



CONTENTS

8	ABOUT TÜPRAŞ
10	OUR STRATEGIC GOAL
12	OUR STRATEGIC PRIORITIES
18	TÜPRAŞ AT A GLANCE
20	OUR SUBSIDIARIES
22	KEY INDICATORS

GENERAL ASSEMBLY

24	AGENDA
25	INDEPENDENT AUDITOR'S REPORT ON THE ANNUAL REPORT
26	MESSAGE FROM THE CHAIRMAN OF THE BOARD
30	INDEPENDENT AUDITOR'S REPORT (OPINION)
31	CONSOLIDATED BALANCE SHEET/CONSOLIDATED INCOME STATEMENT
32	BOARD OF DIRECTORS
38	PROFIT DISTRIBUTION POLICY
38	PROFIT DISTRIBUTION PROPOSAL
39	DIVIDEND DISTRIBUTION TABLE
40	2022 BOARD OF DIRECTORS CANDIDATES
41	REMUNERATION POLICY FOR MEMBERS OF THE BOARD OF DIRECTORS AND EXECUTIVE MANAGEMENT

TÜPRAŞ IN BRIEF

42	MESSAGE FROM THE GENERAL MANAGER
48	SENIOR MANAGEMENT
50	MILESTONES IN TÜPRAŞ'S HISTORY
54	DEVELOPMENTS IN 2021
58	STRATEGY
64	ACHIEVEMENTS AND AWARDS
66	INVESTOR RELATIONS
70	HUMAN RESOURCES

2021 PERFORMANCE

82	THE SECTOR
84	PRODUCTION AND SALES
92	İZMİT REFINERY
94	İZMİR REFINERY
96	KIRIKKALE REFINERY
98	BATMAN REFINERY
100	TUPRAS TRADING LTD
102	DISTRIBUTION - OPET
104	MARINE TRANSPORTATION-DİTAŞ
110	KÖRFEZ ULAŞTIRMA A.Ş.

SUSTAINABILITY

112	SUSTAINABILITY AT TÜPRAŞ
118	INVESTMENTS
124	R&D
132	INNOVATION
136	DIGITAL TECHNOLOGIES, ROBOTICS AND CYBER SECURITY
142	HEALTH AND SAFETY PRACTICES
146	QUALITY MANAGEMENT SYSTEMS
148	ENVIRONMENTAL MANAGEMENT
154	ENERGY EFFICIENCY
158	PERFORMANCE INDICATORS
164	SOCIAL RESPONSIBILITY

CORPORATE GOVERNANCE

171	LEGAL DISCLOSURES
173	INFORMATION ABOUT CORPORATE GOVERNANCE
186	STRUCTURE OF BOARD OF DIRECTORS
187	TÜPRAŞ ORGANIZATIONAL STRUCTURE
188	STATEMENT OF COMPLIANCE WITH SUSTAINABILITY PRINCIPLES
190	RISK MANAGEMENT AND ACTIVITIES OF THE RISK MANAGEMENT COMMITTEE
204	INDEPENDENT AUDITOR'S EARLY RISK DETECTION SYSTEM AND COMMITTEE REPORT
205	EVALUATION OF OPERATING PRINCIPLES AND EFFECTIVENESS OF BOARD COMMITTEES
210	AUDIT COMMITTEE REPORT (RELATED TO FINANCIAL STATEMENTS)
211	STATEMENT OF RESPONSIBILITY (RELATED TO APPROVAL OF FINANCIAL STATEMENTS)
212	AUDIT COMMITTEE REPORT (RELATED TO ANNUAL REPORT)
213	STATEMENT OF RESPONSIBILITY (RELATED TO APPROVAL OF ANNUAL REPORT)

FINANCIAL STATEMENTS

214	1 JANUARY - 31 December 2021 CONSOLIDATED FINANCIAL STATEMENTS TOGETHER WITH THE INDEPENDENT AUDITOR'S REPORT

OTHER INFORMATION

297	INFORMATION DOCUMENT REGARDING THE ORDINARY GENERAL ASSEMBLY MEETING OF TURKISH PETROL REFINERIES CORPORATION, TO BE HELD ON 30 March 2022, FOR THE YEAR 2021
304	DECLARATION FOR INDEPENDENCY
308	CORPORATE GOVERNANCE COMPLIANCE REPORT AND INFORMATION FORM
324	INDEX OF EXPLANATIONS REGARDING SUSTAINABILITY PRINCIPLES
330	GLOSSARY
336	IDENTITY



You can access Tüpraş's 2021 and previous years' annual reports from the link below:
<https://www.tupras.com.tr/en/overview>

TÜPRAŞ EMBARKED ON ITS STRATEGIC TRANSITION JOURNEY WITH THE GOAL OF BEING CARBON NEUTRAL BY 2050.

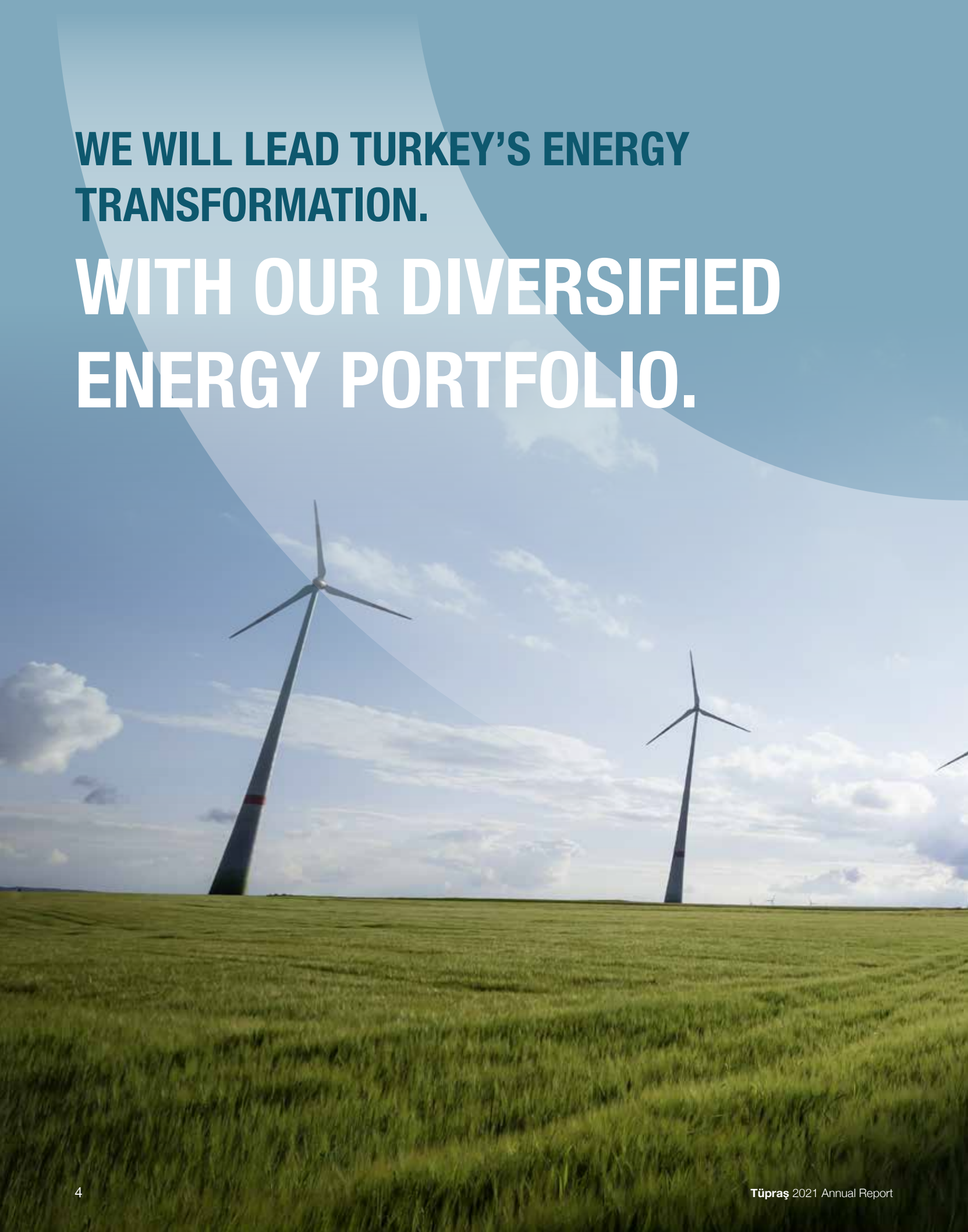
TÜPRAŞ WILL LEAD TURKEY'S ENERGY TRANSFORMATION WITH ITS DIVERSIFIED ENERGY PORTFOLIO, AND WILL CONTINUE TO GROW AND CREATE VALUE FOR ITS STAKEHOLDERS AS IT MOVES FORWARD IN LOCKSTEP WITH ITS CUSTOMERS TOWARDS A ZERO-CARBON FUTURE.

TURKEY'S LARGEST INDUSTRIAL COMPANY
WE HAVE BEEN PRODUCING
TURKEY'S ENERGY FOR 66
YEARS.



**WE WILL LEAD TURKEY'S ENERGY
TRANSFORMATION.**

**WITH OUR DIVERSIFIED
ENERGY PORTFOLIO.**





GENERAL ASSEMBLY

TÜPRAŞ IN BRIEF

2021 PERFORMANCE

SUSTAINABILITY

CORPORATE GOVERNANCE

FINANCIAL STATEMENTS

OTHER INFORMATION

OUR TARGET IS

**TO BE THE FUTURE ENERGY
LEADER IN TURKEY.**





ABOUT TÜPRAŞ

AS THE LARGEST REFINING COMPANY IN TURKEY IN TERMS OF TURNOVER WITH THE ADDED VALUE IT CREATES, AND 7TH LARGEST IN EUROPE, TÜPRAŞ IS ONE OF THE FEW REFINERIES WITH A HIGH COMPLEXITY IN THE MEDITERRANEAN, WITH AN AVERAGE NELSON COMPLEXITY INDEX OF 9.5.



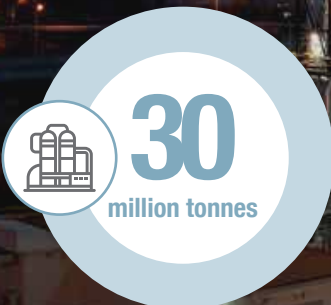
The 7th largest refining company in Europe



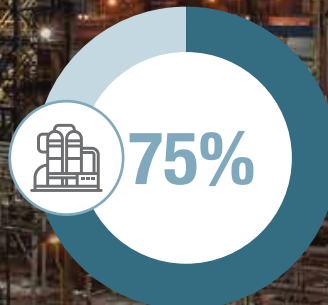
The 30th largest refining company in the world



Turkey's largest industrial company



Tüpraş has a refining capacity of 30 million tonnes.



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



Our total share in Turkish petroleum products market is 53%

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 tonnes 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.

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.



OUR STRATEGIC GOAL

TÜPRAŞ, THE PIONEER OF ENERGY IN TURKEY, HAS ANNOUNCED ITS “STRATEGIC TRANSITION PLAN” AIMED AT LEADING THE FUTURE OF THE ENERGY SECTOR.

TÜPRAŞ IS COMMITTED TO REDUCING ITS CARBON EMISSIONS FROM ITS ACTIVITIES BY 27% BY 2030 AND TO BECOME CARBON NEUTRAL BY 2050 WITH THE INVESTMENTS IT WILL UNDERTAKE IN NEW ENERGY SOURCES AND THE CONTRIBUTION OF ENERGY EFFICIENCY PROJECTS. IN THIS CONTEXT, TÜPRAŞ PLANS TO DEDICATE A LARGE PROPORTION OF ITS INVESTMENTS TO NEW ENERGY SOURCES SUCH AS SUSTAINABLE AVIATION FUELS, GREEN HYDROGEN AND ZERO CARBON ELECTRICITY.



**BECOMING A LEADING
ZERO-CARBON
ELECTRICITY PRODUCER**



OUR STRATEGIC PRIORITIES



MAKE EXISTING ASSETS MORE COMPETITIVE AND PROFITABLE TO FUND THIS TRANSITION



SUSTAINABLE
REFINING

INVESTING IN NEW AREAS WHICH SUPPORT OUR SUSTAINABILITY APPROACH



BIOFUEL



ZERO CARBON
ELECTRICITY



GREEN
HYDROGEN



OPERATIONAL EXCELLENCE



- HIGH AUTOMATION AND HIGH EFFICIENCY,
- CYBER SECURITY AND TECHNICAL SAFETY,
- ARTIFICIAL INTELLIGENCE

OUR STRATEGIC PRIORITIES

SUSTAINABLE REFINING



ENERGY EFFICIENCY
PROJECTS



DECARBONIZATION
PROJECTS



~USD 2.3 BILLION
CAPEX

~USD 13 BILLION
EBITDA

- REFINING WILL CONTINUE TO CONTRIBUTE SIGNIFICANTLY TO EBITDA
- WITH OUR ONGOING INVESTMENTS, WE WILL DIVERSIFY OUR PRODUCT PORTFOLIO WITH MORE VALUE-ADDED CHEMICAL PRODUCTS
- WE WILL INCREASE THE PROFITABILITY OF OUR REFINING ACTIVITIES
- WE WILL FOCUS ON REDUCING SCOPE 1&2 EMISSIONS



ZERO CARBON ELECTRICITY

- THE MAJORITY OF ZERO CARBON ELECTRICITY WILL BE USED FOR THE PRODUCTION OF GREEN HYDROGEN FOR OUR REFINERY PROCESSES, WHICH WILL ALSO BE SOLD TO THE HEAVY TRANSPORTATION AND LOGISTICS SECTOR
- WE WILL SELL THE REMAINING ZERO CARBON ELECTRICITY
- WE WILL ACHIEVE INVESTMENT/COST OPTIMIZATION BALANCE BY OBTAINING ZERO CARBON ELECTRICITY (ABOUT 50% OF OUR TOTAL REQUIREMENT) THROUGH THE ETS (Emissions Trading System)





BIOFUELS

- WE ARE INVESTING ~USD 230 MILLION TO TRANSFORM OUR EXISTING UNIT IN IZMIR BY 2026
 - IN THE FIRST STAGE, THE UNIT WILL HAVE AN ANNUAL PRODUCTION CAPACITY OF ~400,000 TONNES OF BIOFUEL PER YEAR
 - SUSTAINABLE AVIATION FUEL (SAF) TO HAVE A ~10% SHARE OF OUR JET FUEL SALES BY 2030
 - A ~75% SAF YIELD IN BIOFUEL PRODUCTION (~300,000 TONNES/YEAR)
- OUR SAF PRODUCTION CAPACITY WILL BE TRIPLED WITH THE INVESTMENTS WHICH WILL CONTINUE UNTIL 2035



GREEN HYDROGEN

- OUR TEST SITE RESEARCH FOR A 20 MW ELECTROLYZER, HYDROGEN FUELING STATION AND RELATED RENEWABLES POWER INSTALLATIONS ARE UNDERWAY
- WE WILL START SELLING GREEN HYDROGEN TO THE HEAVY TRANSPORTATION AND LOGISTICS SECTORS BY 2030
- WE PLAN TO HAVE CONVERTED HYDROGEN FROM GRAY TO GREEN HYDROGEN IN ALL OF OUR PROCESSES BY 2040

OPERATIONAL EXCELLENCE



OPERATIONAL EXCELLENCE STANDS AT THE HEART OF THE STRATEGIC TRANSITION PLAN BEING CARRIED OUT AT TÜPRAŞ. THE COMPANY'S INVESTMENTS IN HUMAN RESOURCES, ALONG WITH ITS STRONG R&D PROFICIENCY AND DIGITALIZATION STRATEGIES, WILL SERVE AS THE MOST IMPORTANT BUILDING BLOCKS IN TÜPRAŞ'S JOURNEY TO THE FUTURE.



DIGITALIZATION

INTERCONNECTED EMPLOYEES, OPERATIONS AND THE MAIN GOALS OF OUR DIGITAL PROCESSES:

- OPERATIONAL TRANSPARENCY
- HIGH AUTOMATION AND HIGH EFFICIENCY
- EMPLOYEE PRODUCTIVITY AND EXPERIENCE
- LOW CARBON
- CYBER SECURITY AND TECHNICAL SAFETY
- A HIGH BENEFIT FROM ARTIFICIAL INTELLIGENCE AND MOBILITY

THE TALENT OF THE FUTURE

- **ORGANIZATIONAL STRUCTURE:** BASED ON OUR TOTAL BUSINESS PORTFOLIO, WE ARE CREATING A LEAN, NEXT-GENERATION ORGANIZATIONAL WORKING MODEL.
- **EMPLOYEE EXPERIENCE:** WE ARE CREATING THE EMPLOYEE EXPERIENCE CONCEPT WHICH FITS THE NEEDS OF THE FUTURE OF BUSINESS.
- **LEADERSHIP AND CORPORATE CULTURE:** WE ARE IMPLEMENTING A ROADMAP FOR LEADERSHIP DEVELOPMENT AND CULTURAL PROGRESS WHICH WILL SHAPE OUR FUTURE.
- **SKILLS AND METHOD:** WE DEFINE THE SKILLS WE WILL NEED IN THE FUTURE.



