310	-	12,474,204	1,690,013	6,945	613	-	
64,579,085	4,819,314	21,155	613	12,280	29,577,085	3,926,210	81,337	2,046	3,715	
17,833,889	1,337,977	-	-	-	16,032,087	2,109,010	61,157	-	-	
37,933,427	2,845,932	-	-	-	17,914,110	2,365,399	61,157	-	-	
(20,099,538)	(1,507,955)	-	-	-	(1,882,023)	(256,389)	-	-	-	
(29,952,372)	(2,248,308)	(19,763)	18,132	(12,286)	(11,911,278)	(1,604,017)	(13,386)	(1,282)	(3,665)	
5,809,043	435,820	-	-	-	4,360,123	593,982	-	-	-	
(24,143,329)	(1,812,488)	(19,763)	18,132	(12,286)	(7,551,155)	(1,010,035)	(13,386)	(1,282)	(3,665)	
(47,800,619)	(3,586,522)	(19,871)	17,599	(12,280)	(28,049,097)	(3,726,567)	(74,798)	(1,688)	(3,665)	
889,896	81,253	-	-	-	(236,376)	(76,093)	-	-	-	

Türkiye Petrol Rafinerileri A.Ş.
Notes to the Consolidated Financial Statements
For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

28. FINANCIAL INSTRUMENTS AND FINANCIAL RISK MANAGEMENT (Continued)

The table below summarizes the effect of foreign currency rate changes on net balance sheet foreign currency position of the Group as at 31 December 2022, 31 December 2021 and 31 December 2020.

Statement of foreign currency risk sensitivity				
31 December 2022				
	Profit/Loss		Equity	
	Appreciation of foreign currency	Depreciation of foreign currency	Appreciation of foreign currency	Depreciation of foreign currency
10% change in USD rate:				
USD net assets/liabilities	(4.455.990)	4.455.990	(399.352)	399.352
Amount hedged for USD risk (-)	897.647	(897.647)	-	-
USD net effect	(3.558.343)	3.558.343	(399.352)	399.352
10% change in EUR rate				
Euro net assets/liabilities	(53,864)	53,864	-	-
Amount hedged for Euro risk (-)	-	-	-	-
EUR net effect	(53,864)	53,864	-	-
TOTAL	(3,612,207)	3,612,207	(399,352)	399,352
Statement of foreign currency risk sensitivity				
31 December 2021				
	Profit/Loss		Equity	
	Appreciation of foreign currency	Depreciation of foreign currency	Appreciation of foreign currency	Depreciation of foreign currency
10% change in USD rate:				
USD net assets/liabilities	(4,780,475)	4,780,475	(500,711)	500,711
Amount hedged for USD risk (-)	2,325,622	(2,325,622)	-	-
USD net effect	(2,454,853)	2,454,853	(500,711)	500,711
10% change in EUR rate				
Euro net assets/liabilities	(29,979)	29,979	-	-
Amount hedged for Euro risk (-)	-	-	-	-
EUR net effect	(29,979)	29,979	-	-
TOTAL	(2,484,832)	2,484,832	(500,711)	500,711

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements

For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

28. FINANCIAL INSTRUMENTS AND FINANCIAL RISK MANAGEMENT (Continued)

Statement of foreign currency risk sensitivity				
31 December 2020				
	Profit/Loss		Equity	
	Appreciation of foreign currency	Depreciation of foreign currency	Appreciation of foreign currency	Depreciation of foreign currency
10% change in USD rate:				
USD net assets/liabilities	(2,735,487)	2,735,487	(420,058)	420,058
Amount hedged for USD risk (-)	1,974,501	(1,974,501)	-	-
USD net effect	(760,986)	760,986	(420,058)	420,058
10% change in EUR rate				
Euro net assets/liabilities	(67,377)	67,377	-	-
Amount hedged for Euro risk (-)	55,090	(55,090)	-	-
EUR net effect	(12,287)	12,287	-	-
TOTAL	(773,273)	773,273	(420,058)	420,058

The Group accounted investment loans in scope of cash flow hedge accounting and foreign exchange income/expense arising from these loans are recognised in equity. 10% increase and decrease effect of foreign exchange rates are calculated with the same method and the calculated foreign exchange gains/losses are presented as hedged portion in the foreign exchange sensitivity table. Furthermore, the hedged portion of foreign exchange gains/losses via forwards and cross currency swap transactions is classified as the amount hedged against US dollar in the statement of exchange rate sensitivity analysis.

Export and import

	1 January - 31 December 2022	1 January - 31 December 2021
Export		
USD (equivalent of thousand TRY)	73,938,150	25,747,806
EUR (equivalent of thousand TRY)	5,637	470
Total	73,943,787	25,748,276
Import		
USD (equivalent of thousand TRY)	328,062,876	117,751,750
Total	328,062,876	117,751,750

Türkiye Petrol Rafinerileri A.Ş.
Notes to the Consolidated Financial Statements
For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

28. FINANCIAL INSTRUMENTS AND FINANCIAL RISK MANAGEMENT (Continued)

Capital risk management

The Group's objectives when managing capital are to safeguard the Group's ability to continue as a going concern in order to provide returns for shareholders and benefits for other stakeholders and to maintain an optimal capital structure to reduce the cost of capital.

In order to maintain or adjust the capital structure, the Group may adjust the amount of dividends paid to shareholders, issue new shares or sell assets to reduce debt. The gearing ratios as at 31 December 2022, 31 December 2021 and 31 December 2020 are as follows:

	31 December 2022	31 December 2021	31 December 2020
Total financial liabilities (Note 7)	33,268,950	33,193,664	29,681,944
Less: Cash and cash equivalents (Note 5)	(40,808,616)	(16,919,013)	(18,100,246)
Less: Financial investments (Note 6)	(2,135,177)	-	-
Net financial liabilities	(9,674,843)	16,274,651	11,581,698
Total shareholders' equity	67,185,772	19,081,000	12,925,433
Total capital invested	57,510,929	35,355,651	24,507,131
Gearing ratio	(16.82%)	46.45%	47.26%

Fair value of financial instruments

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The estimated fair values of financial instruments have been determined by the Group, using available market information and appropriate valuation methodologies. However, judgment is necessarily required to interpret market data to estimate the fair value. Accordingly, the estimates presented herein are not necessarily indicative of the amounts the Group could realise in a current market exchange.

Financial liabilities

The fair values of short-term financial liabilities and other financial liabilities are estimated to be their fair values since they are short term. The fair values of long-term bank borrowings with variable interest are considered to approximate their respective carrying values, since the initial rates applied to bank borrowings are updated periodically by the lender to reflect active market price quotations.

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements

For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

28. FINANCIAL INSTRUMENTS AND FINANCIAL RISK MANAGEMENT (Continued)

Fair value hierarchy table:

The Group classifies the fair value measurement of each class of financial instruments according to the source, using the three-level hierarchy, as follows:

Level 1: Market price valuation techniques for the determined financial instruments traded in markets (unadjusted)

Level 2: The fair value of financial assets and financial liabilities are determined in accordance with generally accepted pricing models based on discounted cash flow analysis using prices from observable current market transactions. Assumptions and inputs used in valuation techniques include risk-free and benchmark interest rates, credit spreads and other variables used in estimating discount rates, bond and equity prices, foreign currency exchange rates, equity and equity index prices and expected price volatilities and correlations.

Level 3: Valuation techniques does not contains observable market inputs

Fair value hierarchy table as at 31 December 2022 is as follows:

Financial assets at fair value in statement of financial position	Level 1	Level 2	Level 3
Derivative financial assets	-	3,654,081	.-
Financial investments	-	2,135,177	-
Financial liabilities at fair value in statement of financial position			
Derivative financial liabilities	-	1,292,712	-

Fair value hierarchy table as at 31 December 2021 is as follows:

Financial assets at fair value in statement of financial position	Level 1	Level 2	Level 3
Derivative financial assets	-	3,867,913	-
Financial liabilities at fair value in statement of financial position			
Derivative financial liabilities	-	3,539,630	-

Fair value hierarchy table as at 31 December 2020 is as follows:

Financial assets at fair value in statement of financial position	Level 1	Level 2	Level 3
Derivative financial assets	-	469,778	-
Financial liabilities at fair value in statement of financial position			
Derivative financial liabilities	-	847,708	-

Türkiye Petrol Rafinerileri A.Ş.
Notes to the Consolidated Financial Statements
For the Year Ended 31 December 2022

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

29. GOVERNMENT GRANTS

Government incentives and aids that the Group has are as follows:

- a) 100% customs duty exemption for imported machinery and equipment,
- b) VAT exemption for investment goods procured domestically and abroad,
- c) Incentives in the scope of research and development law (100% Corporate Tax exemption, Social Security Institution incentives, Stamp tax incentive, etc.),
- d) Cash supports received from Teydeb in return for research and development expenses,
- e) Discounted corporate tax incentive,
- f) Insurance premium employer share support,
- g) Corporate tax incentive within the scope of investment allowance exemption,
- f) Insurance premium employer's share, employment agency, minimum wage and trainee education supports
- g) Real estate tax incentive
- h) Interest support.

30. SUBSEQUENT EVENTS

None.

OTHER INFORMATION

- 332 INFORMATION DOCUMENT REGARDING THE ORDINARY GENERAL ASSEMBLY MEETING OF TURKISH PETROL REFINERIES CORPORATION, TO BE HELD ON 08 MARCH 2023, FOR THE YEAR 2022 1. INVITATION TO THE ORDINARY GENERAL ASSEMBLY MEETING, TO BE HELD ON 08 MARCH 2023
- 338 DECLARATION FOR INDEPENDENCY
- 342 CORPORATE GOVERNANCE COMPLIANCE REPORT AND INFORMATION FORM
- 360 SUSTAINABILITY PRINCIPLES COMPLIANCE REPORT
- 371 LIMITED ASSURANCE REPORT TO THE BOARD OF DIRECTORS OF TÜPRAŞ TÜRKİYE PETROL RAFİNERİLERİ A.Ş.
- 376 IDENTITY

INFORMATION DOCUMENT REGARDING THE ORDINARY GENERAL ASSEMBLY MEETING OF TURKISH PETROL REFINERIES CORPORATION, TO BE HELD ON 08 MARCH 2023, FOR THE YEAR 2022 1. INVITATION TO THE ORDINARY GENERAL ASSEMBLY MEETING, TO BE HELD ON 08 MARCH 2023

INVITATION TO THE ORDINARY GENERAL ASSEMBLY MEETING, TO BE HELD ON 08 MARCH 2023

The Ordinary General Assembly Meeting of Shareholders of our Company will be held at the address of “Güney Mahallesi Petrol Caddesi No. 25 Kocaeli/Körfez, Turkey (Tel: +90 262 316 30 00, Fax: +90 262 316 3010-11)” on Wednesday March 08, 2023 at 10:00 am in order to review the activities of the year 2022 and to discuss and resolve the following agenda.

In accordance with the legal requirements, 2022 Financial Statements, the Independent Auditor’s Report of the Independent Audit Firm PwC Bağımsız Denetim ve Serbest Muhasebeci Mali Müşavirlik A.Ş., the Corporate Governance Compliance Report and the Board Directors’ Annual Report including the dividend distribution proposal of the Board of Directors, along with the following agenda and the Memorandum containing the information required by Capital Markets Board regulations shall be made available to the shareholders at Company Headquarters and branches, on the Company’s corporate website at www.tupras.com.tr, on the Public Disclosure Platform, and in the Electronic General Meeting System of the Central Registry Agency three weeks prior to the meeting.

Shareholders who are unable to attend the meeting in person, provided that the rights and obligations of shareholders participating electronically are reserved, shall prepare their proxy documents as per the attached sample forms, or shall obtain a proxy sample form from Yapı Kredi Yatırım Menkul Değerler A.Ş. (Yapı Kredi Plaza / Levent-Istanbul), our Company, or from the corporate website at www.tupras.com.tr and shall submit the signature notarized proxy documents issued in accordance with the requirements of the Communiqué No. II-30.1, Use of Proxy Vote and Proxy Collection through Invitation, enacted on 24 December 2013 and published in Official Gazette No. 28861, to the Company. A proxy document is not required from a proxy appointed electronically through the Electronic General Meeting System. **The proxy documents which do not comply with the requirements of the above-mentioned Communiqué, and the sample form attached here shall not be accepted due to our legal liability.**

Shareholders intending to vote via the Electronic General Meeting System are requested to obtain information from the Central Registry Agency, our company website www.tupras.com.tr or from the company headquarters (Tel: +90 212 878 99 34) to ensure that they comply with the provisions of the by-laws for the Electronic Shareholders Meeting.

In accordance with Turkish Trade Law 6102, article 415, paragraph 4 and the Capital Markets Law article 30, paragraph 1, in order to attend the General Meeting and vote, shares do not need to be subjected to blockage. Within this respect, if our shareholders demand to attend in the General Shareholders’ Meeting, there is no need for them to block their shares.

In accordance with the Law on the Protection of Personal Data numbered 6698, the detailed information regarding processing personal data by the company, through the Policy of Tüpraş for Protection and Processing of Personal Data is shared with the public on the company’s corporate website addressed www.tupras.com.tr.