STRONG R&D

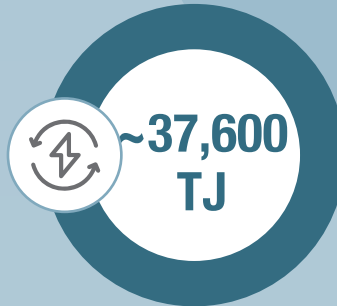
OUR MAIN R&D WORKING AREAS:

- DIGITAL TRANSFORMATION & ROBOTICS
- CARBON CAPTURE
- WATER & WASTE MANAGEMENT
- RENEWABLE RESOURCES
- HYDROGEN TECHNOLOGIES
- OPERATIONAL EFFICIENCY

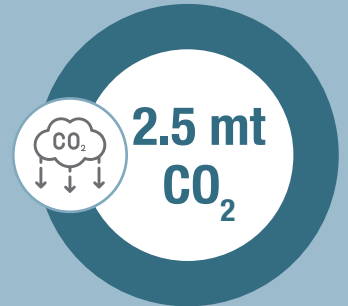
SUSTAINABILITY*



Energy efficiency projects



Energy savings



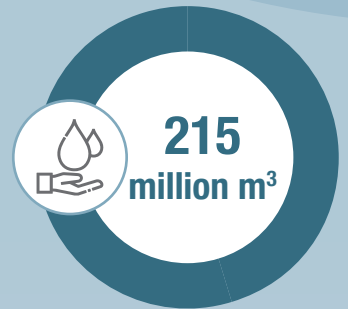
Carbon dioxide reduction



Solid waste recycling



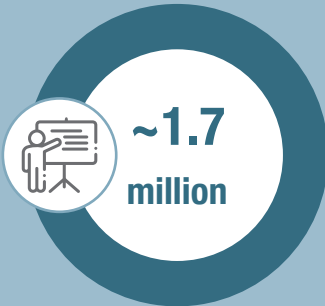
Decrease in energy intensity



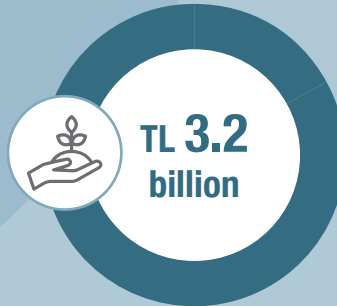
Water recovery

* Baseline year: 2008

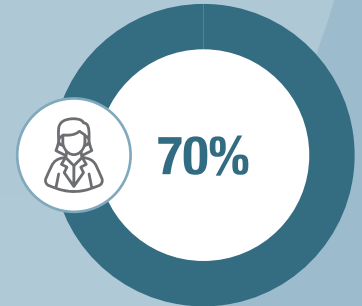
PRODUCING TURKEY'S ENERGY, TÜPRAŞ HAS ADOPTED A SUSTAINABILITY-BASED PRODUCTION APPROACH WITH ITS RESPONSIBILITY TO SOCIETY AND THE ENVIRONMENT.



Work-hours of OHS training



Environmental investment operating expenses



The increase in the number of female employees



Corporate governance rating increase



Donations and sponsorship

GENERAL ASSEMBLY

TÜPRAŞ IN BRIEF

2021 PERFORMANCE

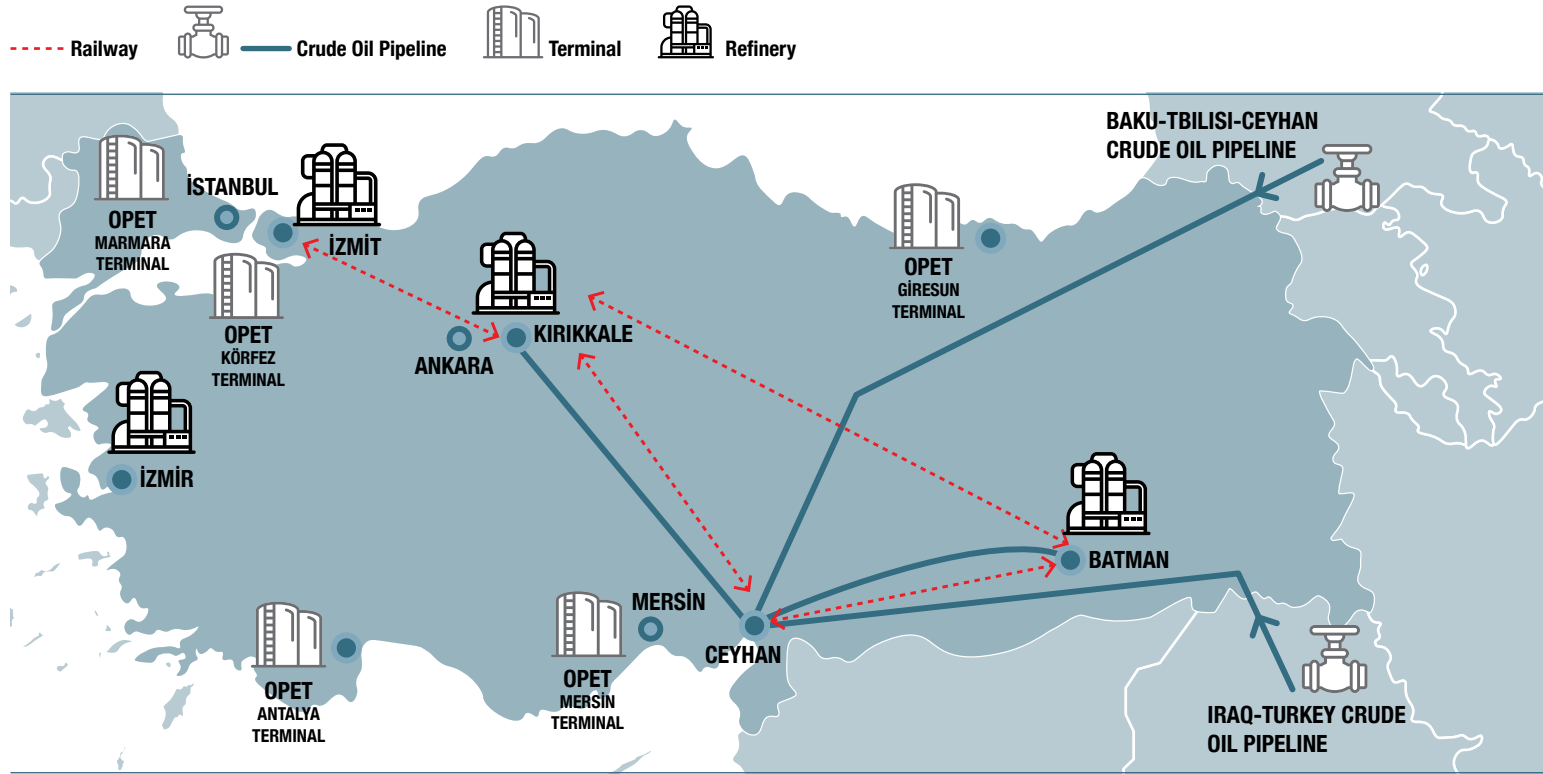
SUSTAINABILITY

CORPORATE GOVERNANCE

FINANCIAL STATEMENTS

OTHER INFORMATION

TÜPRAŞ AT A GLANCE



İZMİT REFINERY

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



KIRIKKALE REFINERY

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



MARMARA OPET TERMINAL

Storage Capacity: 735,933 m³



İZMİR REFINERY

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



BATMAN REFINERY

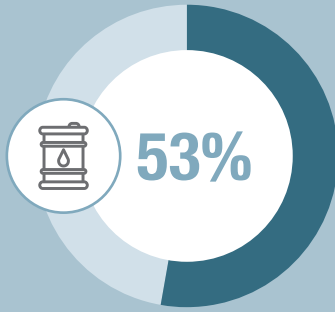
Capacity: 1.4 million tons/year
Nelson Complexity: 1.83
Storage Capacity: 299 thousand m³



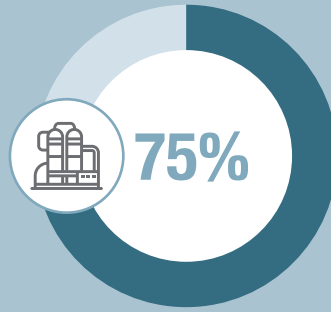
MERSİN OPET TERMINAL

Storage Capacity: 240,000 m³

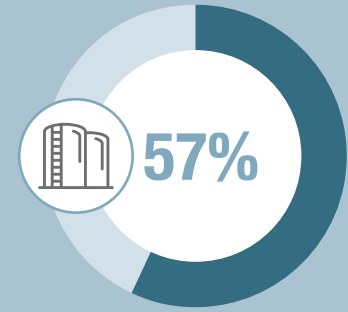
TÜPRAŞ IS THE LARGEST INDUSTRIAL COMPANY IN TURKEY ON THE BASIS OF ADDED VALUE AND TURNOVER.



Our total share in the Turkish petroleum products market is 53%.



Tüpraş accounts for 75% of Turkey's current refining capacity.



Tüpraş has 57% of Turkey's storage capacity.



KÖRFEZ OPET TERMINAL

Storage Capacity: 45,450 m³



ANTALYA OPET TERMINAL

Storage Capacity: 19,442 m³



DİTAŞ

3 Crude Oil Tankers*: 476,765 DWT
1 Crude Oil/Product Tanker: 49,990 DWT
10 Product Tankers: 171,383 DWT
13 Tugboats,
6 Mooring Boats
3 Service Boats
1 Pilot Boat

The 164,859 DWT T. Cumhuriyet crude oil tanker was sold in December 2021.



GİRESUN OPET TERMINAL

Storage Capacity: 43,130 m³



KÖRFEZ ULAŞTIRMA A.Ş.

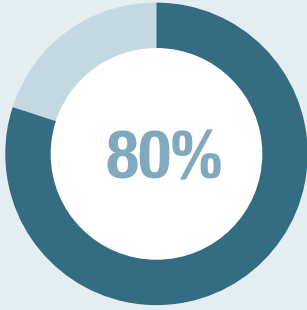
480 Wagons (Owned)
12 Locomotives (Owned)

OUR SUBSIDIARIES



Tüpraş holds 79.98% of Ditaş's shares.

With a total of 14 tankers and about 701 thousand DWT carriage capacity Ditaş has Turkey's largest fleet of fuel products and provides significant operational and cost advantages to Tüpraş.



Körfez Ulaştırma

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.

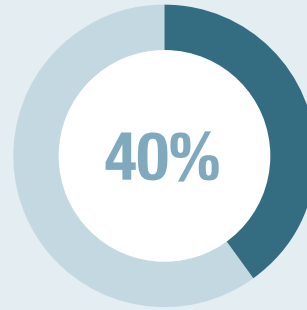


TÜPRAŞ GENERATES CONSIDERABLE SYNERGY WITH ITS SUBSIDIARIES OPERATING IN THE FIELDS OF TRANSPORTATION, STORAGE, DISTRIBUTION AND INTERNATIONAL TRADE.



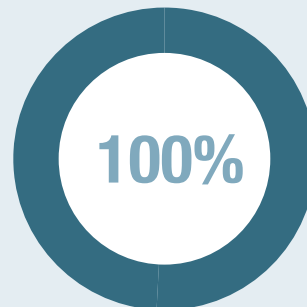
Tüpraş holds 40% of Opet's shares.

With its 1,802 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.



KEY INDICATORS

FINANCIAL INDICATORS (TL million)

	2017	2018	2019	2020	2021
Net Sales	53,948	88,552	89,601	63,244	150,971
Operating Profit	4,857	5,736	2,230	-619	465
Profit Before Tax	4,474	3,724	-311	-3,795	2,161
Profit After Tax*	3,812	3,713	526	-2,494	3,319
EBITDA	5,882	8,908	4,039	545	13,688
Net Debt	6,249	11,967	8,424	9,420	11,217
Return on Equity (ROE) %**	41.3	36.8	4.6	-16.4	18.9
Debt Leverage Ratio %	1.1	1.3	2.1	17.3	0.8
Net Working Capital	2,966	7,029	-1,501	-598	-5,336
Investment Expenditures (USD million)***	301	165	236	153	152

* 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

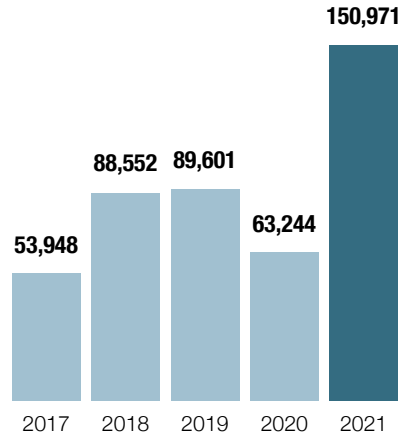
OPERATIONAL INDICATORS – REFINING (thousand tons)

	2017	2018	2019	2020	2021
Processed Crude Oil	28,502	24,540	27,238	22,583	24,418
Production	28,883	25,695	28,112	23,389	25,086
Total Sales	31,493	29,830	29,197	24,503	27,586
Domestic Sales	25,689	25,638	22,391	19,831	21,707
International Sales	5,804	4,191	6,807	4,356	5,250
Transit Sales				316	629
Product Imports	4,388	6,252	2,827	2,927	2,792
Share of White Products in Production (%)	76.3	77.4	79.0	81.5	81.4
Crude Oil Capacity Utilization Rate (%)	101.4	87.3	90.8	75.3	81.4
Capacity Utilization Rate Including Semi-Finished Products (%)	108.1	95.9	97.8	81.8	87.7

139%

With the effect of the rise in product prices after the pandemic, net sales reached TL 151 billion with an increase of 139%.

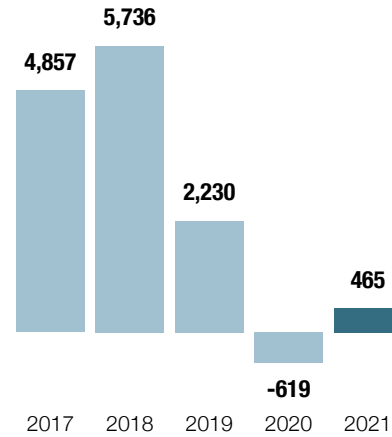
NET SALES (TL million)



TL 465 million

Recovery in product margins resulted in operating profit.

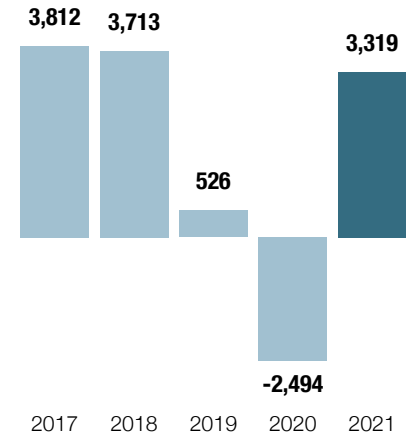
OPERATING PROFIT (TL million)



TL 3.3 billion

The successful performance in 2021 was also reflected in the net profit with TL 3.3 billion.

PROFIT AFTER TAX (TL million)*

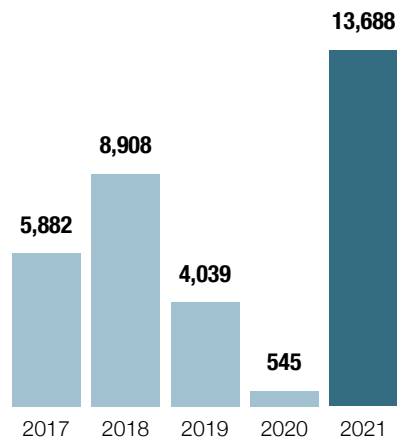


* Net profit attributable to the equity holders of the parent

TL 13.7 billion

EBITDA for 2021 was even higher than the sum of the previous three years.

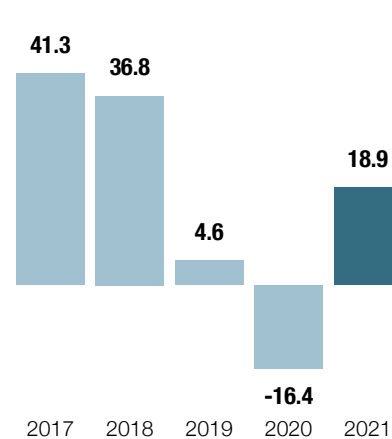
EBITDA (TL million)



18.9%

The high profitability of 2021 yielded a return on equity of 18.9%.

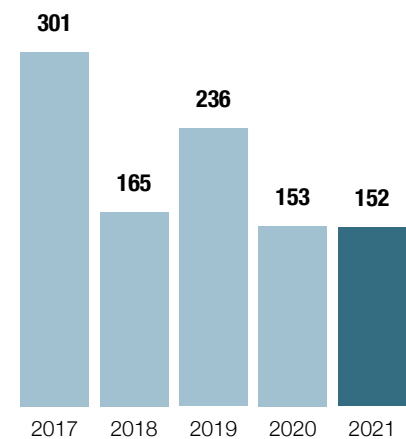
RETURN ON EQUITY (ROE) (%)



USD 152 million

Despite the high increase in the exchange rate, consolidated investments maintained their level in USD terms.

INVESTMENT EXPENDITURES (USD million)**



** Consolidated

AGENDA

AGENDA FOR ORDINARY GENERAL ASSEMBLY MEETING OF TURKISH PETROL REFINERIES CORPORATION TO BE HELD ON 30 MARCH 2022

1. Opening and Election of the Chairing Committee,
2. Review, discussion and approval of the Annual Report of the Company for the fiscal year 2021 as prepared by the Board of Directors,
3. Presentation of the summary of the Independent Audit Report for the year 2021,
4. Review, discussion and approval of the 2021 Financial Statements,
5. Approval of the amendment made to the Board of Directors during the year according to Article 363 of the Turkish Commercial Code
6. Release of the members of the Board of Directors from liability for the affairs of the Company for the year 2021,
7. Within the framework of the Company's dividend policy; approval, amendment or disapproval of the Board of Directors' proposal on profit distribution of year 2021 and the date of dividend distribution,
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 about the "Strategic Transition Plan" of the Company, which was approved by the Board of Directors decision dated November 24, 2021,
13. Presentation to shareholders of the donations made by the Company in 2021 and resolution of an upper limit for donations to be made for 2022,
14. In accordance with the Capital Markets Board regulations, presentation to shareholders of the securities, pledges and mortgages granted in favor of the third parties in the year 2021 and of any benefits or income thereof,
15. 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 2021 pursuant to the Corporate Governance Communique of the Capital Markets Board,
16. 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 2021 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 16 February 2022 on the full set consolidated financial statements for the 1 January - 31 December 2021 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.

Ediz Günsel, SMMM
Partner

Istanbul, 8 March 2022

MESSAGE FROM THE CHAIRMAN OF THE BOARD



TÜPRAŞ WILL LEAD TURKEY'S CLEAN ENERGY TRANSFORMATION AS PART OF THE "STRATEGIC TRANSITION PLAN", WHILE AT THE SAME TIME EMBODYING ITS CONTRIBUTION TO THE SUSTAINABLE FUTURE OF OUR WORLD.

ÖMER M. KOÇ
Chairman

Dear Stakeholders,

Despite the continuing fallout from the pandemic in 2021 and the spread of new variants which emerged with the mutation of the virus, the year was marked by positive developments thanks to the measures taken to tackle the pandemic and the impressive vaccine rollout. Central Banks implemented monetary expansion policies and a range of incentive packages in a bid to stimulate economic activity, supporting economies. With a relaxation in lockdowns and looser restrictions on travel than in 2020, the new variants had a much shorter impact on economic activity. As a result of these developments, there was a sharp recovery in the global economy during 2021.

Based on revised estimates published by the IMF in January 2022, the global economy - which had contracted by 3.4% in 2020 - grew by 5.9% in 2021, exceeding its 2019 levels. However, inflation started to edge higher on a global scale due to bottlenecks in global supply chains and the surge in energy prices recorded during the two years under the shadow of the pandemic.

In our country, with the elevation in November and December, inflation started to climb and reached levels that were not seen in the last 19 years. The deterioration in risk perception increased as a result of the rapid depreciation of the Turkish lira and increased volatility towards the year end. On the other hand, our country's economy which continued its momentum in the third and fourth quarters of 2021, grew by 11% in 2021.

Brent crude oil prices, which started 2021 at USD 50.3/bbl, increased throughout the year on the back of Saudi Arabia's voluntary supply cut following a meeting of the OPEC+ in January and expectations that the global economic recovery would drive oil demand higher on the back of the more rapid vaccine rollout in the second half of the year. While Hurricane Ida led to production cuts in the USA, pushing oil prices higher again, reports from the USA that it would use its strategic oil reserves for the rest of the year, as well as the emergence of the Omicron variant generated uncertainty over expectations

TÜPRAŞ UNCEASINGLY CONTINUED TO PLACE PRIORITY ON OPTIMIZATION IN DEPLOYING ITS RESOURCES EFFICIENTLY AGAINST A BACKDROP OF RISING ENERGY PRICES.



regarding global oil demand, setting the stage for to a volatile course in oil prices. Crude oil inventories fell as supply conditions lagged behind the improved demand environment throughout the year. With the effect of this, Brent crude oil prices averaged USD 70.7/bbl – an increase of USD 29.1/bbl (70%) compared to the previous year.

According the International Energy Agency's report, published in January 2022, refinery processing in 2021 was 5.5 million barrels per day higher than in 2020, while the refinery production increased by 3.2 million barrels per day, falling short if the increase in demand and thus emerging as a strong driving force for the recovery in margins.

Demand for petroleum products was also strong in Turkey, in line with global dynamics, with a YoY increase of 6% in demand for petroleum products in Turkey in the 2021 based on data published by EMRA. The 39% surge in demand for jet fuel led the recovery, along with a 29% jump in demand for gasoline. Robust commercial activity and heavy goods transportation led to a 4% increase in demand for diesel.

Tüpraş unceasingly continued to fulfil its responsibility to supply Turkey's requirements for fuel, continuing to place priority on optimization in deploying its resources efficiently against a backdrop of rising energy prices. The company achieved a diversified crude slate by purchasing from a number of different countries, supported by a cost effective supply of crudes and the ability of its refineries to process heavy and sour high-sulphur crudes.

In 2021, Tüpraş operated at an 88% capacity utilization rate to produce 25.1 million tonnes of products, with domestic sales of 21.7 million tonnes and total sales of 27.6 million tonnes to realize a turnover of TL 151 billion. During this challenging year marked by continued operational and financial risks, Tüpraş maintained its strong working capital and risk management with a strong balance sheet and recorded a pre-tax profit of TL 2.2 billion.

MESSAGE FROM THE CHAIRMAN OF THE BOARD



On November 24, 2021 Tüpraş announced its Strategic Transition Plan as part of the Carbon Transition Program initiated by our Group, under which the Company is committed to being carbon neutral by 2050 while aiming to be the leader in the energy of the future. In this scope, it will invest in the fields of biofuels, zero-carbon electricity and green hydrogen with the aim of leading the transformation of the energy sector in our country.

Our company plans to invest USD 10 billion by 2050 to achieve this transformation plan, which envisages cuts of 27% in emissions from its activities by 2030 and a reduction of 35% by 2035.

Continuing to create added economic value by meeting the energy needs of our country unceasingly in 2021, Tüpraş continued to carry out the social investment needed by our country with the highest level of sensitivity.

As a supporter of the HeforShe movement for the empowerment of women, under the leadership of our group, it gives me great pleasure to note that Bloomberg included Tüpraş into the 2022 Gender Equality Index (GEI) in recognition of its performance in equality, diversity and inclusion. At the same time, Tüpraş continues to contribute to the development of society in an array of different ways with its sponsorships in education, sports, culture and the arts, notably Arter.

Our top priority, which lies at the very heart of all of our achievements and one which we will never deviate from, will always be to prioritize human health and occupational safety, under the guidance of the worlds of the late Vehbi Koç, “Our most important capital is our human resources”.

CONTINUING TO CREATE ADDED ECONOMIC VALUE BY MEETING THE ENERGY NEEDS OF OUR COUNTRY UNCEASINGLY IN 2021, TÜPRAŞ CONTINUED TO CARRY OUT THE SOCIAL INVESTMENT NEEDED BY OUR COUNTRY WITH THE HIGHEST LEVEL OF SENSITIVITY.



Dear Stakeholders,

Setting out with the goal of being carbon neutral by 2050, Tüpraş will lead Turkey's clean energy transformation as part of the "Strategic Transition Plan", while at the same time embodying its contribution to the sustainable future of our world. At this point, I would like to emphasize that Tüpraş stands on the cusp of an exciting and promising future in this area.

We stand prepared to meet our responsibilities as one of the key players not only in our country but also in the surrounding region in the transition to a green and circular economy. We possess the necessary capital, technology and - most importantly - the strong stakeholder support and human resources necessary to achieve this.

I would like to take this opportunity to express my gratitude to all of our stakeholders, especially our employees, suppliers, shareholders and business partners, for their valuable contributions to Tüpraş, the trust they have placed in us and the commitment they have provided to us.

Ömer M. Koç
Chairman of the Board

INDEPENDENT AUDITOR’S REPORT (OPINION)

Opinion⁽¹⁾

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 2021, 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 2021, 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 215.

CONSOLIDATED BALANCE SHEET/ CONSOLIDATED INCOME STATEMENT

CONSOLIDATED BALANCE SHEET

(TL thousand)	2021	2020	
Total Current Assets	65,428,752	30,663,146	113%
Total Non-Current Assets	37,106,249	30,505,376	22%
Total Assets	102,535,001	61,168,522	68%
Total Short Term Liabilities	64,001,571	28,340,528	126%
Total Long Term Liabilities	20,705,913	21,155,469	-2%
Total Liabilities	84,707,484	49,495,997	71%
Total Equity	17,827,517	11,672,525	53%

CONSOLIDATED INCOME STATEMENT

(TL thousand)	2021	2020	
Revenues	150,971,584	63,243,815	139%
Costs of Goods Sold	-135,520,941	-61,479,585	120%
Gross Profit	15,450,643	1,764,230	776%
Operating Profit	464,591	-619,027	175%
Profit Before Tax	2,161,179	-3,795,394	157%
Taxes	1,274,996	1,372,469	-7%
Net Profit for the Period	3,436,175	-2,422,925	242%
Equity Holders of the Parent	3,319,134	-2,493,511	233%
Earnings per Share (TL)	13.25	-9.96	233%

BOARD OF DIRECTORS



Ömer M. Koç
Chairman



Ali Y. Koç
Vice Chairman



Rahmi M. Koç
Member



Semahat S. Arsel
Member



Levent Çakıroğlu
Member



Erol Memioğlu
Member



Yağız Eyüboğlu
Member



Salim Arda Ermut
Member and Privatization
Administration Representative



Ayşe Canan Ediboğlu
Independent Member



Muharrem Hilmi Kayhan
Independent Member



Kamil Ömer Bozer
Independent Member



Tufan Erginbilgiç
Independent Member

BOARD OF DIRECTORS

Ömer M. Koç

Chairman

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 Chairman in May 2008. In February 2016, he was appointed as the Chairman of the Board of Directors of Koç Holding. He serves as the Vice President of TÜSİAD High Advisory Council, Chairman 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 Chairman of Turkish Educational Foundation Board of Trustees and Chairman of the Board of Directors of Geyre Foundation.

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

Ali Y. Koç

Vice Chairman

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 Chairman in February 2016. Since April 2016, Ali Y. Koç also serves as Chairman 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 Chairman and Vice Chairman 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 Chairman 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 Chairman of the Management Committee in 1980 and was named Chairman of the Board of Directors of Koç Holding in 1984, a post he held until 2003 when he became the Honorary Chairman. Apart from Koç Holding, he also serves as a Member / Chairman 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-Chairman of the Business Advisory Council for South East Europe (BAC SEE)
- Vice Chairman of the Board of Trustees of Vehbi Koç Foundation
- Honorary Chairman of the Board of Trustees of Koç University
- Founder and Chairman of the Board of Directors of the Rahmi M. Koç Museum and Cultural Foundation
- Chairman of the Board of Directors of the Vehbi Koç Foundation American Hospital
- Honorary Chairman and Founding Member of TURMEPA, The Turkish Marine and Environment Protection Association
- Honorary Chairman of the Advisory Board of the Turkish Industrial and Business Association (TÜSİAD)
- Member of the Advisory Board of the Turkish Employers Association
- Founding Chairman 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, İzmir Ege University, Ankara Bilkent University, Ovidius University of Constanza and Aydın Adnan Menderes University
- “Outstanding Service Award” by the President of the Turkish Republic
- German Government’s “Grosses Verdienst Kreutz”
- “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
- “Hadrian 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 Chairman 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 Chairman of the Board of Directors of Arçelik- LG and TürkTraktör, the Vice Chairman of Yapı Kredi Bank and Otocar 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.

BOARD OF DIRECTORS

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.

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

Salim Arda Ermut

Member and Privatization Administration Representative

Mr. Ermut became a Press and Public Relations Advisor to the Prime Ministry in 2005 after graduating from the Department of Political Science and International Relations at Boğaziçi University. Following various management positions in the Investment Support and Promotion Agency of Türkiye, which he joined in 2005 as a specialist, he was appointed as the President of the Agency in 2015. Ermut, who played a role in bringing various international direct investments to Turkey in these duties, served as a Member of the Board of Directors at the Vienna Economic Forum, SunExpress and Vice-President of the Turkish Basketball Federation between 2019-2021 and Chairman of the Board of Directors of the World Association of Investment Agencies (WAIPA) for four years.

He served as a Member of the Board of Directors of Turkish Airlines and one of the three members of the Executive Board of Turkish Airlines between 2019-2021.

Ermüt served as a Member of the Board of Directors of Türkiye Wealth Fund between 2018-2020; as of March 2021, he was appointed as the General Manager of Türkiye Wealth Fund and a Member of the Board of Directors.

Arda Ermut has been a member of Tüpraş Board of Directors since 8 June 2021.

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 Chairman 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 Chairman of TÜSİAD between 1997 and 1999, and is now an Honorary Chairman. 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 currently serves as a Board Member at Coca Cola İçecek, Adel Kalemcilik Ticaret ve Sanayi A.Ş., Kamil Yazıcı Yönetim ve Danışma A.Ş., and as an Independent Board Member at Boyner Perakende A.Ş., 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.

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 for the accounting period 1 January - 31 December 2021, in compliance with the TFRS, prepared by the management of Türkiye Petrol Rafinerileri A.Ş., and audited by PwC Bağımsız Denetim ve Serbest Muhasebeci Mali Müşavirlik A.Ş. have been reviewed and approved to be presented to the General Assembly.

Upon review of the aforementioned financial statements and the records of Türkiye Petrol Rafinerileri A.Ş. 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 TL 4,201,408,452.22 as per the records in accordance with the Tax Procedural Law have been noted and profit distribution proposal is prepared accordingly as explained below;
- TL 3,319,134,000.00 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 TL 2,952,291.27 is TL 3,322,086,291.27;

- 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 TL 676,189,069.94, 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,

It has been decided to submit the issues to our shareholders for approval at the Ordinary General Assembly Meeting, where our Company's activities for the year 2021 will be discussed.

DIVIDEND DISTRIBUTION TABLE

Türkiye Petrol Rafinerileri A.Ş. 2021 Dividend Distribution Table (TL)			
1.	Paid in Capital/Issued Capital		250,419,200.00
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 (=)	2,161,179,000.00	676,189,069.94
4.	Taxes payable (-)	-1,274,996,000.00	0.00
5.	Net profit (=)	3,319,134,000.00	676,189,069.94
6.	Previous years losses (-)	0.00	-4,201,408,452.22
7.	General Legal reserves (-)		
8.	DISTRIBUTABLE NET PROFIT FOR THE PERIOD (=)	3,319,134,000.00	0.00
9.	Donations made during the year (+)	2,952,291.27	
10.	Net Distributable Profit added donations	3,322,086,291.27	
First dividend to Shareholders			
11.	Cash	0.00	0.00
	Bonus		
	Total	0.00	0.00
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
16.	General legal reserves	0.00	0.00
17.	Statutory reserves		
18.	Special reserves		
19.	EXTRAORDINARY RESERVES	3,319,134,000.00	0.00
	Other Resources to be distributed	0.00	0.00
	- Previous years profit		
20.	- Extraordinary reserves		
	- Other distributable reserves as per the law and the Articles of Association	0.00	0.00
21.	Allocated Legal Reserves to be distributed from other sources	0.00	0.00

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	0.00		0.00	0.0000 0.00
	C	0.00		0.00	0.0000 0.00
	TOTAL	0.00	0.00	0.00	

2022 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)

Tufan Erginbilgiç (Independent Member)

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

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

This policy determines the remuneration system for the Board of Directors and key executives within the scope of the definition of persons discharging managerial responsibilities under Capital Markets Board regulations.

A fixed remuneration is determined for all members of the Board at the annual general meeting of the Company.

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 chairman 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



WE HAVE SET OUT THE TÜPRAŞ ROAD MAP FOR THE TRANSITION TO A LOW CARBON ECONOMY WITH OUR GOAL OF BEING CARBON NEUTRAL BY 2050 UNDER KOÇ HOLDING'S LEADERSHIP.

İBRAHİM YELMENOĞLU
CEO

Dear Stakeholders,

This last year was one where the impact of the pandemic on refining activity receded, and refining Industry underwent a normalization following the slump in demand for oil in 2020 as a result of the COVID-19 pandemic, the effects of which rebounded around the whole world.

Restrictions on activity in general were loosened with the increase in the vaccination rollout globally, especially since the second quarter of 2021 and the recovery in demand supported product margins and the profitability of refineries compared to the previous year.

According to figures released by the International Energy Agency, demand - having lagged behind the first quarter levels of the previous two years in the first quarter of 2021 - rounded off the year with an average increase of 5.5 million barrels per day. As far as products are concerned, the normalization in product inventories and demand for jet fuel, which continues to recover, were the main drivers of the improvement in mid-distillate product margins.