In the Ordinary General Assembly Meeting, voting for the articles set forth in the agenda of the meeting shall be made as open voting by hand raising procedure, provided that the provisions relating to voting in electronic method are reserved.

All the holders of relevant rights, stakeholders and the media are invited to our General Assembly Meeting.

Pursuant to the Capital Markets Law, shareholders holding registered shares that are traded on the stock exchange will not receive a separate registered invitation letter for the meeting.

It is submitted for shareholders’ information with respect.

Tüpraş, Türkiye Petrol Rafinerileri A.Ş. Board of Directors

Company Adress: Tüpraş Genel Müdürlüğü Gülbahar Mah. Büyükdere Cad. No:101/A, 34394 Şişli/İstanbul
Trade Registry and Number: İstanbul 305678-5
Mersis No: 0875-0014-2670-0011

2. ADDITIONAL DISCLOSURES PURSUANT TO THE REGULATIONS OF THE CAPITAL MARKET BOARD

Additional disclosures which are done in pursuant to the “Communiqué on the Principles of Corporate Governance”, Serial II-17.1 are listed below. Other mandatory general explanations are provided in this section.

2.1. Shareholder Structure and Voting Rights

As of the announcement date of the document, the total number of shares and voting rights that reflect the partnership structure and the number of shares which are representing each privileged share group if there is a privileged share in capital of the partnership and the information about the voting rights and the qualifications of the privileges are given below:

The issued capital of the Company is TL 275,256,514.00 and divided into 27,525,651,400.00 shares each bearing a nominal value of Kr 1 (One Kr).

The shares of the Company are classified in two groups; (A) and (C) group shares

As stated in Article 10 of our Articles of Association; Group C share has the veto right on decisions regarding mergers, divisions or liquidation of the Company which will restrict or prevent the fulfillment of the fuel needs of Turkish Armed Forces.

The shareholders attending the ordinary and extraordinary General Assembly meetings use their votes pro rata with the nominal value of their shares. The voting rights of our shareholders, taking into consideration privileged shares, are provided in the following table:

Shareholder	Amount of Shares (TL)	Rate of Capital (%)	Voting Right	Rate of Voting Right (%)
Enerji Yatırımları A.Ş. (A Group)	127,713,792.22	46.4%	12,771,379,222	46.4%
Koç Holding A.Ş. (A Group)	17,471,124.41	6.35%	1,747,112,441	6.35%
Other (A Group)	130,071,597.36	47.25%	13,007,159,736	47.25%
Privatization Administration (C Group)	0.01	0.0%	1	0.0%
Total	275,256,514.00	100.0%	27,525,651,400	100.0%

Parent of the Company, Enerji Yatırımları A.Ş., is controlled by Koç Holding A.Ş., Koç Family and the companies owned by them.

2.2 Significant Changes to our Company's operations, management or participations

Information on the changes in the management and activities of our Company and its subsidiaries that have taken place in the previous accounting period or planned in the future accounting periods, which may significantly affect the activities, and the reasons for these changes are presented below:

Within the scope of the Strategic Transition Plan approved by the Board of Directors' Decision dated November 24th, 2021; on April 25, 2022, by the Board of Directors of our company it has been decided to take over Entek shares with a nominal value of 942,727,458.04 TL, corresponding to 99.23% of the capital of Entek Elektrik Üretim A.Ş. which was previously registered in the assets of Koç Holding A.Ş. and Aygaz A.Ş. The partial demerger transaction was approved by the shareholders at the extraordinary general assembly meeting of the related companies dated 25.08.2022 and registered on 26.08.2022.

Except for the transaction, there are no management and operational changes that will materially affect our Company's activities, realized in 2022 or planned by our Company and its subsidiaries in the upcoming accounting periods.

Material event disclosures related to mentioned regulations are published by the Company on the company's website addressed <https://www.tupras.com.tr/en/material-disclosures>

INFORMATION DOCUMENT REGARDING THE ORDINARY GENERAL ASSEMBLY MEETING OF TURKISH PETROL REFINERIES CORPORATION, TO BE HELD ON 08 MARCH 2023, FOR THE YEAR 2022 1. INVITATION TO THE ORDINARY GENERAL ASSEMBLY MEETING, TO BE HELD ON 08 MARCH 2023

2.3 Information regarding demands of shareholders for adding other issues on the agenda:

No such demand has been made for the Ordinary General Assembly Meeting, where operations in the year 2022 will be discussed.

3. OUR EXPLANATIONS REGARDING THE ARTICLES ON THE AGENDA OF THE ORDINARY GENERAL ASSEMBLY MEETING DATED ON 8 MARCH 2023

1. Opening and Election of the Chairing Committee,

Within the framework of the provisions of “Turkish Commercial Code (TCC) no.6102”, “the Regulation of the Ministry of Customs and Commerce regarding Principles and Procedures of General Assembly Meetings of Joint Stock Companies and Representatives of the Ministry of Customs and Commerce to be Present in these Meetings” (“Regulation” or “General Assembly Regulation”) and Article 7 of the General Assembly Principles, a Chairman shall be elected to chair the General Assembly meeting. Within the framework of the General Assembly Principles, at least one person needs to be appointed as Secretary. The Chairman may also appoint adequate number of vote-collectors.

2. Review, discussion and approval of the Annual Report of the Company for the fiscal year 2022 as prepared by the Board of Directors,

Within the framework of Turkish Commercial Code, the Regulation and the Capital Markets Law and related regulations, information shall be given about the 2022 Annual Report including the corporate governance compliance report which has been announced at the Headquarters of our Company, on the Electronic General Assembly portal of the Central Registry Agency and on the website of the Company at www.tupras.com.tr for examination of our shareholders for a period of three weeks before the General Assembly meeting and it shall be presented for evaluation and approval of our shareholders.

3. Presentation of the summary of the Independent Audit Report for the year 2022,

A summary of the Independent Auditor’s Report, which is prepared according to the TCC and CMB regulations and posted three weeks prior to the General Assembly meeting at Company Headquarters, on the Electronic General Assembly Portal of the Central Registry Agency and on the website of the Company at www.tupras.com.tr will be read aloud.

4. Review, discussion and approval of the 2022 Financial Statements,

Within the framework of Turkish Commercial Code, the Regulation and the Capital Markets Law and related regulations, information shall be given about our financial reports and legal financial tables, which have been announced at the Headquarters of our Company, on the Electronic General Assembly portal of the Central Registry Agency and on the website of the Company at www.tupras.com.tr for examination of our shareholders for a period of three weeks before the General Assembly meeting. They shall be presented for evaluation and approval of our shareholders.

5. Release of the members of the Board of Directors from liability for the affairs of the Company for the year 2022,

Within the framework of TCC and Regulation provisions, release of the members of Board of Directors one by one regarding the activities, transactions and accounts of the year 2022 shall be presented for approval of the General Assembly.

6. Within the framework of the Company’s dividend policy; approval, amendment or disapproval of the Board of Directors’ proposal on profit distribution of year 2022 and the date of dividend distribution,

According to our financial statements, prepared by our Company within the framework of the Turkish Commercial Code and Capital Markets Law and related regulations in compliance with Turkish Financial Reporting Standards and audited by PwC Bağımsız Denetim ve Serbest Muhasebeci Mali Müşavirlik A.Ş. for the accounting period 01.01.2022 – 31.12.2022; “Consolidated Net Profit for the Period” TL 41,044,621,000.00 attributable to equity holders of the parent has been obtained.

In accordance with the Dividend Distribution Table format provided in the Dividend Communiqué numbered II-19.1 and the Dividend Manual announced in accordance with the said Communiqué, and taking into account the Company’s Dividend Distribution Policy, long term strategy, investments and financing policies, profitability and liquidity is provided in **Appendix 1**.

According to the developments in the financial markets and the development of our company’s liquidity, in the second half of the year, in case favorable conditions arise, it has been decided to separately evaluate additional dividend distribution opportunities with the decision of the extraordinary general assembly.

7. With the condition of presence of approval of Capital Markets Board and Ministry of Commerce; approval, amendment or disapproval of the Board of Directors' proposal to amend the 6th article of Company's Articles of Association titled "Capital", to the 7th article titled "Transfer of Shares and Establishment of Usufruct Right on Shares" and to add Article 22 as "Pre-License Provisions" as in the annex

In order to harmonize the Company's Articles of Association with the amendments made by the Energy Market Regulatory Authority in the Electricity Market License Regulation and the amendments made in the Regulation on Storage Activities in the Electricity Market, for the consideration the investments that require a pre-license application for our Zero Carbon Electricity business line within the scope of our Strategic Transition Plan, Amendments to the Articles of Association, which are prepared and included in **Appendix 2**, together with the relevant board of directors decision, will be submitted to the approval of the General Assembly. As of February 6, 2023, an application was made to the CMB for the amendments to the articles of association.

8. Determination of the number of Board Members, their term of office, election of members in accordance with the number determined and election of independent board members,

Taking into consideration the principles regarding election of the members of the Board of Directors set forth in our articles of association according to regulations of the capital Markets Board, TCC and the Regulation, new members shall be elected in place of those whose terms of office expire. Furthermore, for the purpose of compliance with the Communiqué Serial: II-17.1 of the Capital Markets Board, independent member election shall be made.

According to article 10 of our articles of association, our Company shall be managed by a Board of Directors, which consists of at least 5 members to be elected for a maximum period of 1 year by the General Assembly within the scope of provisions of the Turkish Commercial Code. General Assembly may decide on the renewal of the Board of Directors even if their term of office have not expired.

In accordance with the article 10 of our Articles of Association, it is foreseen that the Board of Directors will be composed of 11 people in 2023. Four of the members of the Board of Directors to be selected must meet the independence criteria defined in the CMB's mandatory Corporate Governance Principles.

Upon the Corporate Governance Committee's proposal after the evaluation of candidates presented to them, the following independent member nominees are selected with the decisions taken by the Board of Directors: Mr Muharrem Hilmi Kayhan, Mrs Ayşe Canan Ediboğlu and Mr Kamil Ömer Bozer. Our Company has been informed by the CMB letter dated 23.01.2023 that there is no negative opinion regarding these Independent Board Members.

Pursuant to Article 10 of the Articles of Association, one member of the Board of Directors must be elected from among the candidates nominated by the Privatization Administration. Within the scope of the authority granted to the Capital Markets Board with the second paragraph of article 6 of the Capital Markets Board's Serial II-17.1 Communiqué on the Determination and Implementation of Corporate Governance Principles; the member appointed by the Privatization Administration, after receiving the approval of the CMB, serves as an independent member of the board of directors. In the current position, Mr. Yunus Elitaş serves as an independent board member. Mr. Yunus Elitaş's declaration of independence and CV are included. Our company has not yet been notified of an independent board member candidate for 2023 by the Privatization Administration.

Curriculum Vitae of existing Board of Directors candidates and Declarations of Independence for the current independent member candidates are given in **Appendix 3**.

9. In accordance with the Corporate Governance Principles, presentation to shareholders and approval by the General Assembly of the "Remuneration Policy" for the members of the Board of Directors and the Senior Executives and the payments made on that basis,

According to Compulsory Corporate Governance Principle number 4.6.2 of the Capital Markets Board, remuneration principles related to the members of the Board of Directors and senior managers must be set forth in writing and must be presented for information of shareholders in the General Assembly meeting as a separate article and the shareholders must be given the opportunity to declare their opinion regarding this matter. Remuneration policy prepared for this purpose is given in **Appendix 4**. Within the scope of the policy, the benefits which are provided to the members of the board of directors and senior management by Turkish Petroleum Refineries Incorporation are disclosed in footnote 27 of our financial statements for the year of 2022.

INFORMATION DOCUMENT REGARDING THE ORDINARY GENERAL ASSEMBLY MEETING OF TURKISH PETROL REFINERIES CORPORATION, TO BE HELD ON 08 MARCH 2023, FOR THE YEAR 2022 1. INVITATION TO THE ORDINARY GENERAL ASSEMBLY MEETING, TO BE HELD ON 08 MARCH 2023

10. Resolution of annual gross salaries of the Members of the Board of Directors,

Within the scope of article 9 of our agenda on the remuneration Policy, which will be submitted to General Assembly for approval, amount of monthly gross fees to be paid to the members of the Board of Directors in 2023 shall be determined by our shareholders.

11. Approval of the Independent Audit Firm as selected by the Board of Directors, in accordance with the provisions of the Turkish Commercial Code and the Capital Markets Board regulations,

In accordance with the Turkish Commercial Code and regulations of the Capital Markets Board, in the meeting of our Board of Directors held on the date of 31 January 2023, by obtaining the opinion of the Committee in charge of audit, it has been decided to select PwC Bağımsız Denetim ve Serbest Muhasebeci Mali Müşavirlik Anonim Şirketi (a member firm of Pricewaterhouse) to audit the financial tables of our Company covering the accounting term of 2023 and to conduct other activities set forth in said laws and this selection shall be presented for approval of the General Assembly.