As a result of production cuts of simple refineries as well as shutdowns, refinery production in 2021 fell behind the rise in demand, with an average increase in refinery production of 4 million barrels/day. Product inventories, which decreased gradually during the year on the back of low supply, paved the way for a recovery in profitability from the historical lows seen in 2020. Thus, benchmark Mediterranean refinery margins improved by USD 1.8/bbl compared to 2020, averaging USD 1.6/bbl in 2021.

Brent crude oil closed 2021 at USD 77/bbl.

The price of Brent crude oil followed an upward trend throughout the year due to the effects of the climate events experienced as well as geopolitical turmoil, exceeding USD 86/bbl during the year and surpassing the peak of the last 3 years. The price of Brent crude oil closed the year at USD 77/bbl due to the effects of global inflation trends strengthened towards the end of 2021, and tightening monetary policies.

WE MAINTAINED OUR STRONG BALANCE SHEET STRUCTURE WITH OUR DISCIPLINED AND EFFECTIVE FINANCE MANAGEMENT, AS WELL THE CONTINUED RECOVERY IN OUR OPERATING PROFITABILITY.



When it comes to the product profitability, the profitability of light distillates was particularly strong, exceeding its five-year average thanks to developments such as the increase in demand for petrochemicals and gasoline, one of the main products, on the back of the rapid increase in individual road travel as pandemic restrictions were relaxed. Events such as the severe cold weather and attacks on pipelines in the USA were also instrumental in this change.

Jet fuel crack margins approached their 5-year averages, supported by the shift in the balance between supply and demand, especially in the second half. The recovery in demand for jet fuel supported the recovery in the diesel supply-demand balance, to which production was switched in the pandemic period, and affected diesel crack margins positively. Fuel oil margins lagged behind their 5-year averages despite the increased demand for electricity and the rise in marine fuel demand.

The Turkish market, on the other hand, was one of the markets to demonstrate an improvement over their 2020 results. According to EMRA data, total demand for oil products increased by 6% in 2021. On a product basis, jet fuel recorded the sharpest increase, with rising up by 39%, while demand for gasoline grew by 29% with diesel demand rising by 4%.

Capacity utilization rate of 88% achieved with an optimal production slate

Our processing increased by 1.8 million tonnes in parallel with the normalization process in 2021, marking a capacity utilization rate of 88% was reached with a total processing of 26.3 million tonnes, including crude oil and semi products. A total of 25.1 million tons of products were produced with a white product yield of 81.4% achieved as a result of effective use of the conversion units.

MESSAGE FROM THE GENERAL MANAGER



Our company successfully fulfilled its supply responsibilities with its large fleet and alternative production and supply solutions. While meeting the majority of Turkey's demand, with domestic sales of 21.7 million tons, our company attained a total sales volume of 27.6 million tons, including international and transit sales.

With the positive effect of the strong course of gasoline crack margins and continued trend of improvement in mid-distillate crack margins throughout the year, Tüpraş's net refinery margin was USD 5.7 /bbl in 2021, above the Mediterranean margin.

We approached our pre-pandemic performance thanks to our disciplined and effective finance management.

In addition to the rises in crack margins, Tüpraş generated a profit before tax of TL 2.2 billion in 2021 with the support of operating profit, which increased as a result of strong course of domestic and international sales, and the inventory gains, a result of the continuing rise in the Brent crude oil price.

We reached our pre-pandemic performance by maintaining our strong balance sheet structure with our disciplined and effective finance management, as well the continued recovery in our operating profitability.

We are transforming ourselves to produce the energy of the future and we are changing for a sustainable world.

Despite the increase in demand for oil products in the Turkish market, change is taking place globally in many areas such as consumer behavior, the demand for products and services, energy use, supply chains and technology needs due to the pandemic. While transformations which would normally be realized over a much longer time span are taking place in the space of weeks, the digital economy has also started to overshadow the traditional economy. Expectations in the fields of service and technology, the preferences of the new generation and the increase in demand for clean energy worldwide have also started to emerge in the oil sector, as it is in many sectors.

WITH THE POSITIVE EFFECT OF THE STRONG COURSE OF GASOLINE CRACK MARGINS AND CONTINUED TREND OF IMPROVEMENT IN MID-DISTILLATE CRACK MARGINS THROUGHOUT THE YEAR, TÜPRAŞ'S NET REFINERY MARGIN WAS USD 5.7/BBL IN 2021, ABOVE THE MEDITERRANEAN MARGIN.



We have set out the Tüpraş road map for the transition to a low carbon economy with our goal of being carbon neutral by 2050 under Koç Holding's leadership in the light of these developments. Within the scope of our Strategic Transition Plan that we announced on 24 November 2021, we will continue our production activities in four main focus areas. In addition to sustainable refining, we aim to transition ourselves into being a leading carbon neutral energy company in our country by investing in biofuels, green hydrogen and zero carbon electricity generation, especially with solar power.

In line with our plan, Tüpraş will invest a total of USD 5 billion in the 2022-2035 period, USD 2.3 billion being allocated to sustainable refining, USD 600 million to sustainable aviation fuels, USD 1.3 billion to zero-carbon electricity and USD 690 million to the production of green hydrogen. We expect to complete our USD 10 billion transformation plan by investing an average of USD 300 million per year between 2036 and 2050.

As part of our transformation plan, we aim to reduce the Scope 1 and Scope 2 emissions arising from our production activities by 27% in 2030, 35% by 2035 and 49% by 2040, taking the year 2017 as a base. We also aim to be a carbon neutral energy company by 2050.

Within the scope of our investments in the field of biofuels, we plan to process 400,000 tons of biofuel feedstock mainly for the purpose of Sustainable Aviation Fuel (SAF) by 2030. We aim to triple our Sustainable Aviation Fuel capacity in the period beyond 2035.

MESSAGE FROM THE GENERAL MANAGER



We aim to be a leader in the field of zero carbon electricity, reaching an installed capacity of approximately 1 GW by 2030 and 2.5 GW by 2035 through a combination of production and potential purchases.

We aim to reset our emissions arising from hydrogen production in 2040 by gradually switching to green hydrogen production by electrolyzers, which we will start to install from 2025. Moreover, we will take advantage of the opportunities for the sale of green hydrogen as a new and clean fuel in the logistics and heavy transport.

We continue to improve our sustainability ratings.

After the improvement activities carried out to Tüpraş's performance in the sustainability indices during 2021, evaluations of the Company's scores in the indices including FTSE4Good, MSCI ESG Rating, BIST SE (Refinitiv), Sustainalytics and Vigeo Eiris recorded an average increase of 22%.

Having signed the United Nations Women's Empowerment Principles (UN WEPS) in 2017, Tüpraş has worked for the equal representation of women in the fields by acting with a unique perspective from the energy sector, in which the Company's involved, with the goal of being an inclusive and egalitarian workplace. The inclusion of Tüpraş in Bloomberg's 2022 Gender Equality Index (GEI) - which includes a select total of just seven companies in Turkey - was a tremendous success in this sense in 2021 which delighted us all as a team.

AFTER THE IMPROVEMENT ACTIVITIES CARRIED OUT TO Tüpraş's PERFORMANCE IN THE SUSTAINABILITY INDICES DURING 2021, EVALUATIONS OF THE COMPANY'S SCORES IN THE INDICES RECORDED AN AVERAGE INCREASE OF 22%.

Women joined us as operators and technicians first in Batman, then in the İzmit, Kırıkkale and İzmir refineries two years ago. There have always been women engineers working in the refineries, but now women have started to also work in the field in shifts, in what has been a pioneering and exemplary practice for our company as well as our sector. We are proud and delighted to have taken this brave step in what has long been a business line dominated by men.

We have also envisaged the Tüpraş of future with the same inclusive approach, where there will be an equal number of men and women employed.

Highlights from the performance of our affiliates

Our subsidiary, Ditaş, which boasts Turkey's largest oil products tanker fleet, carried out 93.3% of Tüpraş's crude oil shipments and 95.7% of its oil product shipments with a carrying capacity of 701,000 DWT in 2021, meeting the needs of our refineries.

As Turkey's first private railway operator, Körfez Ulaştırma transported 1.7 million tons of fuel products and intermediate products in 2021. It undertook an organizing role in the transportation of 326,000 tons of iron ore. Seven Eurodual hybrid locomotives, which had been ordered in 2019, were delivered in December 2021.

Our wholly owned subsidiary, Tupras Trading Ltd, continuing its operations in the UK, maintaining its positive contribution to Tüpraş's activities with spot crude oil trading in addition to the fuel oil trading activities. In 2021, over 7 million tons of products were traded and approximately 3 million tons of spot crude oil connections to meet the needs of the Tüpraş refineries were carried out through Tupras Trading Ltd.

Our business partnership, Opet, acted with the basic goal and principle of being the first choice of the consumer in the fuel oil distribution sector in Turkey in 2021. With its 1,802 petrol stations, Opet successfully rounded off the year with a market share of 17.79%, with a market share of 17.85% in white products and 22.56% in black products. With its strong brand position and social responsibility activities, Opet won the accolade of being the "Fuel Brand connected to Turkey with Love" for a sixth time in a row in the Lovemarks survey.

"Energy to the Future"

Within the scope of our Strategic Transition Plan, while we are determined to place emphasis on projects which increase operational efficiency in our existing refineries on the one hand, on the other, we are determined to maximize our competitive clout with the investments we will undertake within the scope of a diversified clean energy portfolio. To this end, we are already ready for the future with our qualified human resources.

On behalf of Tüpraş, I would emphasize that we will continue to produce and share the highest added value for our country, our employees, our business partners, our shareholders and all of our stakeholders.

I would like to thank my colleagues who have contributed to our Company with their safe and devoted hard work in 2021, and all our stakeholders who have offered us strength with their support.

Yours sincerely,



İbrahim Yelmenoğlu
CEO

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 A.Ş. 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 A.Ş. 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 Electronic Commerce. Between 2009 and 2016, he served as the Energy Group Coordinator at Koç Holding. Levent Zağra was appointed as Assistant General Manager 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 A.Ş. 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 Elektrik Üretim A.Ş. In April 2016, Özgür Kahramanzade was appointed as Assistant General Manager responsible for Sales and Marketing at Tüpraş.



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.

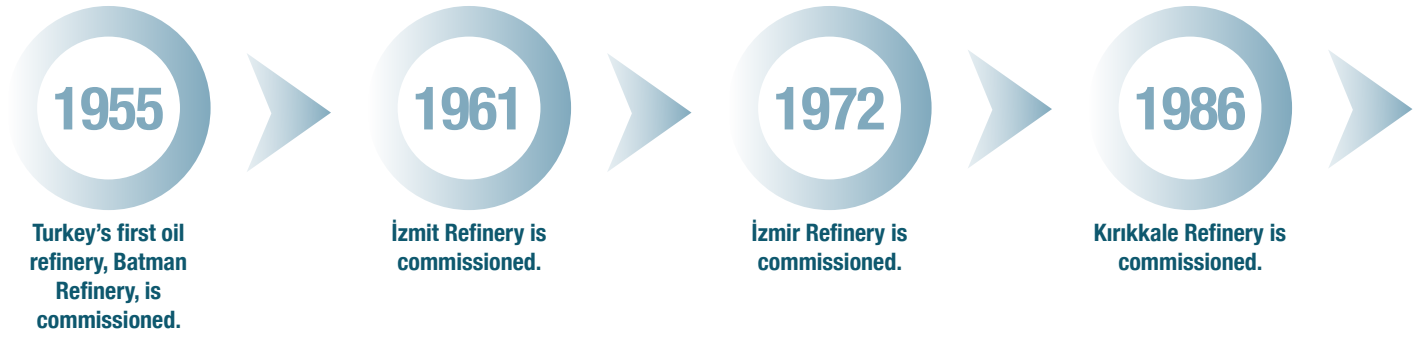


Atilla Uluşu
Assistant General Manager
(Crude Oil Supply & Foreign Trade)

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 A.Ş. 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.

MILESTONES IN TÜPRAŞ'S HISTORY



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 unite 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%.

2000s

2000

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

2001

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

2002

- İzmit 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

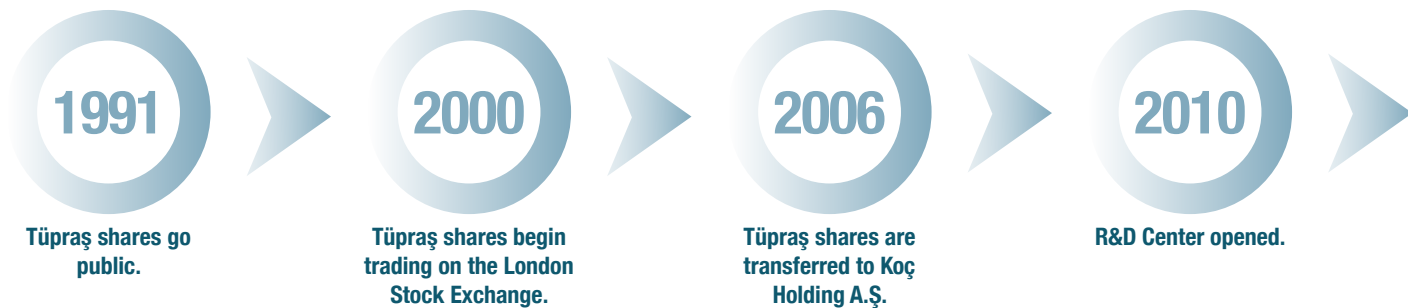
- Free float increases to 49%.
- The Koç-Shell Joint Venture Group wins tender for the block sale of 51% of the state-owned Tüpraş shares.
- Diesel Desulphurization Unit at İzmir Refinery commissioned.
- 100% import liberalization begins.
- Laboratory accreditation obtained.
- Refinery licenses renewed.
- 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.
- Operational Excellence Program launched.
- New logo designed and corporate identity study concluded.

2007

- 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.
- 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.
- İzmir and İzmit kerosene sweetening units commissioned.
- İzmir 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.

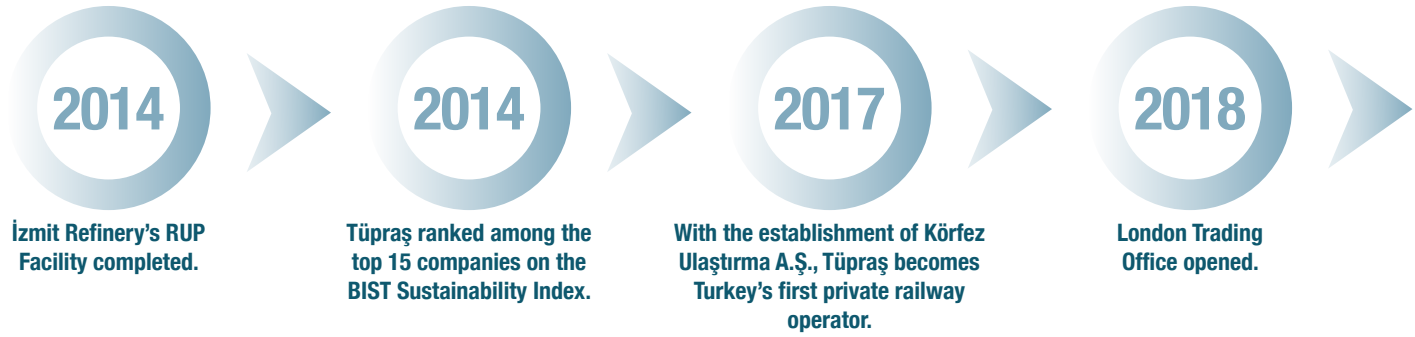
2013

- 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 İzmir 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.
- 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.

MILESTONES IN TÜPRAŞ'S HISTORY



- 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.

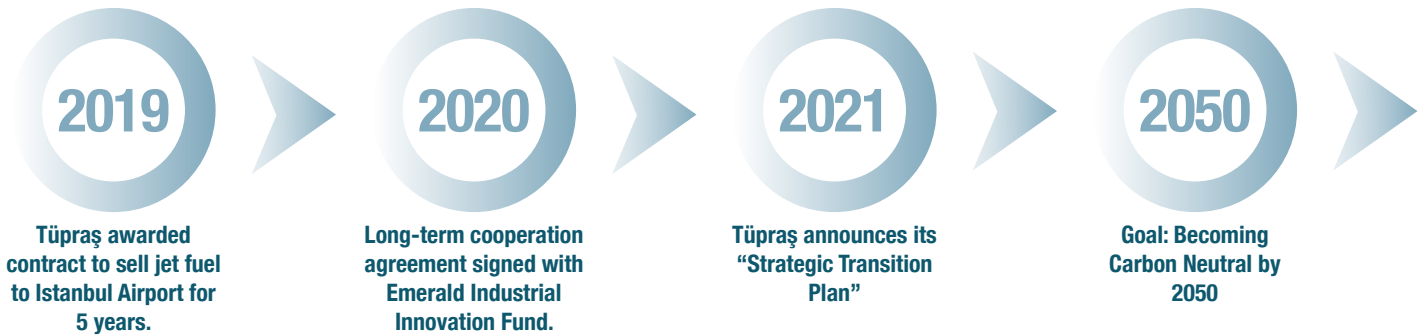
2015

- 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.
- 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.
- Ground breaking 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.

2016

- 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.
- 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 TULOMSAŞ
- 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.
- 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.

DEVELOPMENTS IN 2021

TÜPRAŞ PLANS TO MANAGE ITS EXISTING ASSETS WITH AN EMPHASIS ON SUSTAINABLE PROFITABLE GROWTH IN ORDER TO LEAD THE TRANSFORMATION OF THE ENERGY SECTOR IN OUR COUNTRY BY INVESTING IN NEW AREAS WHICH SUPPORT SUSTAINABILITY WITHIN THE FRAMEWORK OF ITS STRATEGIC TRANSITION PLAN.



A clean energy portfolio

Under the strategic transition plan, Tüpraş aims to be a carbon neutral energy company with a balanced and diversified clean energy portfolio by reducing its emissions.

Tüpraş Launches Strategic Transition Journey with the Target of being Carbon Neutral by 2050

As the pioneer of the Turkish energy industry, Tüpraş announced its "Strategic Transition Plan" in coordination with the Koç Group's Carbon Transition Program, aiming to lead the future of the energy sector. The Company has pledged to cut its carbon emissions by 27% by 2030 when compared to its 2017 levels, and to become carbon neutral by 2050, and plans to achieve this through the investments it will undertake in new sources of energy and the contribution of energy efficiency projects. In this context, Tüpraş plans to dedicate a large proportion of its investments to new energy sources such as sustainable aviation fuels, green hydrogen and zero-carbon electricity.

Under its Strategic Transition Plan, Tüpraş plans to manage its existing assets with an approach towards achieving sustainable profitable growth in order to lead the transformation of the energy sector in our country by investing in new areas which support awareness of sustainability. At the same time, the Company aims to transform itself into a carbon neutral energy company with a balanced and diversified clean energy portfolio by reducing its emissions.

The only Turkish Company to be included in Bloomberg's "50 Companies to Watch in 2022" list

Bloomberg's independent research organization, Bloomberg Intelligence, listed 50 companies among 2,000 companies operating in different sectors including finance, retail, energy and technology among the companies that should be followed closely in 2022.

The list takes account of indicators such as the market value of Tüpraş, the change in sales in 2020, the total return on its shares over the last three years, turnover over the last 12 months and the representation of women on the board of directors. In the analyst's comments, it was stated that "a strong 2022 rebound may be in the cards for the Turkish refiner, reflecting a return to full utilization of refining capacity and increasing fuel demand.

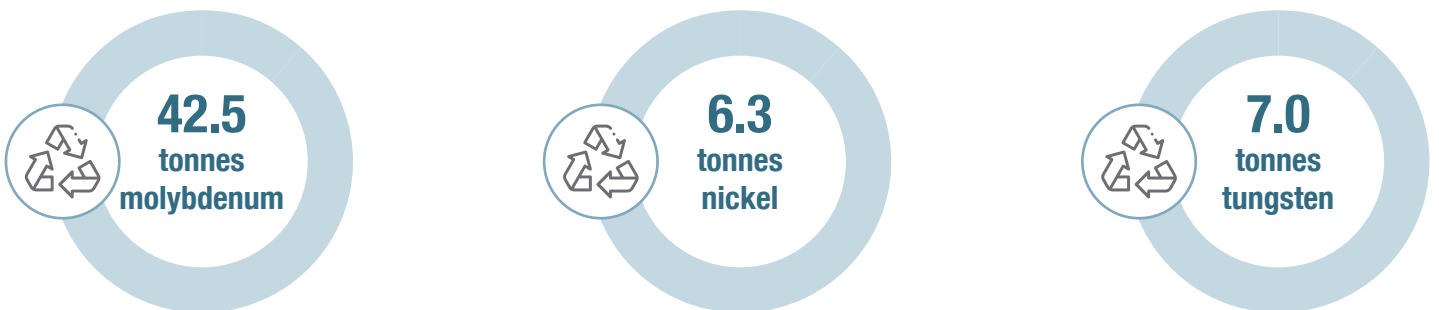
In compiling the "50 Companies to Watch in 2022" list, which includes Tüpraş, consideration is given to factors such as growth expectations, management changes and any key product and service plans which the companies will offer to the market.

Recovery of Precious Metals from Used Catalysts

As part of the work aimed at sustainable development and achieving the zero waste targets, precious metals which enable the activity of catalysts used in high volumes in refineries are recycled. Activities carried out with a sense of responsibility towards the environment include the recycling of Nickel (Ni), molybdenum (Mo) and tungsten (W), reducing both costs and waste. Within the framework of efficiency and sustainability, Ni, Mo and W catalyst wastes containing a large volume of used precious metals which are expelled during the processes are referred to the waste company for recycling.

RECYCLING OF PRECIOUS METALS (2021)

Precious metals, which ensure the activity of catalysts used in high volumes in Tüpraş's refineries, are recycled.



DEVELOPMENTS IN 2021

The consumption of natural resources was reduced by recycling precious metals contained in over 1,000 tonnes of catalysts in the İzmir, İzmit and Kırıkkale Refineries during 2020 and by recycling and using catalysts as raw materials, rather than referring them for disposal to be destroyed. These processes offered a positive contribution to the environment and the economy.

With the operation carried out, 42.5 tonnes of Mo, 6.3 tonnes of Ni and 7.0 tons of W metal were recovered and included in the production processes for use in different sectors.

Tüpraş commissions Terminal Automation System

Unwaveringly continuing its transformation towards becoming a digital refinery, Tüpraş commissioned the “Terminal Automation System” (TAS) at the İzmit Refinery's wagon filling unit in Region B, focusing on sustainable efficiency in this context.

Once all points of the TAS, which continues to work with a number of business units, suppliers and solution partners in all of Tüpraş's refineries, are brought into operation, all business processes in sales systems such as the shipping, pipe, land, and wagon filling, scrap will be transferred to the digital environment.

The TAS project has been designed as a common infrastructure which will undertake the management of all processes, including the planning of sales and field operations, the acquisition of information, operations and customer management. This project will establish an end-to-end intelligent infrastructure system by maximizing efficiency and optimizing operations with traceable data.

Attaching the highest importance to digitalization and standardization in sales and automation systems within the scope of the TAS project in cyber security measures, Tüpraş has overseen the design of a cyber security infrastructure and exemplary IT architecture in accordance with international standards and regulations.

Renewal of TSE COVID-19 Safe Production Certificates

The COVID-19 Safe Production Certificate, obtained by Tüpraş refineries within the framework of infection prevention and control procedures determined by the Turkish Standards Institution (TSE), valid for one year in 2020, was renewed to be valid for one more year.

“Diversity, Equality and Inclusion Committee” established at Tüpraş

The Diversity, Equality and Inclusion Committee was established to manage the activities carried out with the aim of creating a business environment which supports diversity, equality and inclusion at Tüpraş in a more systematic and planned manner.

The committee will focus on a variety of areas such as ensuring that the inclusive approach becomes a practice, strengthening the sense of equality and belonging, eliminating prejudice and discrimination and bringing together perspectives from different generations under the umbrella of diversity. The Company aims to implement the principles determined specifically for the committee, to follow them through audits and for the committee to create a living system in this regard.

Having signed the United Nations Women's Empowerment Principles (WEPPs) in 2017, Tüpraş is working to ensure women's participation in the workforce and the work-social life balance. To further strengthen its work on this issue, the Diversity, Equality and Inclusion Committee has determined that its first area of work as primarily increasing the number of women employees on sites in Tüpraş and to improve the working environment, thereby contributing to gender equality.

The Mobile digital transformation gets underway in the field at Tüpraş

The project marks a big step forward in the name of digital transformation, since the use of mobile devices is not widespread in the refining areas for security reasons. The project envisages radical benefits in many areas such as production, operational reliability, process safety, maintenance, quality, occupational health and technical safety, training, remote communication and communication at any time and the sharing of documents. Tests of mobile applications and industrial tablets, which come under the scope of Tüpraş's digital transformation strategies, were successfully completed and started to be used in the field. Within the scope of the project, in which many business units are involved, infrastructure preparations at the sites were completed and tablets were supplied in accordance with refinery conditions and regulations.

Tablets allow the measurements of the thickness measurement of the tanks, the detection and visualization of damage and the storage of data obtained from the field to be stored in central

ISO 45001

Tüpraş successfully completed the requirements of the Occupational Health and Safety Management System and Tüpraş became an ISO 45001 certified organization.



databases, while enabling equipment checks and maintenance of batteries, motors and transformers anywhere in the field. These processes can then be followed on a digital platform. In addition, the tablets integrated with the Microsoft Teams application allow audio and video communication in the field whenever needed, and access to the up-to-date Fiori screens and SAP applications.

International standards of occupational safety are provided with Industrial Rescue Team in Tüpraş

An Industrial Rescue Team was formed at the Kırıkkale Refinery in order to prevent incidents requiring rescue which may occur throughout the refinery, as well as to minimize potential damage by intervening in possible accidents while increasing the awareness of Tüpraş employees of health, safety and environmental issues.

The aim here to ensure the indoor spaces, working at height, and use of lifelines meet international standards.

Within the scope of the application, which is planned to be expanded to all refineries in the coming period, operational intervention and infrastructure needs were determined and vehicles, materials and equipment were provided. In the training area within the technical safety building, training was provided in

line with NFPA, OHSA, IRATA and SPRAT standards supported by simulation, on fire and rescue with simulation support with the aim of increasing the competencies of team members.

A rescue vehicle containing 30,000 liters of fresh air designed entirely by Tüpraş employees was provided to respond to incidents involving atmospheric hazards, while response plans for 680 potential accidents and incidents requiring rescue were made ready for use.

Robots also at work to ensure Safe Operation at Tüpraş

Within the scope of Robotic Studies, the latest digital applications are used at Tüpraş to perform periodic control studies of oil storage tanks and measurements at the heights of the meters. Having implemented a pioneering application by commissioning drone cameras in risky work areas at the refinery sites, Tüpraş supports its business processes with the most advanced digital technologies, focusing on an understanding of “safety” which it considers as its most fundamental value.

With the Online Tank Robotic Control Method, storage tanks can be checked without being disabled while work processes are carried out more safely and efficiently.

Tüpraş given recognition for its safe work environment with ISO 45001

Tüpraş, which has been carrying out its activities in accordance with international OHS standards in the facilities where it has been operating since its establishment, has held the OHSAS 18001 Standard certification since 2004. Following the renewal of the Occupational Health and Safety Management Standard to “ISO 45001”, the requirements of the Occupational Health and Safety Management System were successfully completed and Tüpraş was deemed eligible to become an ISO 45001 certified organization.

The ISO 45001 standard is aimed at the identification, reduction, and management of risks; in other words, to identify risks and hazards before accidents occur. The ISO 45001 document, which aims to protect human life, undertakes the task of guiding to create better and safer working conditions by reducing workplace risks.

Continuing to work with an understanding of “Safety First” in its production facilities, Tüpraş aims to ensure the occupational safety of its employees and stakeholders and an accident-free work environment by applying the requirements of the ISO 45001 Occupational Health and Safety Management System.



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 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 66 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 profitable growth 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”

According to the International Energy Agency’s “Net Zero by 2050” report, a new global energy economy is emerging as solar and wind energy, electric vehicles and other low-carbon technologies gain prominence around the world. While renewable resources provided 16% of the world’s energy supply in 2020, fossil fuels accounted for a 79% share in total, of which 29% was oil-based. According to the IEA report, the weight of oil in the world’s energy supply will decrease to 8% in 2050, with fossil fuels largely replaced by renewable resources.

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

ACCORDING TO THE “NET ZERO BY 2050” REPORT PUBLISHED BY THE INTERNATIONAL ENERGY AGENCY, SOLAR AND WIND ENERGY, ELECTRIC VEHICLES AND OTHER LOW-CARBON TECHNOLOGIES ARE GAINING PROMINENCE ALL OVER THE WORLD WHILE A NEW GLOBAL ENERGY ECONOMY IS ALSO BEING FORMED.

“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 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 Sustainable Aviation Fuels (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 PREDICTIONS



Turkey's fossil fuel consumption is **will peak in 2030**



For commercial vehicles, diesel will be partially replaced by **hydrogen**. Our installed refining capacity will still be well positioned



Electric passenger vehicles will lead new sales starting early 2030s and will become the dominant powertrain before 2040

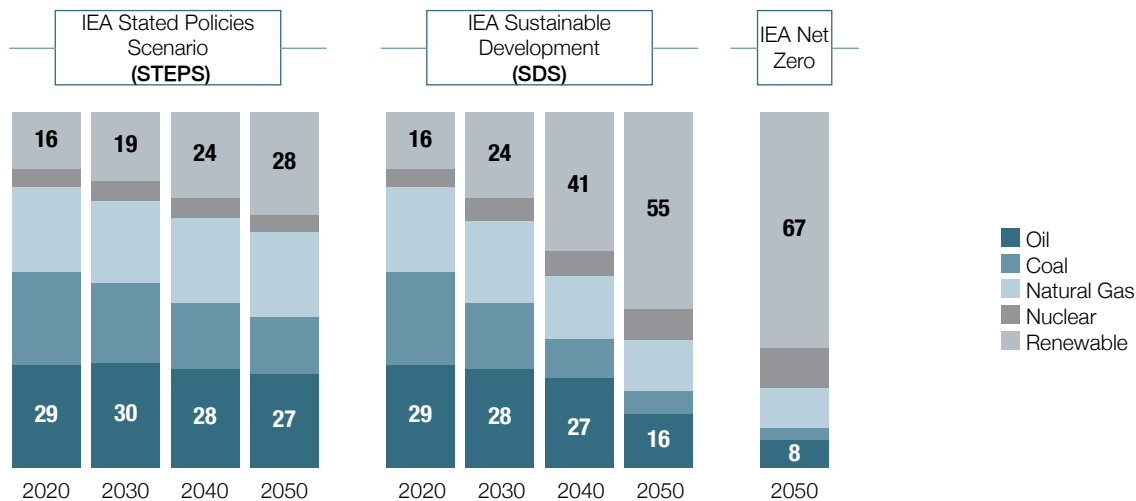


Hydrogen: Use of hydrogen will enter a rapid growth phase from 2030



SAF: Sustainable Aviation Fuel will cover 10% of aviation fuel demand by 2030

GLOBAL PRIMARY ENERGY DEMAND OUTLOOK (%)



*Including biomass.

Source: IEA, “World Energy Outlook 2021”, “Net Zero by 2050: A Roadmap for the Global Energy Sector”

STRATEGY

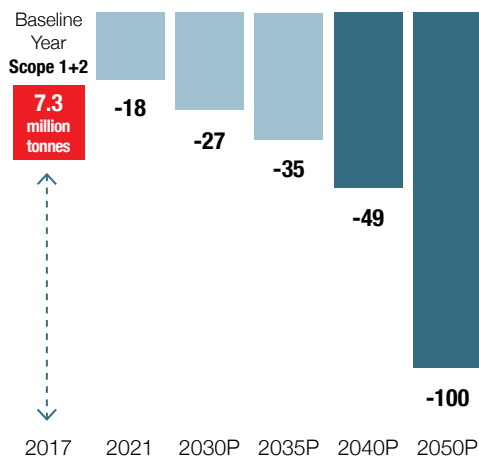
Our Energy for the Future: Leadership in the clean energy transformation of the Turkish energy sector

While building the future Tüpraş under the banner of “Energy to the Future” by considering the balance of a sustainable world and life, it has determined the roadmap which will transform its products and services in a way that will meet the expectations of all its stakeholders. The Strategic Transformation Plan is focused on four business areas:

- Sustainable Refining,
- Biofuels,
- Zero Carbon Electricity,
- Green Hydrogen

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.

TÜPRAŞ'S PLAN TO BECOME CARBON NEUTRAL (%)



P: Projection

Following the installations of electrolyser capacities required to produce green hydrogen, it is planned to convert all existing grey hydrogen to green in all 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 a 35% reduction by 2035 with ongoing investments, while maintaining its activities as a carbon neutral energy company up until 2050.

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, 65 energy efficiency projects were realized in 2021, achieving an annual reduction of 106,708 tonnes in CO₂ emissions and annual energy savings of 460,024 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 2030 and 2035. While most of the resources from refining are planned to be directed into new investment areas and reducing its carbon footprint, Tüpraş also aims to maintain its existing dividend distribution policy which it has long pursued for many years.

Biofuels - Becoming the leading Sustainable Aviation Fuel producer in Turkey

According to the report published by the International Energy Agency, the consumption of biofuels is projected to quintuple by 2050 when compared to its 2020 level. 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

Hydrogen



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 second-generation biofuels derived from non-food renewable 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 biofuel feedstocks by 2030 following the investments it will carry out, and to triple its SAF production capacity in the period beyond 2035 with front loaded capex until that time.

Zero Carbon Electricity

According to the figures published by the International Energy Agency, global electricity consumption is projected to more than double by 2050 compared to its 2020 levels. 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. In this context, the installation of the first phase of the Solar Power Plant in Batman has been completed and work on the installation of renewable energy power plants in other refineries also continues. 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.