12. Presentation to shareholders of the donations made by the Company in 2022 and resolution of an upper limit for donations to be made for 2023 as per the "Donation and Sponsorship Policy",

Türkiye Petrol Rafinerileri A.Ş., which was accepted by our Company's Board of Directors on March 4, 2021 and announced to the public. The Donation and Sponsorship Policy is stated in the Corporate Governance Principle numbered 1.3.10, "A policy regarding donations and aids is created and submitted to the approval of the general assembly." was approved by our shareholders at the general assembly dated March 31, 2021.

As per Article 6 of the Profit Share Communiqué no. II-19.1 by the Capital Markets Board, the limit of any donation should be set by the General Assembly where it is not specified by the Articles of Association and the donations and payments will be notified to the General Assembly.

In this framework, in line with our Company's Donation and Sponsorship Policy, in 2022, donations totaling 287,763,392.21 TL were made to foundations and associations, 529 thousand TL went to Geyre Foundation, 593 thousand TL to Aliğa State Hospital, 5,795 thousand TL to Educational Institutions, 279,356 thousand TL to Vehbi Koç Foundation and the remaining amount has been made to various other institutions and organizations each less than 500 thousand TL and which do not constitute important information for investors. The upper limit of donations to be made in 2023 is going to be decided by the General Assembly.

13. In accordance with the Capital Markets Board regulations, presentation to shareholders of the securities, pledges and mortgages granted in favour of the third parties in the year 2022 and of any benefits or income thereof,

In accordance with The Capital Market Board's Regulation II-17.1, article 12, to inform the shareholders about the revenues or benefits acquired by the Company and/or its subsidiaries through guarantees, pledges and mortgages established in favor of 3rd parties necessary information is given in the Consolidated financial statements dated 31.12.2022 under foot note 18:

	December 31, 2022	December 31, 2021
A. CPMs given for companies in the name of its own legal personality	21.296.065	18.975.945
B. CPMs given on behalf of the fully consolidated companies (*)	2.815.586	3.004.368
C. CPMs given for continuation of its economic activities on behalf of third parties		
D. Total amount of other CPMs	-	-
i) Total amount of CPMs given on behalf of the majority shareholder	-	-
ii) Total amount of CPMs given on behalf of third parties which are not in scope of B & C	-	-
iii) Total amount of CPMs given on behalf of third parties which are not in scope of C	-	-
Total	24.111.650	21.980.313

Guarantees given are consist of letters of credit andand guarantees given to government entities and customs offices. As at 31 December 2022. A commission at an amount of 33,678 thousand TL is recognized as of 31 December 2022 related to letter of guarantees given in favor of partnerships included in full consolidation.

14. Authorization of the shareholders with management control, the members of the Board of Directors, the senior executives and their spouses and relatives related by blood or affinity up to the second degree as per the provisions of articles 395 and 396 of the Turkish Commercial Code and presentation to shareholders, of the transactions carried out thereof in the year 2022 pursuant to the Corporate Governance Communiqué of the Capital Markets Board,

The members of the Board of Directors can do business only with the approval of the General Assembly, as stipulated in the first subsection of Articles 395 and 396 of the TCC entitled Competition Ban and Ban on doing Business with the Company and Borrowing for the Company.

Pursuant to the Capital Markets Board Mandatory Corporate Governance Principles No. 1.3.6, the General Assembly shall be informed in the event that shareholders having managerial control, shareholder board members, senior management and relatives up to the second degree of blood or affinity engaged in a significant business transaction creating a conflict of interest with the Company or its subsidiaries, competed with the company in the same line of business on their own behalf or on the behalf of others, or was involved in the same business as that of the Company as unlimited partner in another company. Information about said transactions must be included as a separate article on the agenda and recorded into the minutes of the General Assembly.

To fulfill the requirements of these regulations, permission shall be sought from the shareholders at the General Assembly and the shareholders shall be informed of any transaction in this respect. Some of the shareholders having managerial control, shareholder board members, senior management and relatives up to the second degree of blood or affinity are also board members at several Koç Group companies including those with similar operations to our Company. In 2022, there has not been any material transaction which requires notification in accordance with Corporate Governance Principle No. 1.3.6 of the Corporate Governance Communiqué.

15. Wishes and Opinions.

APPENDICES:

APPENDIX 1: 2022 Dividend Distribution Proposal (See page 30-31)

APPENDIX 2: Board of Directors Decision on amendments to the articles of association (See page 32-33)

APPENDIX 3: CVs of Board of Directors Candidates (See page 26-29) and Independence Declarations of Independent Board Member Candidates (See page 338-341)

APPENDIX 4: Remuneration Policy for Board of Directors and Executive Management (See page 35)

DECLARATION FOR INDEPENDENCY

I hereby declare that I am candidate for independent board membership on the Board of Directors of Türkiye Petrol Rafinerileri A.Ş. ("Company") under related regulations, Articles of Association of the Company and the criteria stated in the Capital Markets Board's Communique on Corporate Governance. In that regard I also confirm that;

- a) In the last five years, I, my spouse or my up to the second degree blood or affinity relatives is not or has not been; employed by as a key management personnel; has not had shareholding exceeding 5% directly or indirectly; or has not been involved in any material business dealings with the Company, its subsidiaries and affiliates, or shareholders controlling the Company or having material effect over the Company and all entities controlled by those shareholders,
- b) In the last five years, I am not or have not been employed by as an executive having significant duties and responsibilities or have not been a member of the board or did not have shareholding exceeding 5% of an entity which has had a contractual relationship with the Company for a material business transaction including audit (including tax audit, legal audit, and internal audit) rating or consulting services during the terms in which the goods or services were provided,
- c) My CV indicates that I have skills, knowledge and expertise relevant to the Company's business and extensive experience to fulfill my duties as an independent board member,
- d) After my election I will not work full time in a Turkish governmental or public institution, except for the faculty membership under relevant regulations,
- e) I am deemed to be resident in Turkey according to Income Tax Law No. 193 dated 31.12.1960,
- f) I am capable to contribute positively to the operations of the Company, to maintain my objectivity in conflicts of interests between the Company and the shareholders, to have strong ethical standards, professional reputation and experience to freely take decisions by considering the rights of the stakeholders,
- g) I will dedicate enough time to follow up the activities of the Company and for the duly fulfilment of my responsibilities,
- h) I have not been on the board of the Company for more than six years within last ten years,
- i) I am not serving as an independent board member in neither more than 3 corporations controlled by the company or its controlling shareholders nor in total more than 5 corporations listed in Borsa İstanbul,
- j) I am not registered in the name of any legal entity elected as a board member.

Muharrem Hilmi Kayhan

I hereby declare that I am candidate for independent board membership on the Board of Directors of Türkiye Petrol Rafinerileri A.Ş. (“Company”) under related regulations, Articles of Association of the Company and the criteria stated in the Capital Markets Board’s Communiqué on Corporate Governance. In that regard I also confirm that;

a) In the last five years, I, my spouse or my up to the second degree blood or affinity relatives is not or has not been; employed by as a key management personnel; has not had shareholding exceeding 5% directly or indirectly; or has not been involved in any material business dealings with the Company, its subsidiaries and affiliates, or shareholders controlling the Company or having material effect over the Company and all entities controlled by those shareholders,

b) In the last five years, I am not or have not been employed by as an executive having significant duties and responsibilities or have not been a member of the board or did not have shareholding exceeding 5% of an entity which has had a contractual relationship with the Company for a material business transaction including audit (including tax audit, legal audit, and internal audit) rating or consulting services during the terms in which the goods or services were provided,

c) My CV indicates that I have skills, knowledge and expertise relevant to the Company’s business and extensive experience to fulfill my duties as an independent board member,

d) After my election I will not work full time in a Turkish governmental or public institution, except for the faculty membership under relevant regulations,

e) I am deemed to be resident in Turkey according to Income Tax Law No. 193 dated 31.12.1960,

f) I am capable to contribute positively to the operations of the Company, to maintain my objectivity in conflicts of interests between the Company and the shareholders, to have strong ethical standards, professional reputation and experience to freely take decisions by considering the rights of the stakeholders,

g) I will dedicate enough time to follow up the activities of the Company and for the duly fulfilment of my responsibilities,

h) I have not been on the board of the Company for more than six years within last ten years,

i) I am not serving as an independent board member in neither more than 3 corporations controlled by the company or its controlling shareholders nor in total more than 5 corporations listed in Borsa İstanbul,

j) I am not registered in the name of any legal entity elected as a board member.

Ayşe Canan Ediboğlu

DECLARATION FOR INDEPENDENCY

I hereby declare that I am candidate for independent board membership on the Board of Directors of Türkiye Petrol Rafinerileri A.Ş. ("Company") under related regulations, Articles of Association of the Company and the criteria stated in the Capital Markets Board's Communique on Corporate Governance. In that regard I also confirm that;

- a) In the last five years, I, my spouse or my up to the second degree blood or affinity relatives is not or has not been; employed by as a key management personnel; has not had shareholding exceeding 5% directly or indirectly; or has not been involved in any material business dealings with the Company, its subsidiaries and affiliates, or shareholders controlling the Company or having material effect over the Company and all entities controlled by those shareholders,
- b) In the last five years, I am not or have not been employed by as an executive having significant duties and responsibilities or have not been a member of the board or did not have shareholding exceeding 5% of an entity which has had a contractual relationship with the Company for a material business transaction including audit (including tax audit, legal audit, and internal audit) rating or consulting services during the terms in which the goods or services were provided,
- c) My CV indicates that I have skills, knowledge and expertise relevant to the Company's business and extensive experience to fulfill my duties as an independent board member,
- d) After my election I will not work full time in a Turkish governmental or public institution, except for the faculty membership under relevant regulations,
- e) I am deemed to be resident in Turkey according to Income Tax Law No. 193 dated 31.12.1960,
- f) I am capable to contribute positively to the operations of the Company, to maintain my objectivity in conflicts of interests between the Company and the shareholders, to have strong ethical standards, professional reputation and experience to freely take decisions by considering the rights of the stakeholders,
- g) I will dedicate enough time to follow up the activities of the Company and for the duly fulfilment of my responsibilities,
- h) I have not been on the board of the Company for more than six years within last ten years,
- i) I am not serving as an independent board member in corporations as controlled by the company or its controlling shareholders and my position as board member in some of the 5 Borsa İstanbul companies shall cease on the dates of the general assembly meeting due to be held during the course of 2018. If appointed as an independent board member on the general assembly of the company, I shall neither be serving as an independent board member in more than 3 corporations controlled by the company or its controlling shareholders nor in more than 5 companies listed in Borsa İstanbul,
- j) I am not registered in the name of any legal entity elected as a board member.

Kamil Ömer Bozer

I hereby declare that I am candidate for independent board membership on the Board of Directors of Türkiye Petrol Rafinerileri A.Ş. ("Company") under related regulations, Articles of Association of the Company and the criteria stated in the Capital Markets Board's Communique on Corporate Governance. Except that according to the Income Tax Law deemed to be resident in Turkey In that regard I also confirm that;

a) In the last five years, I, my spouse or my up to the second degree blood or affinity relatives is not or has not been; employed by as a key management personnel; has not had shareholding exceeding 5% directly or indirectly; or has not been involved in any material business dealings with the Company, its subsidiaries and affiliates, or shareholders controlling the Company or having material effect over the Company and all entities controlled by those shareholders,

b) In the last five years, I am not or have not been employed by as an executive having significant duties and responsibilities or have not been a member of the board or did not have shareholding exceeding 5% of an entity which has had a contractual relationship with the Company for a material business transaction including audit (including tax audit, legal audit, and internal audit) rating or consulting services during the terms in which the goods or services were provided,

c) My CV indicates that I have skills, knowledge and expertise relevant to the Company's business and extensive experience to fulfill my duties as an independent board member,

d) I am deemed to be resident in Turkey according to Income Tax Law No. 193 dated 31.12.1960,

e) I am capable to contribute positively to the operations of the Company, to maintain my objectivity in conflicts of interests between the Company and the shareholders, to have strong ethical standards, professional reputation and experience to freely take decisions by considering the rights of the stakeholders,

f) I will dedicate enough time to follow up the activities of the Company and for the duly fulfilment of my responsibilities,

g) I have not been on the board of the Company for more than six years within last ten years,

h) I am not serving as an independent board member in corporations as controlled by the company or its controlling shareholders and my position as board member in some of the 5 Borsa İstanbul companies shall cease on the dates of the general assembly meeting due to be held during the course of 2018. If appointed as an independent board member on the general assembly of the company, I shall neither be serving as an independent board member in more than 3 corporations controlled by the company or its controlling shareholders nor in more than 5 companies listed in Borsa İstanbul,

i) I am not registered in the name of any legal entity elected as a board member.