Green Hydrogen

According to the 2050 projections published by the International Energy Agency, hydrogen is projected to be most widely used in the transportation sector. 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.

STRATEGY

	2022-2030		2031-2035	
	Share in Investment	Share in EBITDA	Share in Investment	Share in EBITDA
Sustainable Refining	~60%	~90%	~30%	~70%
Sustainable Aviation Fuel				
Zero Carbon Electricity	~40%	~10%	~70%	~30%
Green Hydrogen				
BASELINE YEAR 2017 Scope 1 & 2 CO₂ Emission Reduction	27%		35%	
Average EBITDA >1 USD billion/year	Average Investment Expenditures ~350 USD million/year	Average Return on Capital >25%	Net Debt/EBITDA <2.0x	Average Dividend Distribution Ratio ~80%

In this field, Tüpraş aims

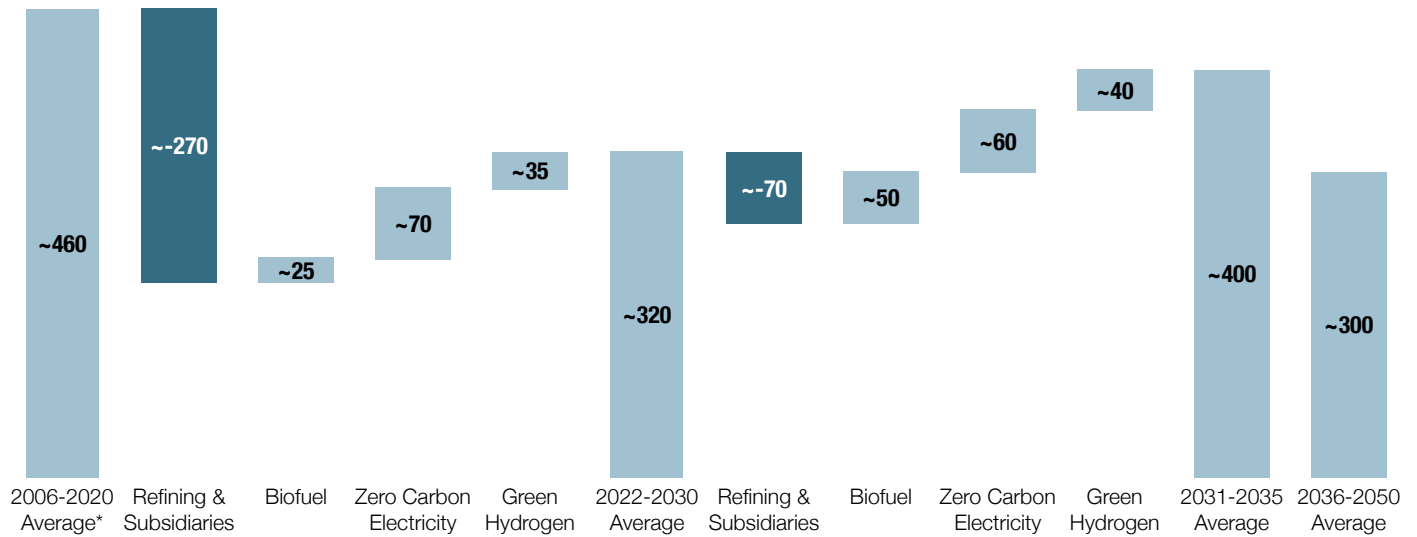
- to start selling green hydrogen in the field of logistics and heavy transportation by 2030, to operate in different areas in the green hydrogen value chain, which is the fuel of the future, to serve many different sectors, particularly transportation,
- to be a versatile player by evaluating export potentials
- to zero its emissions from hydrogen production by 2040.

Highlights

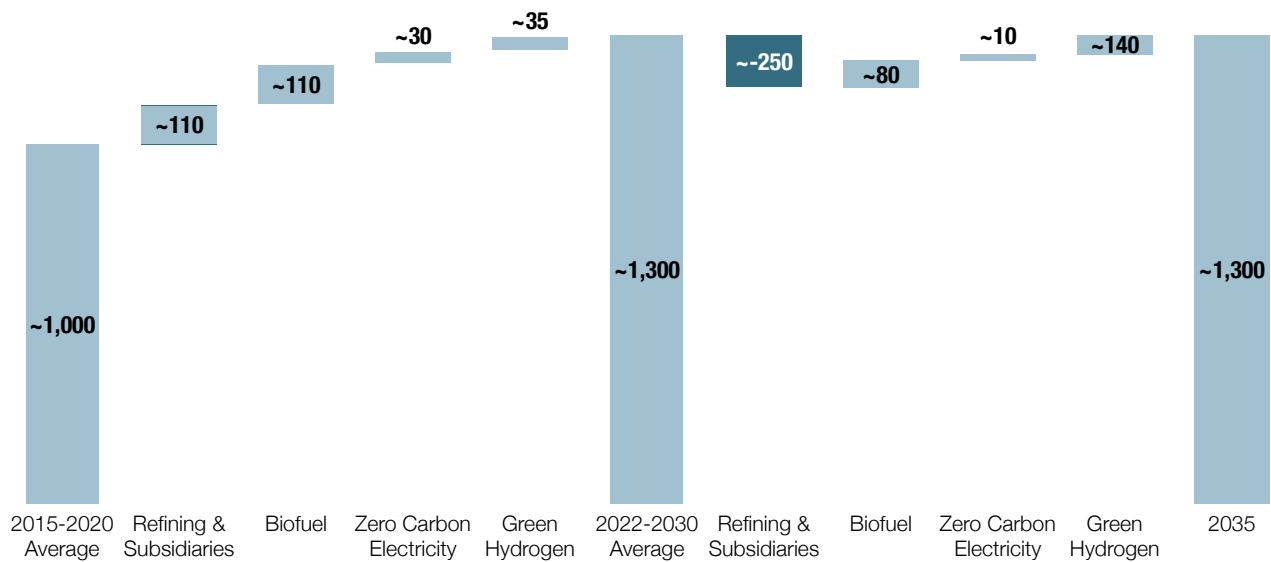
Within the scope of its Strategic Transition Plan, Tüpraş aims to invest a total of approximately USD 5 billion by 2035, and USD 10 billion by 2050 with an annual average investment of USD 350 million,

- 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.
- New lines of business including SAF, green hydrogen and zero carbon electricity sales are expected to account for 30% of EBITDA by 2035.
- New business model that the Company initiates, enables to pay an average of 80% of its distributable profit as dividends.
- 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.
- 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.

STRATEGIC TRANSITION PLAN - INVESTMENT EXPENDITURE (USD million)



STRATEGIC TRANSITION PLAN - EBITDA (USD million)



ACHIEVEMENTS AND AWARDS



Achievements and Awards for Tüpraş in 2021

- Ranked first in the Capital 500 “Survey of the 500 Largest Industrial Companies in Turkey”.
- Ranked first in the “500 Largest Industrial Enterprises of Turkey 2020 Survey” compiled by the Istanbul Chamber of Industry (ISO).
- İbrahim Yelmenoğlu, General Manager of Tüpraş, ranked seventh in the list of “Turkey’s 50 Sustainability Leaders” published by the Fast Company magazine.
- Levent Bayar, Investor Relations Manager, selected as the “Best Investor Relations Professional” in the oil and refining sector in the European Middle East and Africa (EMEA) region in the “EMEA Management Team” survey conducted by Institutional Investor Research, and awarded second place in the “Best Investor Relations” team ranking and third place in the “Best Investor/Analyst Event” list.
- Ranked first in the Chemicals and Products sector, and 9th in the overall ranking in the “Top 1,000 Exporters of Turkey 2020 Survey” conducted by Turkish Exporters Assembly (TIM).
- The only Turkish company to be included in the Bloomberg “50 Companies to Watch in 2022” list.
- The leading Turkish industrial company in the European Union Horizon2020 R&D Innovation Program with a total of 17 projects focused on environmental sustainability, with support of EUR 7.83 million in grants.
- Third place in the category of “Employment of 51-75 R&D Personnel” based on the results of the “R&D Centers Performance Index” compiled by the Ministry of Industry and Technology.
- Inclusion in the Bloomberg GEI (Gender Equality Index).



- Inclusion in many national and international sustainability indices such as the BIST SE (Refinitiv), MSCI ESG Rating, FTSE4Good, Sustainalytics and Vigeo Eiris.
- Tüpraş Refined Magazine given golden award in the “Best Corporate Publication” category at the Stevie International Business Awards, with “23 April Arter” project given silver award in the “Communication or Public Relations Campaign of the Year” category and “Visor Mask” project given bronze award in the “Most Valuable Corporate Responsibility” category.
- Publication of the “Gender-Sensitive Institution Guide” within the scope of cooperation between Tüpraş and UN Women HeForShe and Fenerbahçe Sports Club, with the guide providing a roadmap for sports institutions to implement gender-sensitive practices and to support women and girls become stronger through sports and in sports.
- Winner of the gold award at Brandon Hall Group's HCM Excellence Awards in the “Best Blended Training Program” category in recognition of the “Tüpraş Leadership Schools”, with a silver award in the “Best Leadership Development Program” category.
- First prize in the category of “Creating Value in the Business Life of the Future” with its “Employee Experience” concept at the 13th PERYÖN Human Value Awards.
- Kırıkkale Refinery ranked second and İzmit Refinery ranked third in the Energy Efficiency in Industry Project Competition Projects for Increasing Energy Efficiency in Industry in Category-3, organized by the Ministry of Energy and Natural Resources.
- Ditaş wins “Digital Transformation of the Year Award in the Marine Management Sector”, awarded by SAP.

INVESTOR RELATIONS



The performance of the refining sector recovered on the back of the increase in mobility and demand as a result of acceleration in the COVID-19 vaccination rollout. As the leader of energy sector in Turkey since its foundation, Tüpraş announced its “Strategic Transition Plan” on 24 November 2021. Under the Strategic Transition Plan, Tüpraş aims to lead the transition of the energy sector in our country by investing in the new areas which support sustainability while seeking to become a carbon neutral energy company. Tüpraş ended the year 2021 with a market capitalization of TL 39 billion.

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 2021 will be held on Wednesday, 30 March 2022 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 2021 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.

IN GENERAL, 2021 IS CHARACTERIZED AS A YEAR, IN WHICH THE EFFECT OF THE PANDEMIC WEAKENED AND THE PERFORMANCE NORMALIZED IN THE REFINING SECTOR.

Providing Information

A total of eight conferences were attended during 2021, which were held entirely online due to pandemic measures, and nearly 400 one-to-one interviews were held with fund managers and analysts. In addition to the meetings, written and verbal questions from domestic and foreign shareholders and analysts were responded. Investors were informed about Tüpraş and the sectoral developments through teleconferences organized quarterly with the participation of the CFO. In 2021, requests coming from shareholders were answered and necessary informative activities were continued.

Availability of vaccines against COVID-19 in the last quarter of 2020 and establishing a timetable for vaccination had an effect on increasing mobility. In 2021, especially following the second quarter, vaccination increased globally, restrictions eased and demand for petroleum products improved. With the effect of the summer season, this recovery in demand had a positive impact on product margins and refinery profitability compared to the previous year. In general, 2021 is characterized as a

year, in which the effect of the pandemic weakened and the performance normalized in the refining sector.

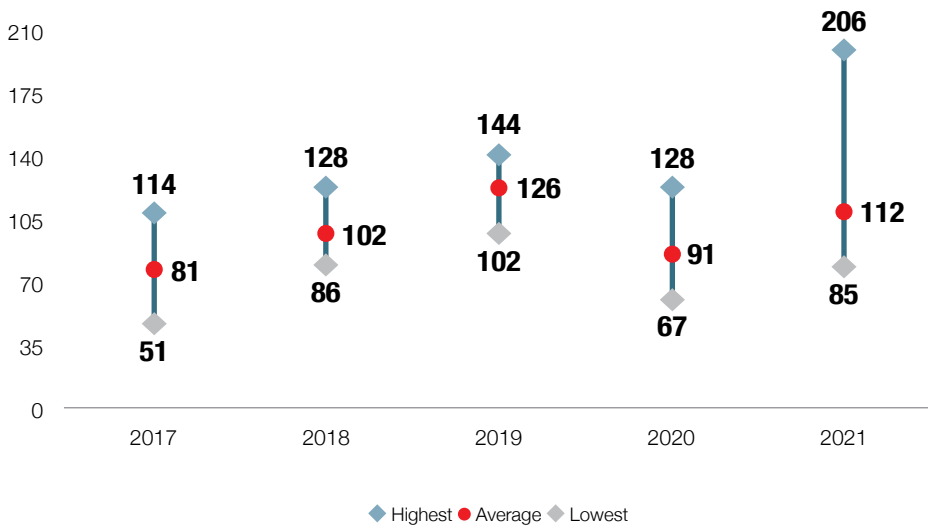
Investor Composition in the Tüpraş Shares

49% 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 57% by 9 basis points higher than the previous year, as of the end of 2021.

Performance of Shares

The effects of pandemic remained limited throughout 2021, recovery in the refinery sector and in the company's profitability was reflected on the share performance positively. Tüpraş's annual share return performance stood at 16% above the BİST 30 index.

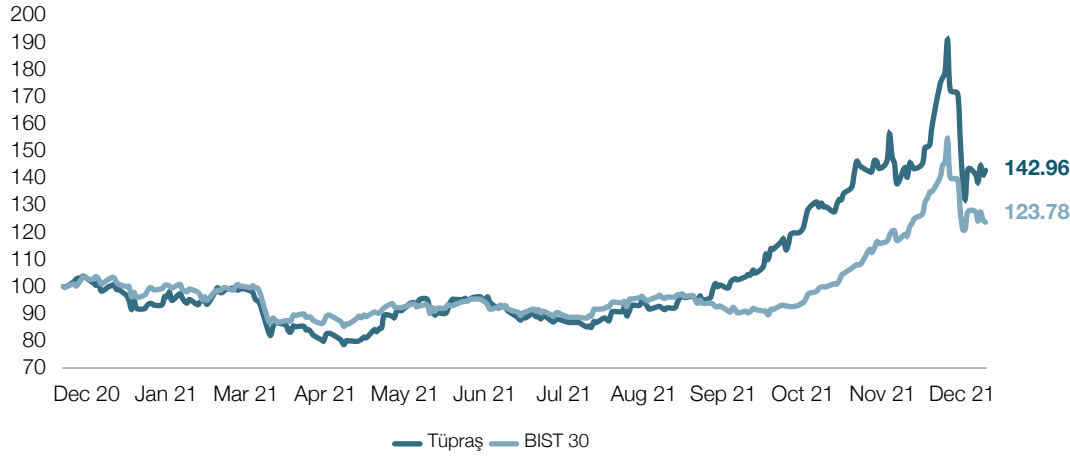
TÜPRAŞ STOCK PRICE TREND (TL/Share)*



*Excluding dividends.

INVESTOR RELATIONS

TÜPRAŞ AND BIST-30 RELATIVE SHARE PERFORMANCE IN 2021



Development of Market Value

The COVID-19 pandemic, which emerged at the end of 2019, negatively affected the performance of many sectors and companies both in 2020 and 2021. In 2021, the fallout of the pandemic started to recede with the initial rollout of a number of different vaccines at the end of 2020, which helped to bring the pandemic under control. Although air traffic - and hence demand for jet fuel - still lagged behind its pre-pandemic levels during 2021, Tüpraş managed to increase its market value compared to both 2019 and 2020, thanks to the recovery in mid-distillate and gasoline product margins as well as demand, which remained resilient. At the end of 2021, the market value of Tüpraş increased by 43% in TL terms compared to the end of 2020, increasing from TL 27 billion to TL 39 billion.

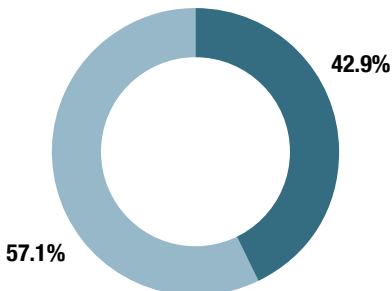
Corporate Governance at Tüpraş

The Company's Corporate Governance Rating, which had been determined as 7.91 on October 8, 2007 in the Corporate Governance Index, which Tüpraş was included into in 2007, has improved over the years. The Corporate Governance Rating Score, which had risen to 9.58 in 2020, rose further to 9.62 in 2021.

According to the World Corporate Governance Index (WCGI), published by SAHA Kurumsal Yönetim ve Kredi Derecelendirme Hizmetleri A.Ş. (Corporate Governance and Credit Rating Services) on 10 March 2021, Tüpraş was placed in the first group.

This index ranks countries according to both their level of compliance with corporate governance principles and the level of development of their institutions with respect to corporate governance.

DISTRIBUTION OF DOMESTIC/FOREIGN OWNERSHIP OF TÜPRAŞ SHARES (%)



■ Domestic Ownership
■ Foreign Ownership

+43%

The market value of Tüpraş increased by 43% in TL terms compared to the end of 2020.