Yunus Elitaş

CORPORATE GOVERNANCE COMPLIANCE REPORT AND INFORMATION FORM

CORPORATE GOVERNANCE COMPLIANCE REPORT

	Compliance Status					Explanation
	Yes	Partial	No	Exempted	Not Applicable	
1.1. FACILITATING THE EXERCISE OF SHAREHOLDER RIGHTS						
1.1.2- Up-to-date information and disclosures which may affect the exercise of shareholder rights are available to investors at the corporate website.		X				
1.2. RIGHT TO OBTAIN AND REVIEW INFORMATION						
1.2.1 - Management did not enter into any transaction that would complicate the conduct of special audit.		X				
1.3. GENERAL ASSEMBLY						
1.3.2 - The company ensures the clarity of the General Assembly agenda, and that an item on the agenda does not cover multiple topics.		X				
1.3.7- Insiders with privileged information have informed the board of directors about transactions conducted on their behalf within the scope of the company's activities in order for these transactions to be presented at the General Shareholders' Meeting.					X	There was no transaction notice in this manner.
1.3.8 - Members of the board of directors who are concerned with specific agenda items, auditors, and other related persons, as well as the officers who are responsible for the preparation of the financial statements were present at the General Shareholders' Meeting.			X			
1.3.10 - The agenda of the General Shareholders' Meeting included a separate item detailing the amounts and beneficiaries of all donations and contributions.				X		The agenda of the General Shareholders' Meeting included a separate item for the total amount of the donations and contributions made and major donations were explained in the general assembly information document. The balance not detailed in the information document consists of various donations to various institutions and organizations, each one in an amount below TL 500 thousand and not constituting material information for investors. Donations below this amount are not followed up by our investors, and it is planned to continue to make disclosures with a materiality limit to be determined according to current conditions in the following years.

	Compliance Status				Explanation
	Yes	Partial	No	Exempted Not Applicable	
1.3.11 - The General Shareholders' Meeting was held open to the public, including the stakeholders, without having the right to speak.		X			Considering the 2022 pandemic conditions and the restrictions on gatherings laid out in the relevant regulations by public authorities, no guests were allowed in the general assembly meeting hall except our shareholders in order to protect the health of the community in 2022.
1.4. VOTING RIGHTS					
1.4.1 - There is no restriction preventing shareholders from exercising their shareholder rights.		X			
1.4.2 - The company does not have shares that carry privileged voting rights.			X		The issued capital of Tüpraş is divided in to two groups as (A) and (C); all of them being registered shares. The shareholders attending the ordinary and extraordinary General Assembly meetings use their votes pro rata with the nominal value of their shares. While electing the Board of Directors, one of the members has to be elected out of the nominees nominated by the Group C share. The issues specified in Article 10 of Company's Articles of Association depends on the affirmative vote of the Group C shareholder owned by the Privatization Administration in order to take Board of Directors and General Assembly decisions.
1.4.3-The company withholds from exercising its voting rights at the General Shareholders' Meeting of any company with which it has cross-ownership, in case such cross-ownership provides management control.				X	Tüpraş does not have a cross-ownership relationship that provides management control.
1.5. MINORITY RIGHTS					
1.5.1 - The company pays maximum diligence to the exercise of minority rights.		X			
1.5.2 - The Articles of Association extend the use of minority rights to those who own less than one twentieth of the outstanding shares, and expand the scope of the minority rights.			X		The Articles of Association do not grant minority rights to those who hold less than one twentieth of the capital, and in parallel to the common practices, rights are granted to the minority within the general legislative framework. There was no demand from investors regarding this issue. General best practices are monitored; no changes are planned in this regard in the near future.

CORPORATE GOVERNANCE COMPLIANCE REPORT AND INFORMATION FORM

	Compliance Status					Explanation
	Yes	Partial	No	Exempted	Not Applicable	
1.6. DIVIDEND RIGHT						
1.6.1 - The dividend policy approved by the General Shareholders' Meeting is posted on the company website.	X					
1.6.2 - The dividend distribution policy comprises the minimum information to ensure that the shareholders can have an opinion on the procedure and principles of dividend distributions in the future.	X					
1.6.3 - The reasons for retaining earnings, and their allocations, are stated in the relevant agenda item.	X					An explanation regarding the non-profit distribution is given in the relevant agenda item.
1.6.4 - The board reviewed whether the dividend policy balances the benefits of the shareholders and those of the company.	X					
1.7. TRANSFER OF SHARES						
1.7.1 - There are no restrictions preventing shares from being transferred.		X				The Capital Market Board regulations shall be applied in connection with the transfer of the registered shares of the Company transacted in the stock exchange. The Group C share may be transferred to another Turkish public body having the same powers as the powers granted by the law no. 4046 to the Prime Ministry Privatization Administration Chairmanship.
2.1. CORPORATE WEBSITE						
2.1.1. - The company website includes all elements listed in Corporate Governance Principle 2.1.1.	X					
2.1.2 - The shareholding structure (names, privileges, number and ratio of shares, and beneficial owners of more than 5% of the issued share capital) is updated on the website at least every 6 months.		X				
2.1.4 - The company website is prepared in other selected foreign languages, in a way to present exactly the same information with the Turkish content.	X					
2.2. ANNUAL REPORT						
2.2.1 - The board of directors ensures that the annual report represents a true and complete view of the company's activities.	X					

	Compliance Status					Explanation
	Yes	Partial	No	Exempted	Not Applicable	
2.2.2 - The annual report includes all elements listed in Corporate Governance Principle 2.2.2.	X					Since there was no legislative change that could significantly affect the company's activities, and there was no conflict of interest with the institutions, such as rating, there was no explanation on these issues in the annual report.
3.1. CORPORATION'S POLICY ON STAKEHOLDERS						
3.1.1- The rights of the stakeholders are protected pursuant to the relevant regulations, contracts and within the framework of bona fides principles.	X					
3.1.3 - Policies or procedures addressing stakeholders' rights are published on the company's website.	X					
3.1.4 - A whistleblowing program is in place for reporting legal and ethical issues.	X					
3.1.5 - The company addresses conflicts of interest among stakeholders in a balanced manner.	X					
3.2. SUPPORTING THE PARTICIPATION OF THE STAKEHOLDERS IN THE CORPORATION'S MANAGEMENT						
3.2.1 - The Articles of Association, or the internal regulations (terms of reference/manuals), regulate the participation of employees in management.	X					
3.2.2 - Surveys/other research techniques, consultation, interviews, observation method etc. were conducted to obtain opinions from stakeholders on decisions that significantly affect them.	X					
3.3. HUMAN RESOURCES POLICY						
3.3.1 - The company has adopted an employment policy ensuring equal opportunities, and a succession plan for all key managerial positions.	X					
3.3.2 - Recruitment criteria are documented.	X					
3.3.3 - The company has a policy on human resources development, and organises trainings for employees.	X					
3.3.4 - Meetings have been organised to inform employees on the financial status of the company, remuneration, career planning, education and health.	X					
3.3.5 - Employees, or their representatives, were notified of decisions impacting them. The opinion of the related trade unions was also taken.	X					

CORPORATE GOVERNANCE COMPLIANCE REPORT AND INFORMATION FORM

	Compliance Status					Explanation
	Yes	Partial	No	Exempted	Not Applicable	
3.3.6 - Job descriptions and performance criteria have been prepared for all employees, announced to them and taken into account to determine employee remuneration.	X					
3.3.7 - Measures (procedures, trainings, raising awareness, goals, monitoring, complaint mechanisms) have been taken to prevent discrimination, and to protect employees against any physical, mental, and emotional mistreatment.	X					
3.3.8 - The company ensures freedom of association and supports the right for collective bargaining.	X					
3.3.9 - A safe working environment for employees is maintained.	X					
3.4. RELATIONS WITH CUSTOMERS AND SUPPLIERS						
3.4.1-The company measured its customer satisfaction, and operated to ensure full customer satisfaction.	X					
3.4.2 - Customers are notified of any delays in handling their requests.	X					
3.4.3 - The company complied with the quality standards with respect to its products and services.	X					
3.4.4 - The company has in place adequate controls to protect the confidentiality of sensitive information and business secrets of its customers and suppliers.	X					
3.5. ETHICAL RULES AND SOCIAL RESPONSIBILITY						
3.5.1 - The board of the corporation has adopted a code of ethics, disclosed on the corporate website.	X					
3.5.2-The company has been mindful of its social responsibility and has adopted measures to prevent corruption and bribery.	X					
4.1. ROLE OF THE BOARD OF DIRECTORS						
4.1.1 - The board of directors has ensured strategy and risks do not threaten the long-term interests of the company, and that effective risk management is in place.	X					

	Compliance Status				Explanation
	Yes	Partial	No	Exempted Not Applicable	
4.1.2 - The agenda and minutes of board meetings indicate that the board of directors discussed and approved strategy, ensured resources were adequately allocated, and monitored company and management performance.	X				
4.2. ACTIVITIES OF THE BOARD OF DIRECTORS					
4.2.1-The board of directors documented its meetings and reported its activities to the shareholders.	X				
4.2.2 - Duties and authorities of the members of the board of directors are disclosed in the annual report.	X				
4.2.3-The board has ensured the company has an internal control framework adequate for its activities, size and complexity.	X				
4.2.4 - Information on the functioning and effectiveness of the internal control system is provided in the annual report.	X				
4.2.5 - The roles of the Chairman and Chief Executive Officer are separated and defined.	X				
4.2.7-The board of directors ensures that the Investor Relations department and the corporate governance committee work effectively. The board works closely with them when communicating and settling disputes with shareholders.	X				
4.2.8 - The company has subscribed to a Directors and Officers liability insurance covering more than 25% of the capital.	X				
4.3. STRUCTURE OF THE BOARD OF DIRECTORS					
4.3.9 - The board of directors has approved the policy on its own composition, setting a minimal target of 25% for female directors. The board annually evaluates its composition and nominates directors so as to be compliant with the policy.	X				
4.3.10 - At least one member of the audit committee has 5 years of experience in audit/accounting and finance.	X				

CORPORATE GOVERNANCE COMPLIANCE REPORT AND INFORMATION FORM

	Compliance Status					Explanation
	Yes	Partial	No	Exempted	Not Applicable	
4.4. BOARD MEETING PROCEDURES						
4.4.1-Each board member attended the majority of the board meetings in person.	X					
4.4.2 - The board has formally approved a minimum time by which information and documents relevant to the agenda items should be supplied to all board members.	X					
4.4.3 - The opinions of board members that could not attend the meeting, but did submit their opinion in written format, were presented to other members.					X	<p>Although there is the possibility to present an opinion in such a case, there has not been any notification made by the BoD members who could not attend the meetings.</p> <p>However, on the issues specified below depends on the affirmative vote of the Group C shareholder:</p> <p>a) Any changes to be made in the Company's Articles of Association that could affect the Board of Directors meetings and quorum and the rights related to the "Privileged Share" as well as the obligation of meeting the fuel requirements of the Turkish Armed Forces and the rights granted to the Privileged Share in connection with this obligation directly or indirectly.</p> <p>b) Since meeting the fuel requirements of the Turkish Armed Forces in the required quality, time and quantity with the established market prices and maintaining the capability of producing such fuels and providing and maintaining the transportation-related systems are of the essence; not meeting the fuel requirements of the Turkish Armed Forces in the required quality, time and quantity and above the established market prices.</p> <p>c) Any actions specified below that could restrict or obstruct the ability of meeting the fuel requirements of the Turkish Armed Forces:</p> <p>I. Closing or selling any of the refineries owned by the Company or restricting under any encumbrance or reducing its capacity by more than 10%, or</p> <p>II. Division of the company or merger with another company.</p> <p>d) Resolutions related to the liquidation of the company</p>
4.4.4 - Each member of the board has one vote.	X					

	Compliance Status				Explanation
	Yes	Partial	No	Exempted Not Applicable	
4.4.5 - The board has a charter/written internal rules defining the meeting procedures of the board.	X				
4.4.6 - Board minutes document that all items on the agenda are discussed, and board resolutions include director's dissenting opinions if any.	X				
4.4.7-There are limits to external commitments of board members. Shareholders are informed of board members' external commitments at the General Shareholders' Meeting.		X			Due to the significant contribution of Directors to the Board, the experience of the members of the Board of Directors is not limited to taking on other duties outside the company. Curriculum vitae of our board members are included in our annual report. Considering the effective work of the board of directors, there is no change in the current practice, which is considered not to create any negative situation in terms of corporate governance, in the short term.
4.5. BOARD COMMITTEES					
4.5.5 - Board members serve in only one of the Board's committees.			X		Members who serve on more than one committee facilitate communication and increase the opportunities for cooperation between committees handling related subjects. The current committee structure is evaluated effectively, taking into account the efficient work of the board members with the contribution of their knowledge and experience; no need for a change on this manner is anticipated in the near future.
4.5.6 - Committees have invited persons to the meetings as deemed necessary to obtain their views.	X				
4.5.7 - If external consultancy services are used, the independence of the provider is stated in the annual report.				X	There was no consultancy service received for this purpose.
4.5.8 - Minutes of all committee meetings are kept and reported to board members.	X				

CORPORATE GOVERNANCE COMPLIANCE REPORT AND INFORMATION FORM

	Compliance Status					Explanation
	Yes	Partial	No	Exempted	Not Applicable	
4.6. FINANCIAL RIGHTS						
4.6.1-The board of directors has conducted a board performance evaluation to review whether it has discharged all its responsibilities effectively.	X					
4.6.4-The company did not extend any loans to its board directors or executives, nor extended their lending period or enhanced the amount of those loans, or improve conditions thereon, and did not extend loans under a personal credit title by third parties or provided guarantees such as surety in favour of them.	X					
4.6.5 - The individual remuneration of board members and executives is disclosed in the annual report.			X			Remuneration of the Members of the Board of Directors and managers who have administrative responsibilities is disclosed collectively in parallel to the common practice in the footnotes of our financial statements and at the General Assembly meetings. Market practices are closely monitored with respect to this topic that is deemed important in terms of privacy of personal data, and it is planned to act in parallel with the common practice.

CORPORATE GOVERNANCE INFORMATION FORM (CGIF)

1. SHAREHOLDERS

1.1. Facilitating the Exercise of Shareholders Rights

The number of investor meetings (conference, seminar/etc.) organised by the company during the year 10 Conferences and two roadshows were attended, and more than 400 one-on-one meetings were held with fund managers and analysts.

1.2. Right to Obtain and Examine Information

The number of special audit request(s) -

The number of special audit requests that were accepted at the General Shareholders' Meeting -

1.3. General Assembly

Link to the PDP announcement that demonstrates the information requested by Principle 1.3.1. (a-d) <https://www.kap.org.tr/tr/Bildirim/1007501>

Whether the company provides materials for the General Shareholders' Meeting in English and Turkish at the same time Yes, English and Turkish materials are provided at the same time

The links to the PDP announcements associated with the transactions that are not approved by the majority of independent directors or by unanimous votes of present board members in the context of Principle 1.3.9 There are no such transactions

The links to the PDP announcements associated with related party transactions in the context of Article 9 of the Communiqué on Corporate Governance (II-17.1) There are no such transactions

The links to the PDP announcements associated with common and continuous transactions in the context of Article 10 of the Communiqué on Corporate Governance (II-17.1) <https://www.kap.org.tr/tr/Bildirim/1007013>

The name of the section on the corporate website that demonstrates the donation policy of the company <https://www.tupras.com.tr/politikalar>

The relevant link to the PDP with minute of the General Shareholders' Meeting where the donation policy has been approved <https://www.kap.org.tr/en/Bildirim/922381>

The number of the provisions of the articles of association that discuss the participation of stakeholders to the General Shareholders' Meeting Article 14 -a

Identified stakeholder groups that participated in the General Shareholders' Meeting, if any Although the general assembly meetings are open to the public under ordinary conditions, our shareholders were primarily accepted to the meeting hall in the general assembly held in 2022, in order to protect public health, taking into account the current pandemic conditions and the restrictions on gathering in groups in the relevant regulations of public authorities.

1.4. Voting Rights

Whether the shares of the company have differential voting rights Yes

In case that there are voting privileges, indicate the owner and percentage of the voting majority of shares. The issued capital is divided in to two groups as (A) and (C) and all of the shares are registered shares. The shareholders attending the ordinary and extraordinary General Assembly meetings use their votes pro rata with the nominal value of their shares. While electing the Board of Directors, 1 of the members has to be elected out of the nominees nominated by the Group C share. The issues specified in Article 10 of Company's Articles of Association depends on the affirmative vote of the Group C shareholder owned by the Privatization Administration in order to take Board of Directors and General Assembly decisions. Current shareholder structure is available in the annual report.

The percentage of ownership of the largest shareholder 46%

1.5. Minority Rights

Whether the scope of minority rights enlarged (in terms of content or the ratio) in the articles of the association No

If yes, specify the relevant provision of the articles of association. -

1.6. Dividend Right

The name of the section on the corporate website that describes the dividend distribution policy Investor Relations / Corporate Governance /Policies

CORPORATE GOVERNANCE COMPLIANCE REPORT AND INFORMATION FORM

1. SHAREHOLDERS

Minutes of the relevant agenda item in case the board of directors proposed to the general assembly not to distribute dividends, the reason for such proposal and information as to use of the dividend.

Financial statements for the accounting period 1 January - 31 December 2021, in compliance with the TFRS, prepared by the management of Turkish Petroleum Refineries Corporation, and audited by PwC Bağımsız Denetim ve Serbest Muhasebeci Mali Müşavirlik A.Ş. have been reviewed and Upon review of the aforementioned financial statements and the records of Turkish Petroleum Refineries Corporation in accordance with Tax Procedural Law, net profit attributable to equity holders of the parent of TL 3.319.134.000,00 per the financial statements prepared in accordance with TFRS and net profit of TL 676.189.069,94 and a previous year loss of 4.201.408.452,22 TL as per the records in accordance with the Tax Procedural Law have been noted and profit distribution proposal is prepared accordingly as explained below;
3.319.134.000,00 TL net profit for the period obtained according to the financial statements prepared in accordance with TFRS; The profit share base reached as a result of adding the donations amounting to 2.952.291,27 TL is 3.322.086.291,27 TL;
In accordance with the Capital Market Board Regulations, Article 18 of the Company's Articles of Association and within the framework of the Dividend Distribution Policy approved by the shareholders at the General Assembly, dated 31 March 2014; No dividends to be distributed, since there is no balance after deducting the previous year's losses from the profit generated according to the financial statements prepared in accordance with the Tax Procedure Law. has been seen;
Deduction of the current year profit of 676,189,069,94 TL, which is formed according to the financial statements prepared according to the Tax Procedural Law records, from the previous year's losses Transferring the Net profit Attributable to Equity Holders Of The Parent of TL 3.319.134.000,00 which is formed according to the financial statements prepared in line with TFRS, to the previous years' profits in the relevant financial statements,
The dividend distribution proposal is submitted to shareholders' approval and has been approved by a majority vote as a result of affirmative votes for TL 176.787.624,97 paid-in share capital against dissenting votes for TL 793 paid-in share capital.

PDP link to the related general shareholder meeting minutes in case the board of directors proposed to the general assembly not to distribute dividends

<https://www.kap.org.tr/tr/Bildirim/1014236>

General Assembly Meetings

General Meeting Date	30 March 2022	25 August 2022
The number of information requests received by the company regarding the clarification of the agenda of the General Shareholders' Meeting	-	-
Shareholder participation rate to the General Shareholders' Meeting	70.6%	70.8%
Percentage of shares directly present at the GSM	0.03%	0.19%
Percentage of shares represented by proxy	70.57%	70.57%
Specify the name of the page of the corporate website that contains the General Shareholders Meeting minutes, and also indicates for each resolution the voting levels for or against	Investor Relations /General Assembly /Minutes of AGM	Investor Relations /General Assembly /Minutes of AGM
Specify the name of the page of the corporate website that contains all questions asked in the general assembly meeting and all responses to them	No question within the scope of Corporate Governance Principle 1.3.5 has been received.	No question within the scope of Corporate Governance Principle 1.3.5 has been received.
The number of the relevant item or paragraph of General Shareholders' Meeting minutes in relation to related party transactions	-	-
The number of declarations by insiders received by the board of directors	-	-
The link to the related PDP general shareholder meeting notification	https://www.kap.org.tr/tr/Bildirim/1014236	https://www.kap.org.tr/tr/Bildirim/1058445

2. DISCLOSURE AND TRANSPARENCY

2.1. Corporate Website

Specify the name of the sections of the website providing the information requested by the Principle 2.1.1.	Investor Relations/Corporate Governance/Trade Registry Information, Shareholder Structure, Articles of Association, Policies Investor Relations/Material Disclosures Investor Relations/Financial Reports Investor Relations/Overview Annual Report, General Meeting Documents, Teleconference and Investor Presentations
---	---

If applicable, specify the name of the sections of the website providing the list of shareholders (ultimate beneficiaries) who directly or indirectly own more than 5% of the shares.	Investor Relations / Corporate Governance /Shareholder Structure
---	--

List of languages for which the website is available	Turkish and English
--	---------------------

2.2. Annual Report

The page numbers and/or name of the sections in the Annual Report that demonstrate the information requested by principle 2.2.2.

a) The page numbers and/or name of the sections in the Annual Report that demonstrate the information on the duties of the members of the board of directors and executives conducted out of the company and declarations on independence of board members	General Assembly/Board of Directors Resumes Other Information /Declaration for Independency
b) The page numbers and/or name of the sections in the Annual Report that demonstrate the information on committees formed within the board structure	Corporate Governance / Evaluation of Operating Principles and Effectiveness of Board of Committees
c) The page numbers and/or name of the sections in the Annual Report that demonstrate the information on the number of board meetings in a year and the attendance of the members to these meetings	Corporate Governance /Corporate Compliance Report/Board of Directors
ç) The page numbers and/or name of the sections in the Annual Report that demonstrate the information on amendments in the legislation which may significantly affect the activities of the corporation	Legal Disclosures
d) The page numbers and/or name of the sections in the Annual Report that demonstrate the information on significant lawsuits filed against the corporation and the possible results thereof	Legal Disclosures
e) The page numbers and/or name of the sections in the Annual Report that demonstrate the information on the conflicts of interest of the corporation among the institutions that it purchases services on matters such as investment consulting and rating and the measures taken by the corporation in order to avoid from these conflicts of interest	Legal Disclosures
f) The page numbers and/or name of the sections in the Annual Report that demonstrate the information on the cross ownership subsidiaries that the direct contribution to the capital exceeds 5%	Legal Disclosures

CORPORATE GOVERNANCE COMPLIANCE REPORT AND INFORMATION FORM

g) The page numbers and/or name of the sections in the Annual Report that demonstrate the information on social rights and professional training of the employees and activities of corporate social responsibility in respect of the corporate activities that arises social and environmental results

Human Resources / Corporate Responsibility Projects/Sustainability

3. STAKEHOLDERS

3.1. Corporation's Policy on Stakeholders

The name of the section on the corporate website that demonstrates the employee remedy or severance policy

[Investor Relations / Corporate Governance /Policies](#)

The number of definitive convictions the company was subject to in relation to breach of employee rights

14

The position of the person responsible for the alert mechanism (i.e. whistleblowing mechanism)

Risk Management and Internal Control Manager

The contact detail of the company alert mechanism

Notification mechanism It can be reached from the "Notice Notification" and "Communication" sections of the Tüpraş corporate website on the main page. Koç Holding's Ethics Hotline via the following link: "kocsnow.koc.com.tr/hotline" or through the Stakeholder Communication Management System of Tüpraş via the following link: <https://piy.tupras.com.tr/BildirimKayit.aspx>.

3.2. Supporting the Participation of the Stakeholders in the Corporation's Management

Name of the section on the corporate website that demonstrates the internal regulation addressing the participation of employees on management bodies

[Investor Relations/Overview/Annual Report Sustainability/Report/Sustainability Report](#)

[Internal regulations are not publicly available or accessible.](#)

Corporate bodies where employees are actually represented

"Tüpraş Appreciation Recognition and Rewarding" system "Refinery Suggestion System" is implemented in order to reward the behaviors and efforts of the employees that support the business values and goals. The "Refinery Suggestion System" developed by the employees is a suggestion system that enables all employees to easily convey their ideas for improvement and development, reveals, evaluates and implements the good ideas of the employees, encourages continuous development, and aims to make employees feel "valued". In addition, the "Tüpraş Employee Experience Improvement Awards" platform, which was launched in 2021 to support, expand and reward agile teamwork and employee experience improvement efforts, is another recognition and rewarding tool. The company has well-attended Employee Experience Improvement teams created with employee involvement and management ownership. The aim of these teams is to improve their working life experiences and make them sustainable in order to make Tüpraş the most desired company to work for. In addition, employees' experiences are learned, their suggestions are received, and their loyalty and satisfaction are measured through the Employee Engagement Survey and Employee Experience Improvement surveys. Continuous improvements are continued by taking the feedback from the surveys into consideration in company activities and employee experience studies. Targets for improvements are also included in the performance cards (OKR) of the company's senior management and relevant employee experience improvement teams. As part of the "visible leadership" practice at Tüpraş, behavior-oriented safety tours are held with the participation of Tüpraş executives. Another practice regarding the participation of the employees in the decisions is that two representatives from the union have the right to speak in the decisions of the disciplinary committee for hourly wage employees as per the collective bargaining agreement.

3.3. Human Resources Policy

The role of the board on developing and ensuring that the company has a succession plan for the key management positions

A succession plan is created for all key management positions. This Succession Plan is finalized by submitting the approval of the Chairman of the Board of Directors following the approval of the CEO.

CODE OF ETHICS

3.1 Respect to Human Rights

As Tüpraş, we always aim to be a model corporation, employing the most successful and competent professionals who can generate the added value that will ensure sustainable growth, and always be an organization that we are all proud to be a part of.

- We adopt the United Nations Declaration of Human Rights, and aim to ensure that our Code of Ethics and relevant policies are in compliance with these principles.
- We show maximum effort to ensure that we act in an equitable and fair manner to our employees, and expect our stakeholders to do the same.
- When recruiting, we use a single criterion for recruitment, which is the suitability of qualifications to the job, disregarding any gender, language, religion, color, age, nationality, thought and wealth difference;
- We reward success through fair and competitive remuneration policies, as well as effective and objective performance assessment systems and practices;
- We aim to strengthen the loyalty of employees to the company by creating equal opportunity in appointment, promotion, rotation and rewarding,
- We provide equal opportunity and possibilities for training, guidance and development of employees;
- We create a work environment in which transparency and mutual respect are encouraged and where cooperation and solidarity are the most important elements.
- We do not tolerate any form of discrimination at the workplace.
- We provide clean, healthy and safe working conditions to our employees.
- We respect our employees' right to organize as a union and collective bargaining.
- We do not tolerate any form of violence and harassment.
- We do not tolerate child labor, slavery, human trafficking and forced labor.
- We use company resources responsibly.