9.62

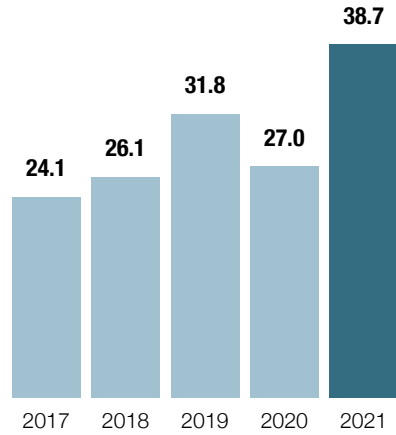
The Corporate Governance Rating Score of Tüpraş rose to 9.62 in 2021.

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.

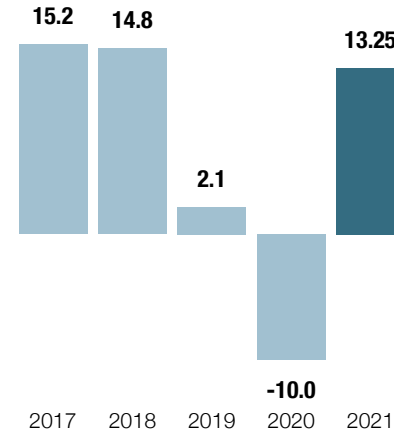
Tüpraş was incorporated into the BIST Sustainability Index in 2014 when the index, which assesses BIST-listed companies on the basis of their compliance with international sustainability criteria, was created. As a result of the assessment conducted by Refinitiv in 2021 within the scope of the BIST Sustainability Index, Tüpraş's rating was determined as 69.3.

MARKET CAPITALIZATION* (TL billion)

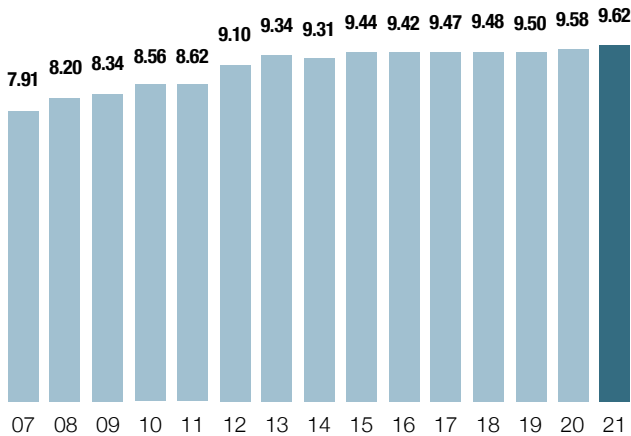


(*) Excluding gross dividends.

EARNINGS PER SHARE (TL)

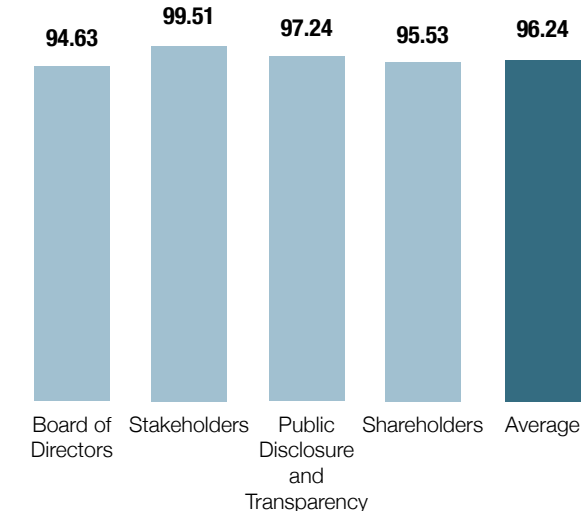


CORPORATE GOVERNANCE RATING SCORE^(*)



(*) SAHA Kurumsal Yönetim Derecelendirme Hizmetleri A.Ş.

CORPORATE GOVERNANCE RATING COMPOSITION (%)^(*)



Board of Directors
Stakeholders
Public Disclosure and Transparency
Shareholders
Average

HUMAN RESOURCES

TÜPRAŞ HAS CREATIVE, DYNAMIC, KNOWLEDGEABLE, HIGHLY MOTIVATED, EFFECTIVE AND EFFICIENT HUMAN RESOURCES.



Gender Equality

The “Diversity, Equality and Inclusiveness Committee” was established at Tüpraş in 2021.

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, knowledgeable, highly motivated, effective and efficient 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 for the Committee, monitor them through audits and create a living organization culture in this regard.

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.
- Task definitions and distributions and performance criteria were determined by the company management and announced to the employees.

- 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.
- A safe working environment is provided for employees, and efforts are undertaken to ensure continuous improvement of the conditions.
- 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.
- There is no discrimination among employees; a fair, objective and transparent Human Resources Policy is ensured.
- Decisions that may affect employees are communicated to them and their representatives.
- 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 Department to carry out relationships with the employees.

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 Department ensures 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.

HUMAN RESOURCES



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.

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 on a monthly basis 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 Department when they experience any problems with the management.

Ethical Principles

The Conduct and Practicing Principles Guide, which was approved by the General Assembly in April 2011, was updated and renamed as the “Tüpraş Code of Ethics” within the scope of compliance program, which is conducted in order to better respond to the expectations of our local and international stakeholders in terms of compliance. The “Tüpraş Code of Ethics”, which was approved by the Board of Directors on 4 November 2021, was published on the Public Disclosure Platform and the Company’s website.

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 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.

CREATING AND MAINTAINING A POSITIVE AND PROFESSIONAL WORKING ENVIRONMENT FOR ITS EMPLOYEES IS THE BASIC PRINCIPLE OF TÜPRAŞ.



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”, 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. The talent pools designed for different levels are aimed at identifying talented employees in Tüpraş.

The two-level talent program, which was launched in 2019 to be developed into first-level and mid-level managerial roles, continued in 2021. Moreover, in 2021, the third-tier talent pool was put into practice in order to prepare the personnel in this pool for executive positions.

Leadership schools specially designed for Tüpraş leaders were commissioned in 2020 and 52% of our leaders were included in the program. In addition to leadership schools, 118 different leaders have been included in different leadership programs and the Koç Group leadership programs in order to improve their leadership competencies.

52%

Leadership schools were commissioned in 2020 and 52% of Tüpraş leaders were included in the program.

At the same time, in 2021, the “Tüpraş Leadership Schools” won the gold award in the “Best Mixed Training Program” category and the silver award in the “Best Leadership Development Program” category at the Brandon Hall HCM (Human Capital Management) Excellence Awards, where the best human resources practices are evaluated on a global platform.

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 2021, a total of 165 students were provided with internship opportunities at Tüpraş.

Tüpraş continued its work on its online platforms to support the development of university students during the pandemic in 2021. The internship program, which is mainly attended by students in their final two years at university within the scope of compulsory university internship each year, was transferred to a digital environment in 2021 within the scope of the COVID-19 measures.

In the program, which is almost entirely managed with internal resources, more than 60 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.

Students worked in groups to develop the Tüpraş Project which will Support the Sustainable Development Goals in line with the knowledge garnered during the internship program. Additionally, they carried out work to develop “innovative ideas which will bring ease to the working lives of women in the field”. The students presented their ideas to Tüpraş managers at the end of the program.

In the experience surveys, it was determined that 97% of the students had a high level of satisfaction with the program.

Also in 2021, the Online Internship Program became the third most popular program in the category of “Most Popular Online Internship Program among Young People” in the Youth Awards program of the Youthall Student Platform, a platform which is closely followed by young talent throughout Turkey.

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 2021. Nextremers students, who joined Tüpraş in September 2021, worked remotely throughout the pandemic. 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. With the transition to the hybrid working model in November, the students continued to work in the office environment.

HUMAN RESOURCES



The Nextremers Project Student Program, whose re-application process started in February-March 2021, attracted a great deal of attention from university students. More than 8,800 students seeking to take the first step in their careers at Tüpraş applied to join the program.

The Nextremers Project Student Program ranked 21st in the Top 100 Talent Program compiled by the TopTalent.Co student platform - a rise of 26 places from its 47th ranking when it entered in the platform in 2019.

Development 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 a training center which includes

Training content was prepared by the Tüpraş Academy and internal trainers on 20 different topics, with TL 1.7 million in savings achieved. Internal training reached a total of 2,218 employees.

In order to develop the “Competencies of ‘I Work Safely and with an Agile Mind’”, 70 online personal development classes were held on 14 different topics, in which 577 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”.

819 employees attended the technical training programs which they requested through the Employees’ Development Dialogue on 98 different topics.

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.

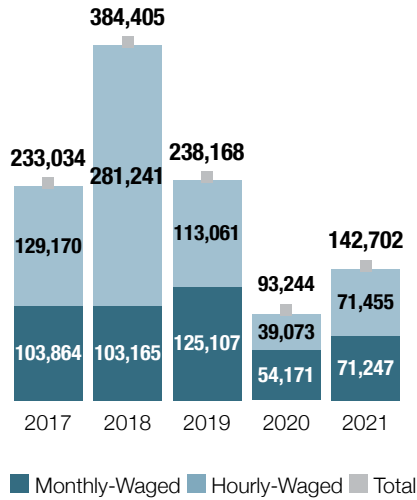
The “Introduction to Refining Program”, which consists of online training supported by internal trainers was launched in order to ensure that all new employees who start working at Tüpraş get to know the company culture and the work processes of the departments, and accelerate their adaptation process into the company.

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,

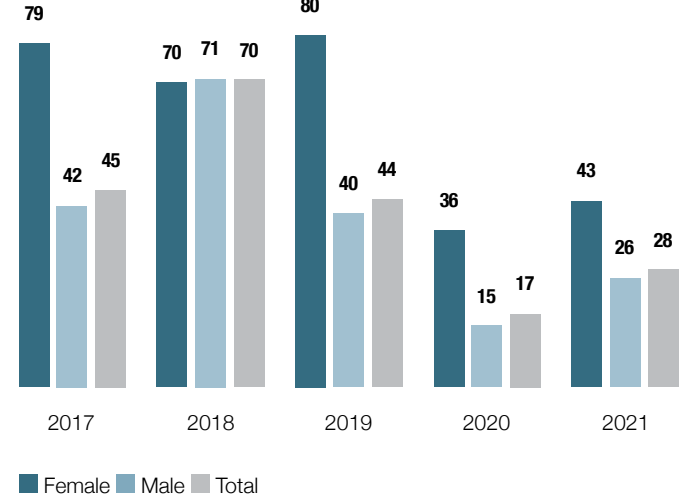
TÜPRAŞ HAS ATTACHED TREMENDOUS IMPORTANCE TO TRAINING AND DEVELOPMENT ACTIVITIES AIMED AT THE DEVELOPMENT OF BOTH THE PROFESSIONAL KNOWLEDGE AND SKILLS AND THE BEHAVIORAL CAPABILITIES OF ITS EMPLOYEES.

TOTAL TRAINING (person x hours)^(*)



^(*) Excluding mandatory OHS trainings.

TOTAL TRAINING (average hours per person)^(*)



which enables effective guidance of human resources and identifying development needs, serves as a guide in promotions and appointments.

	Number of Employees	Total Hours of Training	Average Training Hours
Monthly Paid	1,229	71,247	58.0
Hourly Paid	3,936	71,455	18.2
Total	5,165	142,702	27.6

Tüpraş Development Dialogue

The “Tüpraş Development Dialogue” tool was brought into use in 2020 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

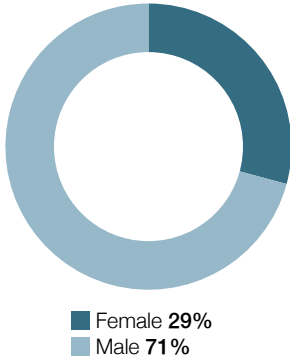
sections which aim to develop competence by evaluating employee competencies, to help them gain a perspective on career development, assess their openness to rotation and their mobility status, to plan possible career paths within Tüpraş, and to determine individual development needs in both behavioral and professional areas.

The Tüpraş Development Dialogue tool was implemented in 2021 with the participation of 93% of 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, Energetik.

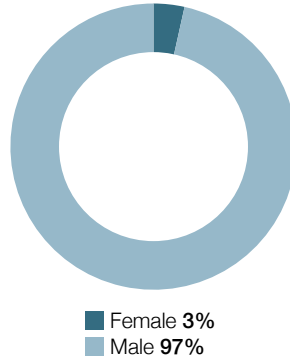
HUMAN RESOURCES

Human Resources Indicators (*)

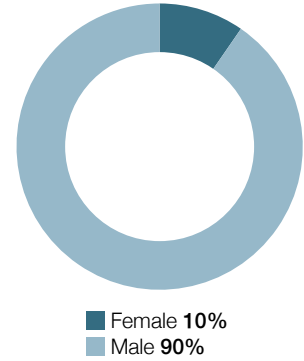
**RATIO OF FEMALE-MALE EMPLOYEES
MONTHLY-WAGED (%)**



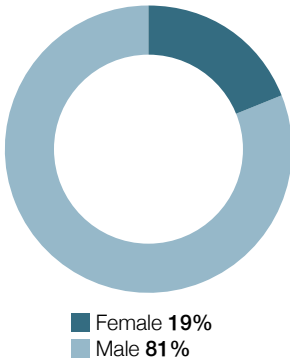
**RATIO OF FEMALE - MALE EMPLOYEES
HOURLY-WAGED (%)**



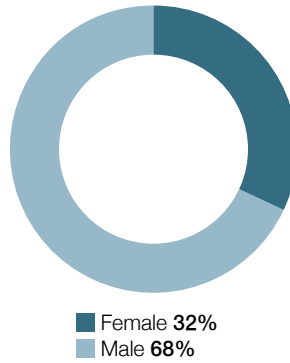
**RATIO OF FEMALE-MALE EMPLOYEES
TOTAL (%)**



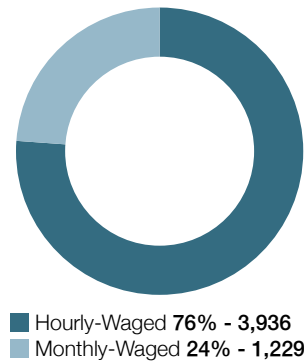
**RATIO OF FEMALE MID-LEVEL
MANAGERS (%)**



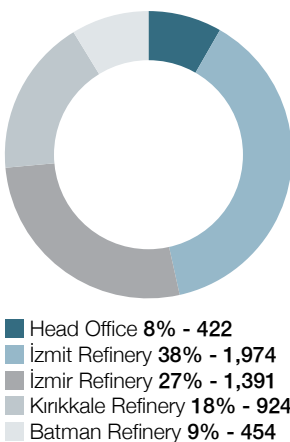
**BREAKDOWN OF NEW
HIRINGS (%)**



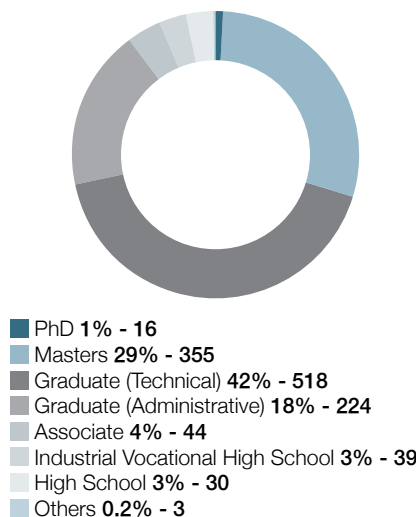
**BREAKDOWN OF EMPLOYEES BY HOURLY/
MONTHLY WAGES (%-PERSON)**



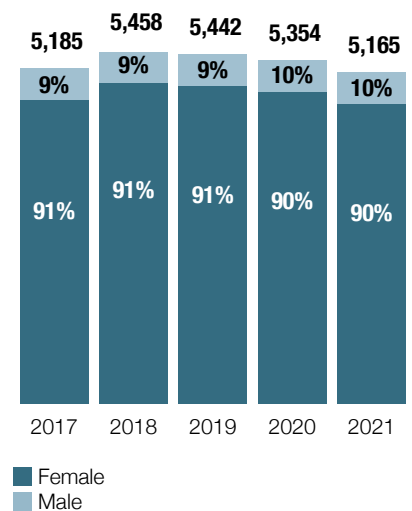
**BREAKDOWN OF EMPLOYEES
BY LOCATION (%-PERSON)**



**BREAKDOWN OF MONTHLY-WAGED EMPLOYEES
BY EDUCATION LEVEL (%-PERSON)**



TOTAL NUMBER OF EMPLOYEES (*)



(*) Tüpraş Consolidated

employee experience

The subject of employee experience, something which Tüpraş attaches great importance to, is also one of the company's goals in 2022.

In line with the plans set out to focus on development, 70 different behavioral competencies on 14 different subjects, with the participation of 577 employees, and 98 vocational and technical training programs with the participation of 819 employees, were carried out in the training development catalog and professional development activities provided by the Human Resources department in 2021.