The name of the section on the corporate website that demonstrates the human resource policy covering equal opportunities and hiring principles. Also provide a summary of relevant parts of the human resource policy.

It is included in the Human Rights Policy as follows.

Diversity and Equal Recruitment Opportunities

Tüpraş strives to employ individuals from different cultures, career experiences and backgrounds. Decision making processes in recruitment depend on job requirements and personal qualifications regardless of race, religion, nationality, gender, age, civil status and disability.

Diversity, Equality and Inclusion Policy

4.3 Equal Opportunity

We provide fair and equal opportunities to all employees, candidates, and partners. We apply the zero-tolerance principle against discrimination in human resources processes and working relationships. We decide according to competence, experience, knowledge, talent, and work requirements in the recruitment, appointment, and promotion processes. We offer equal opportunities in our performance measurement and evaluation, career planning, and promotion processes. We pay regard to equal opportunities in Training and Talent Development programs given to employees. We encourage every employee to adopt the principle of equal opportunity through various training and programs. We regularly review business processes and practices in line with the principle of equal opportunity and make the necessary improvements. We act in accordance with the identity of a responsible employer by being aware of the social sphere of influence.

https://tprstaticfilessa.blob.core.windows.net/assets/uploads/tprspolitika/en/code_of_ethics.pdf

https://www.tupras.com.tr/uploads/Politikalar_en/tupras_human_rights_policy.pdf

https://tprstaticfilessa.blob.core.windows.net/assets/uploads/tprspolitika/en/deip_policy.pdf

CORPORATE GOVERNANCE COMPLIANCE REPORT AND INFORMATION FORM

Whether the company provides an employee stock ownership program	There is no an employee stock ownership programme
The name of the section on the corporate website that demonstrates the human resource policy covering discrimination and mistreatments and the measures to prevent them. Also provide a summary of relevant parts of the human resource policy.	<p>Non-Discrimination Zero-tolerance towards discrimination is a key principle in the entire employment process, including promotion, assignment and training. Tüpraş expects all its employees to demonstrate the same sensibility in their behavior towards each other. Tüpraş cares to treat its employees equally by offering equal rights and opportunities. All kinds of discrimination and disrespect founded on race, gender, color, national or social origin, ethnicity, religion, age, disability, sexual orientation, gender definition or political opinion are unacceptable. https://tprstaticfilessa.blob.core.windows.net/assets/uploads/tprspolitika/en/tupras_human_rights_policy.pdf</p>
The number of definitive convictions the company is subject to in relation to health and safety measures	None
3.5. Ethical Rules and Social Responsibility	
The name of the section on the corporate website that demonstrates the code of ethics	Sustainability/Code Of Ethics
The name of the section on the company website that demonstrates the corporate social responsibility report. If such a report does not exist, provide the information about any measures taken on environmental, social and corporate governance issues.	Sustainability/Report
Any measures combating any kind of corruption including embezzlement and bribery	Principles on these topics are covered in Code of Ethics as well as under the Anti-Bribery and Corruption Policy .

4. BOARD OF DIRECTORS-I

4.2. Activity of the Board of Directors

Date of the last board evaluation conducted	29.12.2022
Whether the board evaluation was externally facilitated	No
Whether all board members released from their duties at the GSM	Yes
Name(s) of the board member(s) with specific delegated duties and authorities, and descriptions of such duties	No delegation was given among the board members
Number of reports presented by internal auditors to the audit committee or any relevant committee to the board	Internal audit unit provides combined information to the audit committee each year regarding the operations within the year.
Specify the name of the section or page number of the annual report that provides the summary of the review of the effectiveness of internal controls	Risk Management and the Activities of the Risk Management Committee/ G.Internal Control System and Internal Audit
Name of the Chairman	Mehmet Ömer Koç
Name of the CEO	İbrahim Yelmenoğlu
If the CEO and Chair functions are combined: provide the link to the relevant PDP announcement providing the rationale for such combined roles	-
Link to the PDP notification stating that any damage that may be caused by the members of the board of directors during the discharge of their duties is insured for an amount exceeding 25% of the company's capital	https://www.kap.org.tr/en/Bildirim/1053104
The name of the section on the corporate website that demonstrates current diversity policy targeting women directors	Investor Relations / Corporate Governance / Board Diversity Policy
The number and ratio of female directors within the Board of Directors	2 (17%)

Composition of Board of Directors

Name, Surname of Board Member	Whether Executive Director Or Not	Whether Independent Director Or Not	The First Election Date To Board	Link To PDP Notification That Includes The Independency Declaration	Whether the Independent Director Considered By The Nomination Committee	Whether She/He is the Director Who Ceased to Satisfy The Independence or Not	Whether The Director Has At Least 5 Years' Experience On Audit, Accounting And/Or Finance Or Not
Ömer M. Koç	Non-executive	Not Independent Director	26/01/2006	-	-	-	Yes
Ali Y. Koç	Non-executive	Not Independent Director	27/03/2009	-	-	-	Yes
Rahmi M. Koç	Non-executive	Not Independent Director	04/06/2008	-	-	-	Yes
Semahat S. Arsel	Non-executive	Not Independent Director	27/03/2009	-	-	-	Yes
Levent Çakıroğlu	Non-executive	Not Independent Director	30/03/2015	-	-	-	Yes
Erol Memioğlu	Non-executive	Not Independent Director	26/01/2006	-	-	-	Yes
Yağız Eyüboğlu	Non-executive	Not Independent Director	04/04/2016	-	-	-	Yes
Yunus Elitaş	Non-executive	Independent Director	30/03/2022	https://www.kap.org.tr/tr/Bildirim/1112873	Considered	No	Yes
Muharrem Hilmi Kayhan	Non-executive	Independent Director	21/03/2018		Considered	No	Yes
Ayşe Canan Ediboğlu	Non-executive	Independent Director	21/03/2018	https://www.kap.org.tr/tr/Bildirim/1007501	Considered	No	Yes
Kamil Ömer Bozer	Non-executive	Independent Director	21/03/2018		Considered	No	Yes

4. BOARD OF DIRECTORS-II

4.4. Meeting Procedures of the Board of Directors	
Number of physical board meetings in the reporting period (meetings in person)	2
Director average attendance rate at board meetings	88%
Whether the board uses an electronic portal to support its work or not	None.
Number of minimum days ahead of the board meeting to provide information to directors, as per the board charter	Within 1 week
The name of the section on the corporate website that demonstrates information about the board charter	Although Tüpraş Board of Directors has Working Principles, it is not a public document.
Number of maximum external commitments for board members as per the policy covering the number of external duties held by directors	There is no restriction

4.5. Board Committees

Page numbers or section names of the annual report where information about the board committees are presented	Corporate Governance / Evaluation of Operating Principles and Effectiveness of Board of Committees
Link(s) to the PDP announcement(s) with the board committee charters	https://www.kap.org.tr/en/Bildirim/749716

CORPORATE GOVERNANCE COMPLIANCE REPORT AND INFORMATION FORM

Composition of Board Committees - I

Names Of The Board Committees	Name Of Committees Defined As "Other" In The First Column	Name-Surname of Committee Members	Whether Committee Chair Or Not	Whether Board Member Or Not
Audit Committee	-	Muharrem Hilmi Kayhan	Yes	Board member
		Kamil Ömer Bozer	No	Board member
Corporate Governance Committee	-	Muharrem Hilmi Kayhan	Yes	Board member
		Yağız Eyüboğlu	No	Board member
		Doğan Korkmaz	No	Not board member
Committee of Early Detection of Risk	-	Ayşe Canan Ediboğlu	Yes	Board member
		Erol Memioğlu	No	Board member
Other	Executive Committee	Ömer M.Koç	Yes	Board member
		Ali Y.Koç	No	Board member
		Rahmi M.Koç	No	Board member
		Semahat S.Arsel	No	Board member
		Caroline Nicole Koç	No	Not board member

4. BOARD OF DIRECTORS-III

4.5. Board Committees-II	
Specify where the activities of the audit committee are presented in your annual report or website (Page number or section name in the annual report/website)	Corporate Governance / Evaluation of Operating Principles and Effectiveness of Board of Committees
Specify where the activities of the corporate governance committee are presented in your annual report or website (Page number or section name in the annual report/website)	Corporate Governance / Evaluation of Operating Principles and Effectiveness of Board of Committees
Specify where the activities of the nomination committee are presented in your annual report or website (Page number or section name in the annual report/website)	Corporate Governance / Evaluation of Operating Principles and Effectiveness of Board of Committees
Specify where the activities of the early detection of risk committee are presented in your annual report or website (Page number or section name in the annual report/website)	Corporate Governance / Evaluation of Operating Principles and Effectiveness of Board of Committees
Specify where the activities of the remuneration committee are presented in your annual report or website (Page number or section name in the annual report/website)	Corporate Governance / Evaluation of Operating Principles and Effectiveness of Board of Committees

4.6. Financial Rights

Specify where the operational and financial targets and their achievement are presented in your annual report (Page number or section name in the annual report)

Message From The Chairman

Specify the section of website where remuneration policy for executive and non-executive directors are presented.

Investor Relations /Corporate Governance / Remuneration Policy

Specify where the individual remuneration for board members and senior executives are presented in your annual report (Page number or section name in the annual report)

Financial Report Notes 27

Composition of Board Committees-II

Names Of The Board Committees	Name of committees defined as "Other" in the first column	The Percentage Of Non-executive Directors	The Percentage Of Independent Directors In The Committee	The Number Of Meetings Held In Person	The Number Of Reports On Its Activities Submitted To The Board
Audit Committee	-	100%	100%	8	8
Corporate Governance Committee	-	67%	33%	9	9
Risk Management Committee	-	100%	50%	6	6
Other	Executive Committee	100%	0%	12	12

SUSTAINABILITY PRINCIPLES COMPLIANCE REPORT

PRINCIPLE	COMPLIANCE				EXPLANATION	RELATED REPORT/LINK
	YES	NO	PARTIAL	N/A		
A. General Principles						
A1. Strategy, Policy and Targets						
		X			Tüpraş conducts its sustainability activities within the framework of the “Strategic Transition Plan” approved by the Board of Directors at Tüpraş and disclosed to the public.	https://tprstaticfilessa.blob.core.windows.net/assets/uploads/faaliyet-raporlari/tupras_2022_faaliyet_raporu.pdf
A1.1	The Board of Directors determines material environmental, social and governance (ESG) issues, risks and opportunities.	X			The Board of Directors establishes relevant ESG policies (e.g. Environmental Policy, Energy Policy, Human Rights and Employee Policy, etc.) and they are publicly disclosed.	https://www.tupras.com.tr/en/policies
A1.2	Publicly discloses short- and long-term goals set according to ESG policies.	X			The transition plan envisages a 27% reduction in Scope 1 and Scope 2 emissions stemming from production activities by 2030, a reduction of 35% in 2035 and a reduction of 49% in 2040, based on 2017 levels, and to continue activities to be carbon neutral by 2050.	Annual Report Sustainability Section
					In accordance with the Diversity Policy adopted by the Board of Directors in March 2021, Tüpraş has set a target for 25% of the members of its Board of Directors to be women within 5 years.	https://www.kap.org.tr/tr/Bildirim/979366 https://www.kap.org.tr/tr/Bildirim/915295

PRINCIPLE	COMPLIANCE				EXPLANATION	RELATED REPORT/LINK	
	YES	NO	PARTIAL	N/A			
A2. Implementation/ Monitoring							
A2.1	Determines and discloses the committees/units responsible for the execution of ESG policies, and the highest level positions in charge of ESG issues at the Company and their duties.	X				<p>Focusing on conducting its sustainability activities to the highest levels, Tüpraş reports its activities in this field to the Board of Directors through the Corporate Governance Committee within the scope of the Sustainability Principles Compliance reporting.</p> <p>Climate-related risks and opportunities are monitored and managed within the scope of the Strategic Transformation Plan, and the Risk Committee within the Board of Directors is regularly informed of climate-related risks and opportunities.</p> <p>The implementation of the strategy is carried out by the Strategic Planning Directorate, which reports to the CEO.</p>	Annual Report Sustainability Section
	The responsible committee and/or unit reports the activities carried out as per the policies during the year at least once a year to the Board of Directors.	X				<p>The Board of Directors is informed of the work on Compliance with Sustainability Principles through its Corporate Governance Committee and Risk Committee.</p>	Annual Report Sustainability Section
A2.2	Creates and discloses implementation and action plans aligned with ESG targets	X				<p>Tüpraş has announced its goal of being carbon neutral by 2050. The Carbon Transformation Program was initiated to create the roadmap and action plans for transition to a low carbon economy, which are required to achieve this goal.</p>	Annual Report Sustainability Section
A2.3	Discloses ESG Key Performance Indicators (KPI) and the degree of their achievement by years.	X				<p>Tüpraş has been monitoring the ESG key performance indicators for more than 10 years and reviews the indicators set out each year in line with common trends by researching domestic and international best practices. As a result, changes over the last five years are included in the indicators shared with the public.</p>	Annual Report Sustainability Section
A2.4	Discloses efforts for improving sustainability performance with respect to work processes or products and services.	X				<p>Innovation and R&D activities are set out in detail in the Company's annual report, sustainability report and website.</p>	Annual Report Innovation and R&D Section

SUSTAINABILITY PRINCIPLES COMPLIANCE REPORT

PRINCIPLE	COMPLIANCE				EXPLANATION	RELATED REPORT/LINK	
	YES	NO	PARTIAL	N/A			
A3. Reporting							
A3.1		X			Discloses sustainability performance, targets and actions in an intelligible, accurate and adequate manner in annual reports.	Annual Report Sustainability Section	
A3.2		X			Provides information about which of the United Nations (UN) 2030 Sustainable Development Goals its activities relate to.	Annual Report Sustainability Section	
A3.3		X			Makes disclosures regarding the lawsuits filed and/or concluded against the company on account of ESG issues, which are material with respect to ESG policies and/or have material impact on operations.	Annual Report Corporate Governance Legal Disclosures Section	
A4. Verification							
A4.1			X		ESG Key Performance measurements are verified by an independent third party and publicly disclosed.	Verification work was carried out by an independent third-party organization in order to increase the reliability of the data disclosed to the public by Tüpraş. The annual report has been disclosed to the public by stating the verified data in the Performance Indicators, and efforts are underway to expand the scope of verification studies both in respect to the subsidiaries and the indicators and to disclose them to the public in the coming years.	Annual Report Sustainability Section "Performance Indicators"
B. Environmental Principles							
B1		X			Publicly discloses its environmental management policy and practices, action plans, environmental management systems (known by ISO 14001 standard) and programs	The Environmental Management Policy has been disclosed to the public. All organizational units within the company hold the Integrated Management System ISO 14001 certification.	Annual Report Environmental Management Section Sustainability Principles Compliance Declaration

PRINCIPLE	COMPLIANCE				EXPLANATION	RELATED REPORT/LINK		
	YES	NO	PARTIAL	N/A				
B2		X				Publicly discloses the limitations over the reporting scope, reporting period, reporting date, reporting conditions of the environmental reports to be prepared for providing environmental management information	Annual Report Sustainability Section	
B3		X				Provided in A2.1.	Annual Report Sustainability Section	
B4		X				Discloses the environmental targets included in rewarding criteria within the scope of performance incentive systems on the basis of stakeholders (board members, executives, employees and so on).	Tüpraş implements the OKR (Objectives and Key Results) method, in which employees determine goals and key results in accordance with the company's goals and strategies set out in Koç Dialog, a performance management system, and in which targets are dynamically adapted according to priorities that change throughout the year. These include climate-related targets among the OKRs for the Tüpraş General Manager, CFO, Strategy and Sustainability Unit, Environmental Unit Managers and employees.	Annual Report Human Resources Section "Performance Management"
B5		X				Explains how environmental issues identified to be material are integrated into business goals and strategies.	Annual Report Sustainability Section	
B6		X				Provided in A2.4.	Annual Report Sustainability Section R&D and Innovation Section	
B7		X				Explains how it manages environmental issues throughout the Company's value chain including suppliers and customers so as to cover the operation process as well and how they are integrated into its business goals and strategies.	Annual Report Sustainability Section	
B8		X				Discloses whether it is involved in policy-making processes on environmental issues of relevant institutions and non-governmental organizations and its collaborations with these institutions and organizations, if any.	Annual Report Sustainability Section Environmental Management Section	

SUSTAINABILITY PRINCIPLES COMPLIANCE REPORT

PRINCIPLE	COMPLIANCE				EXPLANATION	RELATED REPORT/LINK
	YES	NO	PARTIAL	N/A		
B9			X		<p>Periodically reports information about its environmental impacts comparatively in the light of environmental indicators; GHG emissions Scope-1 (Direct), Scope-2 (Indirect from purchased energy), Scope-3 (Other indirect), air quality, energy management, water and wastewater management, waste management, biodiversity implications).</p> <p>Within the scope of its sustainability efforts, Tüpraş regularly calculates Scope 1 and Scope 2 greenhouse gas emissions, which are then verified by an independent third party and independent auditor in accordance with the ISO 14064-1 standard, and then disclosed to the public. Likewise, environmental indicators such as energy consumption, water and waste are regularly monitored, verified and reported by an independent third party. Greenhouse gas emissions from environmental indicators are verified by the inspectors authorized by the Ministry of Environment and Urbanization, independent third parties within the scope of ISO 14064-1 and an independent auditor within the scope of the Monitoring Reporting and Verification (MRV) communiqué, and then disclosed to the public. Tüpraş scope 3 emissions are being calculated, and Tüpraş plans to report and develop strategies for reduction in the coming years.</p>	Annual Report Sustainability Principles Compliance Declaration
B10		X			Discloses the standard, protocol, methodology and baseline year details used to collect and calculate its data.	Annual Report Sustainability Section
B11		X			Publicly discloses the status of environmental indicators for the reporting year (increase or decrease) in comparison with previous years.	Annual Report Sustainability Section "Performance Indicators"
B12		X			Sets short and long-term goals to reduce its environmental impact and discloses these goals and the progress, if any, as compared to the targets set in previous years.	Annual Report Sustainability Section Environmental Management Section
B13		X			Discloses its strategy and actions to combat the climate crisis.	Annual Report Sustainability Section Environmental Management Section

PRINCIPLE	COMPLIANCE				EXPLANATION	RELATED REPORT/LINK
	YES	NO	PARTIAL	N/A		
B14			X		At Tüpraş, life cycle analysis is carried out on the basis of production, and actions are taken to effect improvement depending on the results. All production is monitored with Environmental Dimension Tables, as required by ISO 14001 certification, which company holds in all facilities. In addition, Environmental Impact Assessments are carried out for new investments.	Annual Report Sustainability Environmental Management Section
			X		Tüpraş plans to calculate greenhouse gas emissions (Scope 3) by third parties, as well as to report them in the coming years and to develop strategies for their reduction.	Sustainability Principles Compliance Declaration
B15	X				Discloses the total number of actions taken, projects carried out and initiatives undertaken to mitigate its environmental impacts, along with the benefits/revenues and cost savings they provide.	Annual Report Sustainability Section
B16	X				As part of its sustainability efforts, Tüpraş regularly calculates Scope 1 and Scope 2 greenhouse gas emissions, with the results then verified by an independent third party organization in accordance with the ISO 14064-1 standard and disclosed to the public. Likewise, energy consumption data is calculated annually and disclosed to the public on a broken down basis. The energy intensity indices for all refineries are reported and shared with the senior management on a monthly basis.	Annual Report Sustainability Section "Performance Indicators"

SUSTAINABILITY PRINCIPLES COMPLIANCE REPORT

PRINCIPLE	COMPLIANCE				EXPLANATION	RELATED REPORT/LINK
	YES	NO	PARTIAL	N/A		
B17			X		<p>The energy consumed by Tüpraş's refineries is reported directly and indirectly on the basis of breakdown (fuel oil, natural gas, etc.), but the distribution of energy after use is process-specific with metrics specific to heat and cooling and is not reported separately. In fact, given the complexity of the refineries' structure, flow to heating and cooling and calorific value measurements for each process unit would either not be instructive or are not available. Therefore, energy consumption levels are reported directly and indirectly based on the main source depending on the most reliable measurement.</p> <p>The amount of electricity generation is reported to institutions such as EMRA/TEİAŞ through the system, since it is an activity subject to license.</p>	
B18		X				Annual Report Sustainability Section
B19		X				Annual Report Entek
B20		X				Annual Report Sustainability Section "Performance Indicators"
B21		X				Annual Report Sustainability Section "Performance Indicators"

PRINCIPLE	COMPLIANCE				EXPLANATION	RELATED REPORT/LINK
	YES	NO	PARTIAL	N/A		
B22		X			Since the legal regulation processes regarding the carbon pricing system in Turkey have not yet been completed, there is no carbon pricing system in place, including in Tüpraş. Different tools to be disseminated at the Koç Group level are being evaluated for the transition to a low carbon economy, and those deemed appropriate will be put into practice within the scope of the developed strategy. With Tüpraş using carbon pricing specifically for projects, evaluations are conducted on how projects are affected by the carbon price.	Annual Report Sustainability Section Environmental Management and Sustainability Principles Compliance Declaration
B23				X	Internal carbon pricing studies are handled in project evaluations. Different tools are being considered for their contribution to studies on climate change, and those deemed appropriate are implemented within the scope of the developed strategy.	Annual Report
					There are no accumulated or purchased carbon credits.	Sustainability Principles Compliance Declaration
B24				X	Internal carbon pricing studies are carried out. Different tools are being evaluated for the transition to a low-carbon economy, and those deemed appropriate will be put into practice within the scope of the developed strategy.	Annual Report Sustainability Section
B25		X				Annual Report Sustainability Section Environmental Management Section

SUSTAINABILITY PRINCIPLES COMPLIANCE REPORT

PRINCIPLE	COMPLIANCE				EXPLANATION	RELATED REPORT/LINK
	YES	NO	PARTIAL	N/A		
C. Social Principles						
C1. Human Rights and Employee Rights						
C1.1	X				Develops a Company Human Rights and Employee Rights Policy, which pledges full compliance with the Universal Declaration of Human Rights, ILO Conventions ratified by Turkey and other applicable legislation. Discloses the policy and the roles and responsibilities associated for its implementation.	Tüpraş Human Rights Policy https://tprstaticfilessa.blob.core.windows.net/assets/uploads/tprspolitika/en/tupras_human_rights_policy.pdf
C1.2	X				Incorporates equitable workforce, improvement of working standards, women's employment and inclusion (not discriminating on the basis of gender, race, religion, language, marital status, ethnicity, sexual orientation, gender identity, family responsibilities, union activities, political affiliation, disabilities, social and cultural differences, etc.) in its policy concerning employee rights, while looking out for the effects of supply and value chain.	Tüpraş Human Rights Policy https://tprstaticfilessa.blob.core.windows.net/assets/uploads/tprspolitika/en/tupras_human_rights_policy.pdf
C1.3	X				Discloses the measures taken throughout the value chain for protecting the rights of groups sensitive to certain economic, environmental, social factors (low-income groups, women, etc.) or for securing minority rights/ equal opportunity.	Tüpraş Human Rights Policy https://tprstaticfilessa.blob.core.windows.net/assets/uploads/tprspolitika/en/tupras_human_rights_policy.pdf Annual Report Human Resources Section
C1.4	X				Reports on progress in relation to actions for preventing and remedying discrimination, inequality, human rights violations, forced labor and child labor.	Tüpraş Human Rights Policy Page 6-7 "Freedom of Organization and Collective Agreement"; "Working Hours and Compensation"; "Personal Development" https://tprstaticfilessa.blob.core.windows.net/assets/uploads/tprspolitika/en/tupras_human_rights_policy.pdf

PRINCIPLE	COMPLIANCE				EXPLANATION	RELATED REPORT/LINK
	YES	NO	PARTIAL	N/A		
C1.5		X			Incorporates investments in employees (training, development policies), employee compensation, fringe benefits granted, the right to unionize, work/life balance solutions and talent management in its policies concerning employee rights.	Tüpraş Human Rights Policy Page 6-7 “Freedom of Organization and Collective Agreement”; “Working Hours and Compensation”; “Personal Development” https://tprstaticfilessa.blob.core.windows.net/assets/uploads/tprspolitika/en/tupras_human_rights_policy.pdf
		X			Determines the mechanisms for resolution of employee complaints and labor disputes, and establishes conflict resolution processes.	Whistleblowing Policy https://tprstaticfilessa.blob.core.windows.net/assets/uploads/tprspolitika/en/tupras_whistleblowing_policy.pdf
		X			Discloses the activities for ensuring employee satisfaction during the reporting period.	Annual Report Human Resources Section
		X			Establishes and discloses occupational health and safety policies.	Health, Safety and Environmental Policy https://www.tupras.com.tr/health-and-safety-management-system-policy
C1.6		X			Discloses the measures adopted for preventing workplace accidents and for protecting occupational health along with statistical data on accidents.	Annual Report Sustainability Section “Health and Safety Practices” “Performance Indicators”
C1.7		X			Establishes and discloses personal data protection and data security policies.	Personal Data Protection Framework Policy https://tprstaticfilessa.blob.core.windows.net/assets/uploads/tprspolitika/en/tupras_personel_data_protec_framework_policy.pdf
C1.8		X			Establishes and discloses a code of ethics.	Code of Ethics https://tprstaticfilessa.blob.core.windows.net/assets/uploads/tprspolitika/en/code_of_ethics.pdf
C1.9		X				Annual Report Sustainability Section “Social Responsibility”
C1.10		X			Organizes information meetings and training programs on ESG policies and practices for employees.	Annual Report Sustainability “Performance Indicators”

SUSTAINABILITY PRINCIPLES COMPLIANCE REPORT

PRINCIPLE	COMPLIANCE				EXPLANATION	RELATED REPORT/LINK
	YES	NO	PARTIAL	N/A		
C2. Stakeholders, International Standards and Initiatives						
C2.1		X			Establishes and discloses a customer satisfaction policy for handling and resolving customer complaints.	Customer Relations Policy https://www.tupras.com.tr/customer
C2.2		X			Discloses information about the communication maintained with stakeholders (which stakeholders, topics and frequency).	Annual Report Sustainability Section
C2.3		X			Discloses the international reporting standards embraced in its reporting.	Annual Report Sustainability Section
C2.4		X			Discloses the principles embraced in relation to sustainability, international organizations, committees and principles that it is a signatory or member of.	Annual Report Sustainability Section
C2.5		X			Makes improvements and concrete efforts to qualify for inclusion in sustainability indices of Borsa İstanbul and/ or international index providers.	Tüpraş works to be included in the leading sustainability indices in our country and internationally, including Borsa İstanbul, or to manage its performance in line with the requirements of this index, and discloses which indices it is included in to the public. Annual Report Sustainability Section
D. Corporate Governance Principles						
D1		X			Seeks stakeholders' opinions when determining the measures and strategies in relation to sustainability.	Tüpraş conducted a strategic prioritization analysis in 2022 in order to respond to changing stakeholder expectations and global trends, as well as to identify environmental, social and corporate governance risks and opportunities. Internal stakeholders, including employees from all levels of seniority, as well as external stakeholders, including members of academia, civil society, industrial associations, suppliers, customers and investors were included in this study. Annual Report Sustainability Section
D2		X			Works on raising awareness of sustainability and its importance through social responsibility projects, awareness activities and training programs.	Annual Report Sustainability Section Social Responsibility "Performance Indicators"

TÜPRAŞ ESG LIMITED ASSURANCE REPORT



Limited Assurance Report to the Board of Directors of Tüpraş Türkiye Petrol Rafinerileri A.Ş.

We have been engaged by the Board of Directors of Tüpraş Türkiye Petrol Rafinerileri A.Ş. (the “Company” or “Tüpraş”) to perform a limited assurance engagement in respect of the Selected Sustainability Information (the “Selected Information”) stated in the Tüpraş 2022 Annual Report (the “2022 Annual Report”) for the year ended 31 December 2022 and listed below.

Selected Information

The scope of the Selected Information for the year ended 31 December 2022, which is subject to our limited assurance work, set out in the pages 179, 180, 181, 182, 183, 184 and 185 of the 2022 Annual Report with the sign is summarised below:

Social Performance Indicators


- Total Number of Employees (#)
- Contractor Employees (#)
- Employees by Contract Type (#)
- Employees by Salary Category (#)
- Ratio of Female Managers (%)
- Employees by Employment Type (#)
- Employees by Age Groups (#)
- Number of Employees by Managerial Level (#)
- New Hirings (#)
- Number of Employees Leaving (#)
- Employees Under Collective Agreement (#)
- Number of Employees on Parental Leave (#)
- Number of Employees Returning to Work After Parental Leave (#)
- Average Seniority of Female Employees Employed by the Company (#)
- Average Seniority Employed by the Company for Male Employees (#)
- Employee Turnover Ratio (%)
- Total Number of Disabled Employees (#)
- Number of Employees in STEM Positions (#)
- Number of Employees in Income Generating Positions (#)
- Minimum Starting Salary to Minimum Wage Ratio
- Total Amount of Training (hours)
- Total Amount of Training per Employee (average hours per employee)
- Ethical Principles and Code of Conduct Trainings (hours)
- Employee Engagement Survey Results (%)
- Total Number of Trainers (#)
- Total Amount of OHS Training (people x hours)
 - LTI Frequency- OSHA (frequency)
 - LTI Severity- OSHA (frequency)
 - Total Recordable Incident Rate – OSHA (frequency)
 - Restricted Work Case – OSHA (frequency)
 - Occupational Illness (frequency)
 - Fatality Rate (frequency)
 - 3rd Party Audits (#)
 - Fatalities as a Result of Work-Related Incidents (#)

Environmental Performance Indicators

- Direct Energy Consumption (TJ)
 - Natural Gas (TJ)
 - Fuel Oil (TJ)
 - Fuel Gas (TJ)
 - Coke (TJ)
- Indirect Energy Consumption – Electricity (TJ)
- Total Energy Consumption (TJ)
- Change in Energy Consumption (%)
- Energy Consumption Per Crude Oil (GJ/ton)
- Energy Intensity (GJ/ton production)
- Number of Energy Efficiency Projects (#)
- Energy Efficiency Savings (TJ)
- Energy Efficiency Savings (USD million)
- GHG Emissions Reductions through Energy Efficiency Projects (tons CO₂e)
 - Total Grey Water Consumption (million m³)- Şebeke (milyon m³)
- Total Water Consumption (million m³)
 - Surface Water Sources (million m³)
 - Public Water (million m³)
 - Treated Wastewater from Körfez Municipality (million m³)
- Water Consumption per Crude Oil Processed (m³/ton)
- Water Consumption per Product (m³/ton)
- Total Recovered Water (million m³)
- Total Recovered Water to Total Water Consumption Ratio (%)
- Total Waste Water Discharge (million m³)
- Total Amount of Waste (tons)
 - Hazardous Waste (tons)
 - Non-Hazardous Waste (tons)
- Waste According to Disposal Method
 - Recycling (tons)
 - Disposal (tons)
- Total Waste Recovery Ratio (%)
- Scope 1 GHG Emissions (tCO₂e/year)
- Scope 2 GHG Emissions (tCO₂e/year)
- Total (Scope 1 & Scope 2) GHG Emissions (tCO₂e/year)
- GHG Density (tCO₂e/crude oil processed)
- GHG Density (tCO₂e/crude oil production)

Ekonomik Göstergeler

- Number of Local Suppliers (#)
- Total Number of Suppliers Assessed (#)
- Number of Suppliers Assessed According to Environmental Criteria (#)

Our assurance was with respect to the year ended 31 December 2022 information only and we have not performed any procedures with respect to earlier periods or any information other than Selected Information marked with  in the 2022 Annual Report and, any other elements included in the 2022 Annual Report and, therefore, do not express any conclusion thereon.

Criteria

The criteria used by the Company to prepare the Selected Information is set out in section “Appendix-1: Tüpraş 2022 Annual Report-Reporting Principles” (the “Reporting Principles”) on pages 186-197 of the 2022 Annual Report.

The Company’s Responsibility

The Company is responsible for the content of the 2022 Annual Report and the preparation of the Selected Information in accordance with the Reporting Principles. This responsibility includes the design, implementation and maintenance of internal control relevant to the preparation of Selected Information that is free from material misstatement, whether due to fraud or error.

Inherent Limitations

Non-financial performance information is subject to more inherent limitations than financial information, given the characteristics of the subject matter and the methods used for determining such information.

The absence of a significant body of established practice on which to draw to evaluate and measure non-financial information allows for different, but acceptable, measures and measurement techniques and can affect comparability between entities. The precision of different measurement techniques may also vary. Furthermore, the nature and methods used to determine such information, as well as the measurement criteria and the precision thereof, may change over time. It is important to read the Selected Information in the context of the Reporting Principles.

In particular, the conversion of different energy measures to Terajoule (TJ) and energy used to carbon emissions is based upon, inter alia, information and factors generated internally and/or derived by independent third parties as explained in the Reporting Principles. Our assurance work has not included examination of the derivation of those factors and other third-party information.

Our Independence and Quality Control

We have complied with the independence and other ethical requirements of the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants, which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behavior.

Our firm applies International Standard on Quality Control 1 and accordingly maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Our Responsibility

Our responsibility is to form a conclusion, based on limited assurance procedures, on whether anything has come to our attention that causes us to believe that the Selected Information has not been properly prepared in all material respects in accordance with the Reporting Principles. We conducted our limited assurance engagement in accordance with International Standard on Assurance Engagements 3000 (Revised), Assurance Engagements other than Audits or Reviews of Historical Financial Information', and, in respect of greenhouse gas emissions, International Standard on Assurance Engagements 3410, Assurance Engagements on Greenhouse Gas Statements, issued by the International Auditing and Assurance Standards Board.

A limited assurance engagement is substantially less in scope than a reasonable assurance engagement under ISAE 3000 and ISAE 3410. Consequently, the nature, timing and extent of procedures for gathering sufficient appropriate evidence are deliberately limited relative to a reasonable assurance engagement.

The procedures we performed were based on our professional judgment and included inquiries, observation of processes performed, inspection of documents, analytical procedures, evaluating the appropriateness of quantification methods and reporting policies, and agreeing or reconciling with underlying records.

Given the circumstances of the engagement, in performing the procedures listed above we:

- made inquiries of the persons responsible for the Selected Information;
- understood the process for collecting and reporting the Selected Information. This included analysing the key processes and controls for managing and reporting the Selected Information;
- evaluated the source data used to prepare the Selected Information and re-performed selected examples of calculation;
- performed limited substantive testing on a selective basis of the preparation and collation of the Selected Information prepared by the Company and
- A site visit was made to the Company's İzmit Refinery Directorate, located in Kocaeli, in order to observe the completeness and integrity of the emission sources regarding Selected Information, the data sources and the Company's methods of collecting these data. The site visited was selected by considering the share of the emission amount of the İzmit Refinery Directorate in the total emission amount. Our procedures do not include testing information systems or controls at these sites to collect and aggregate field data.
- undertook analytical procedures over the reported data.

Limited Assurance Conclusion

Based on the procedures we have performed and the evidence we have obtained, nothing has come to our attention that causes us to believe that Company's Selected Information for the year ended 31 December 2022, is not properly prepared, in all material respects, in accordance with the Reporting Principles.

Restriction of use

This report, including the conclusion, has been prepared for the Board of Directors of the Company as a body, to assist the Board of Directors in reporting Tüpraş Türkiye Petrol Rafinerileri A.Ş.'s performance and activities related to the Selected Information. We permit the disclosure of this report within the 2022 Annual Report for the year ended 31 December 2022, to enable the Board of Directors to demonstrate they have discharged their governance responsibilities by commissioning a limited assurance report in connection with the Selected Information. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the Board of Directors of Tüpraş Türkiye Petrol Rafinerileri A.Ş. as a body and Tüpraş Türkiye Petrol Rafinerileri A.Ş. for our work or this report save where terms are expressly agreed and with our prior consent in writing.

PwC Bağımsız Denetim ve
Serbest Muhasebeci Mali Müşavirlik A.Ş.

Cihan Harman, SMMM
Partner

Istanbul, 14 February 2023

IDENTITY

Trade Name	Türkiye Petrol Rafinerileri A.Ş. (Tüpraş)
Address	Gülbahar Mah. Büyükdere Cad. No. 101/A 34394 Şişli/İstanbul
Trade Registry and Number	İstanbul Trade Registry / 305678-5
Central Registration System Number	0875-0014-2670-0011
Website Address	www.tupras.com.tr
Registered Capital Ceiling	TL 500,000,000
Paid-in Capital	TL 250,419,200
BIST Code	TUPRS
Reuters Code	TUPRS.IS
Bloomberg Code	TUPRS.TI
Date of initial public offering	1991

Disclaimer

The Board of Directors' Report, Auditors' Report, Consolidated Financial Statements and Independent Audit Report regarding the operations and financials of the year 2020, included in this Annual Report ("Report"), are prepared in accordance with the legal requirements for the Ordinary General Assembly, which will be held on Wednesday, 30 March 2022 at 10.00, at Tüpraş. Güney Mah. Petrol Cad. No. 25 41790 Körfez/Kocaeli.

This Report is prepared only to provide information to the shareholders, and it is not intended to form the basis of any investment decision.

The opinions and statements regarding estimated figures contained within this Report solely reflect the Company management's views with respect to certain future events; thus, the actual results and developments may differ from these estimates depending on the variables and assumptions. Accordingly, neither the Tüpraş nor its respective advisors, directors or employees shall be liable for any direct, indirect or consequential loss or damage suffered by any person as a result of relying on any statement in, or omission from, this Report, or on any other information or communications in connection with the Report.

All information contained in this Report was believed to be accurate at the time of publication. Tüpraş accepts no responsibility for any spelling or printing errors that may occur during the Report's preparation.

Tüpraş Communication

Telephone: (+90 212) 878 90 00
 Fax: (+90 212) 211 30 81-82
 E-mail: info@tupras.com.tr

Investor Relations

Levent Bayar, Investor Relations Manager
 E-mail: levent.bayar@tupras.com.tr
 Telephone: (+90 212) 878 99 50
 Fax: (+90 212) 211 30 81-82

Corporate Communications

Çiler Teber, Corporate Communications Manager
 E-mail: ciler.teber@tupras.com.tr
 Telephone: (+90 212) 878 91 99
 Fax: (+90 212) 211 30 81-82

Financial Planning and Reporting Group Management

Zeynep Keskin, Group Manager
 E-mail: zeynep.keskin@tupras.com.tr
 Telephone: (+90 212) 878 99 11
 Fax: (+90 212) 211 30 81-82

tupras.com.tr

Headquarters

—

Glbahar Mah. Bykdere Caddesi,
No: 101/A 34394 ŐiŐli/Istanbul
T : +90 212 878 90 00
M : info@tupras.com.tr
W : www.tupras.com.tr



This report has been published using recycled paper and environment-friendly technologies.