Performance Management

A well-structured performance and career management system constitutes a cornerstone of employee development. The performance management of employees who receive a salary is realized with the Koç Dialogue system. The integration process of the system, which was designed with multifaceted, structured and instantaneous idea exchange mechanisms both between managers and employees, got underway in 2020 and was commissioned with all of its features at Tüpraş in 2021. 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 2021 decreased by 26.2 points compared to the previous year to stand at 34.7%. The loyalty score among employees drawing a salary stood at 50%, while for those paid on an hourly basis it stood at 27%.

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

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. In order to integrate the employee experience approach more closely into the processes, the concept of the 'Tüpraş Employee Experience' (TEX) was created at the beginning of 2021. Within the scope of this work, a process was conducted in which the employees participated more closely with the Tüpraş Employee Experience teams, which listen to their experiences and determine their expectations. Solutions are then drawn up in accordance with their expectations and implemented. The Tüpraş Employee Experience (TEX) concept design and work was selected as the most successful project in the category of "Creating Value in the Work Life of the Future" at the Human Value Awards organized by PERYÖN in November 2021, with the project winning the first prize.

In 2022, Tüpraş aims to implement tangible actions more rapidly by developing faster solutions with teams consisting of managers in "7 experience themes" which we need to improve first, and through agile working methods.

The subject of employee experience, something which Tüpraş attaches great importance to, is also one of the company's goals in 2022.

HUMAN RESOURCES



Employee Support Practices

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 during the pandemic and in the new normal period.

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

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 salary 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.

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.

AT TÜPRAŞ, THE “REFINED SUGGESTIONS” SYSTEM IS IMPLEMENTED IN ORDER TO SUPPORT AND ENCOURAGE EMPLOYEES TO SUBMIT INDIVIDUAL AND ORIGINAL IDEAS.

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 (the Most Successful Tüpraş employees, Scientific Publication and Innovation, Seniority, etc.)
- Employee Experience Improvement Awards which develop and reveal high employee experience,
- 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.

Models which support the participation of Company employees in the company management are developed in a manner that does not hinder the Company’s activities. 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 76.2% of the company’s employees (3,936 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, 1,275 employees receiving monthly salaries took on the responsibility of being an employer’s representative.

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 and workshops and brought to the agenda of the collective bargaining agreement.

THE SECTOR



The year 2021 had been expected to be a year when the losses suffered in 2020, which marked the biggest slump in demand for oil in history, would be recouped. In the event, demand did not reach its 2019 levels, yet nevertheless 2021 was generally considered a year in which the effects of the pandemic receded in the refining sector, and performances normalized. As the vaccination rollout gained momentum around the world, especially following the second quarter, lockdown restrictions eased and demand for oil products recovered. In the summer season, this recovery in demand had a positive impact on product margins and refining profitability when compared to the previous year. The global economy posted a recovery, supported to a significant extent by major central banks and stimulus from public spending. However, the pandemic continued to cause serious losses in the global economy in 2021, both in terms of financing and production and also in terms of investment. Supply chain problems and concerns over the security of energy supplies suppressed the economic recovery throughout the year. As supply lagged behind the rise in demand for natural gas, energy prices surged rapidly, becoming one of the main causes of inflation on a global basis, while it proved a difficult year for the energy sector all over the world due to supply shortages and high prices.

For the refining sector, after the unprecedented contraction in demand for petroleum products in 2020 resulting from the lockdowns imposed to tackle COVID-19, and starting 2021 behind expectations due to the additional restrictions put in place due to the Delta variant, 2021 was marked by an easing in restrictions globally on the back of the vaccination rollout. With the relaxation of restrictions as it turned out that the Omicron variant, now the dominant strain, had milder symptoms, demand approached its pre-pandemic levels in the closing months of 2021. Although demand was lower than in the past two years in the first quarter of 2021, demand ended 2021 with an average annual increase of 5.5 million barrels/day. Demand is expected to catch up with its 2019 levels in the second quarter of 2022.

Despite the collapse in demand during the first six months of the pandemic last year, restrictions on production arising from supply constraints have led to a large-scale increase in both crude oil and product inventories. Inventories continued to decline steadily in 2021 due to the actions taken by OPEC+ countries, which responded quickly to demand concerns at the beginning of 2021 to maintain their cuts more strictly than had been set out in the original agreement, as well as the measures taken by Saudi Arabia for additional cuts in production. With the Biden Administration shifting away from shale oil production

PETROLEUM PRODUCTS DEMAND ENDED 2021 WITH AN AVERAGE ANNUAL INCREASE OF 5.5 MILLION BARRELS/DAY. DEMAND IS EXPECTED TO CATCH UP WITH ITS 2019 LEVELS IN THE SECOND QUARTER OF 2022.

in the US, an important producer, and a cautious approaches on fossil investments by investors, the OPEC+ became the sole determinant position on prices, and appears to be an effective solution in the short term to meet the surge in demand. In addition, with events such as the hurricane IDA, severe cold weather in Texas, internal turmoil in Libya, Nigeria and Kazakhstan, a supply-side market has emerged. Although some countries such as the USA and China carried out sales from strategic oil reserves to relieve the tightness in supply, a permanent solution to the supply-demand imbalances still appears some way off, as the talks with Iran, which have been followed closely by the sector, have yet to reach an agreement.

In the light of these sector developments, prices of Brent crude followed an upward trend during the year, starting 2021 at USD 50.3/barrel and exceeding USD 86 /barrel during the year to reach a 3-year peak, before closing the year at USD 77/barrel against the backdrop of rising inflation environment and tightening monetary policies. Thus, in 2021, Brent prices increased by an average of USD 29 /barrel (69%) compared to their 2020 and reached USD 70.7/barrel on average throughout the year.

According to the data published by the International Energy Agency, demand increased by an average of 5.5 million barrels / day in 2021, although demand had not yet reached its 2019 level in any region other than China. Demand for gasoline increased by 2 million barrels/day compared to its 2020 level and diesel demand 1.1 million barrels/day, while the rise in demand for jet fuel, which sunk to historical lows in 2020, was more limited at 0.5 million barrels/day and still 2.8 million barrels/day (35%) lower than its 2019 level. This asymmetry in demand continued during the year due to the asymmetric demand structure in mid-distillates. Looking at demand on a product-by-product basis, demand for LPG/ethane and naphtha exceeded their 2019 levels.

The ongoing high levels of product inventories from 2020 continued to severely suppress profitability in the refining sector, exacerbated by the spread of the Delta variant in 2021. The biggest impact continued to be seen in mid-distillate crack margins, which fell mostly due to the slump in demand for jet fuel. As a result of continued closure of economically untenable refineries and reductions in the crude purchases, refinery production fell short of the 4 million barrels/ day increase in demand in 2021, and the gradual reduction in product inventories during the year allowed profitability to return from historic lows. Thus, the benchmark Mediterranean refining

margin closed 2021 at an average of USD 1.6/barrel, remaining above its 2020 levels but only catching up with the levels seen 2019

In terms of product profitability, one of the main products - gasoline - experienced a strong period as a result of increased petrochemical demand and an increased preference for road travel, in addition to incidents such as cold weather in the United States and pipeline attacks. As a result, light distillates generally closed the year with a strong performance, with average margins exceeding their 2019 averages. While diesel was the product to most closely approach its 2019 levels among the main products, diesel crack margins remained weaker due to increased jet fuel blending. Jet fuel crack margins, on the other hand, approached their 5-year average at the end of the year, even though for the whole year jet fuel cracks languished with their second lowest average crack level in history with an annual average of USD 4.4/barrel. Looking at yearly averages, diesel and jet fuel crack margins were 52% and 68% lower than their 2019 averages, respectively. Parallel to the increasing energy costs, especially in the second half of the year, an upward trend was observed in mid-distillate and gasoline cracks. Fuel oil, on the other hand, remained behind the 5-year averages of the increase in Brent prices, despite the improvement in fossil fuels demand after increasing electricity production and bunker fuel demand, as well as increasing natural gas prices.

Despite a partial recovery, many refineries - maintained their operations under difficult market conditions - struggled amid low capacity utilization rates, high inventory levels and associated low crack margins particularly in the first half of the year. To compound this, a wave of new refineries, investments in which had started many years ago, reached completion and was commissioned. In addition to the 1.2 million barrels/day of refining capacity closed down in 2020, refineries with approximately 1.7 million barrels /day of refining capacity - most of which were in the OECD region - announced their decision to close in 2021. Experts predict that there will be new closures for refineries with low profit margins in the coming period due to new refinery openings and rising energy costs, which are expected to continue until 2025.

According to figures published by EMRA, demand for petroleum products in Turkey increased by 6% in 2021 amid brisk demand. The 39% surge in demand for jet fuel led the recovery, followed by a 29% increase in gasoline demand. Demand for diesel posted 4% in 2021 on the back of resilient commercial activity and heavy goods transportation.

PRODUCTION AND SALES

THE GROWTH IN DEMAND AND PARTIAL RECOVERY IN PRODUCT MARGINS ON THE BACK OF THE NORMALIZATION PROCESS IN 2021 PAVED THE WAY FOR A CAPACITY UTILIZATION RATE OF 88%.



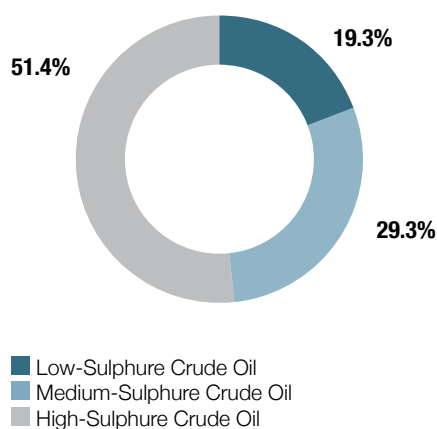
21 different types of crude oil

In 2021 Tüpraş purchased 21 different types of crude oil from 11 countries, including Turkey.

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 supported Tüpraş's activities with its spot crude oil trading activities during 2021.

BREAKDOWN OF CRUDE OIL PROCURED



21 different types of crude oil purchased from 11 countries

In 2021 Tüpraş purchased 21 different types of crude oil from 11 countries, including Turkey, in gravities ranging from 20 to 47 API. Of the USD 14.3 billion directed to purchases of crude oil, products and semi-finished products, USD 12.7 billion was allocated to the purchases of 24.6 million tonnes of crude oil supplied during the year.

Tüpraş imported 1.6 million tonnes of semi-finished products in 2021 as well as 1.2 million tonnes of finished products to meet the country's demand.

88% capacity utilization with optimum charging

Since the first days of the pandemic, Tüpraş has taken into account the necessary measures in accordance with the current recommendations and directives of all authorized authorities, notably the World Health Organization and the Ministry of Health of the Republic of Turkey. Tüpraş has maintained its safe production priority by obtaining COVID-19 TSE Safe Production Certification for all of its refineries.

The growth in demand and partial recovery in product margins on the back of the normalization process in 2021 paved the way for an increase of 1.8 million tonnes in refining volumes when compared to the previous year, with a capacity utilization rate of 88% with a total charge of 26.3 million tonnes, including crude oil and semi-finished products. A total of 25.1 million tonnes of products were produced, and despite an increase of 1.5 points in heavier crudes among the crude slate, the yield of high value-added white products matched its previous year level thanks to the effective use of conversion units.

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. Gasoline product margins reached their pre-pandemic averages as lockdown restrictions were scaled back on a global scale, paving the way for increased mobility, increased use of personal vehicles and the continued decline in gasoline stocks during the peak season. The recovery in demand led to a sharp rise in mid-distillate product margins, albeit with a more moderate improvement in jet fuel margins. In line with all these developments, Tüpraş's net refining margin was realized as USD 5.7 /barrel in 2021, comparing favorably with the Mediterranean margin of USD 1.6 /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:

- 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 its overseas sales subsidiary
- High storage capacity
- A widespread LPG and fuel distribution network
- Strong brand value
- High and sustainable customer satisfaction
- Good practices in environmental and energy issues
- Adaptation to the pandemic process and flexible production capability

Looking at some of the products;

Product	Domestic Sales	Developments
Gasolines	2.9 million tonnes	Tüpraş single handedly met almost all gasoline sales in the Turkish gasoline market, realizing sales of 2.9 million tonnes – an all-time high, marking an increase of 27% compared to the previous year.
Jet Fuel	3.0 million tonnes	The Turkish jet fuel market surpassed expectations, with a stronger and more rapid recovery than in global markets. In the first half of the year, when crack spreads for jet fuel were low, Tüpraş met the market need for jet fuel by adhering to its mission of meeting the country's needs, while ensuring an uninterrupted product supply in the second half of the year when crack spreads were higher.
Diesel	11.4 million tonnes	In addition to the share received from increased consumption due to the easing of pandemic conditions and increased tendency to use personal vehicles, diesel sales far surpassed expectations to reach 11.4 million tonnes

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.

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

Tüpraş continuously reviews all sales, delivery, after-sales service and marketing processes in order to improve customer-oriented sales approaches in rapidly changing market conditions, to ensure they meet customer demands and expectations quickly and at the highest level during the pandemic. The Company also continues to provide after-sales support.

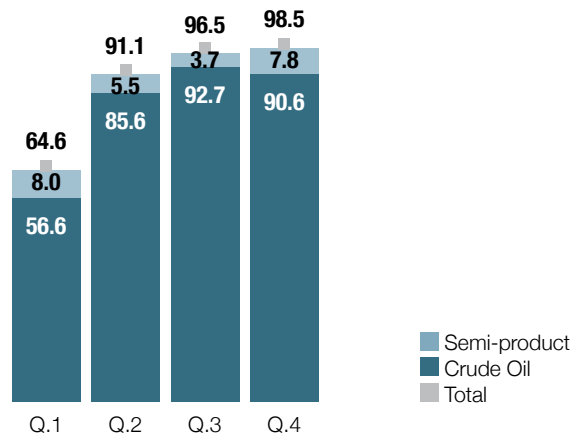
1.3 USD/barrel

In 2021, Tüpraş realized a net refinery margin of USD 1.3/barrel.

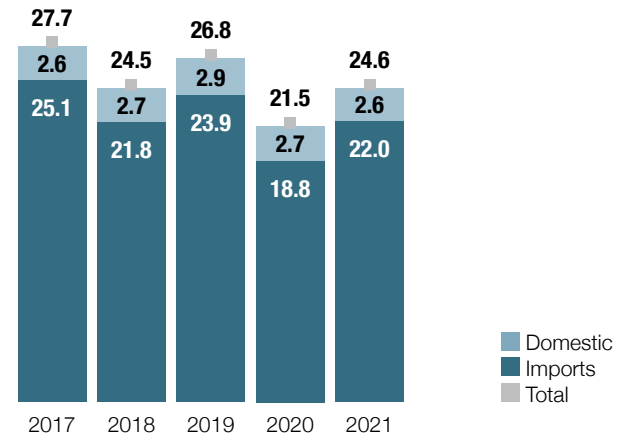
REFINING PRODUCTION AT TÜPRAŞ (thousand tonnes)

Products	2020	2021	Change %
LPG	740	812	9.7
Gasoline/Naphtha	4,959	5,510	11.1
Jet Fuel/Kerosene	2,666	2,958	11.0
Diesel	10,468	10,763	2.8
Fuel Oils	522	1,495	186.5
Bitum	2,765	1,932	-30.1
Coke	720	909	26.2
Other	549	708	28.8
Total	23,389	25,086	7.3

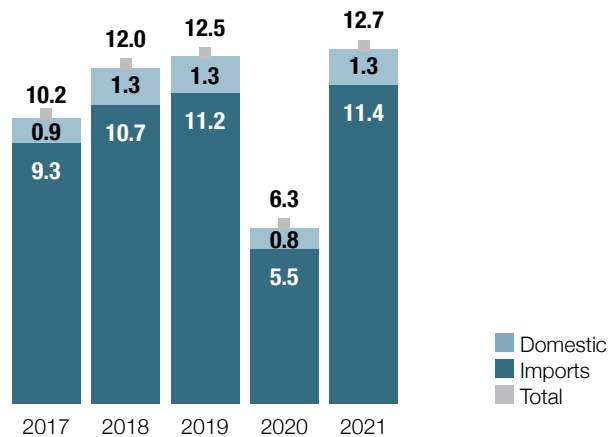
CAPACITY UTILIZATION (%)



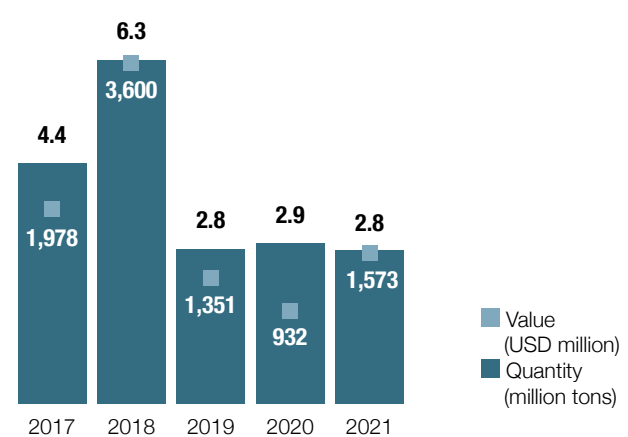
CRUDE OIL SUPPLY (million tons)



CRUDE OIL SUPPLY (USD billion)

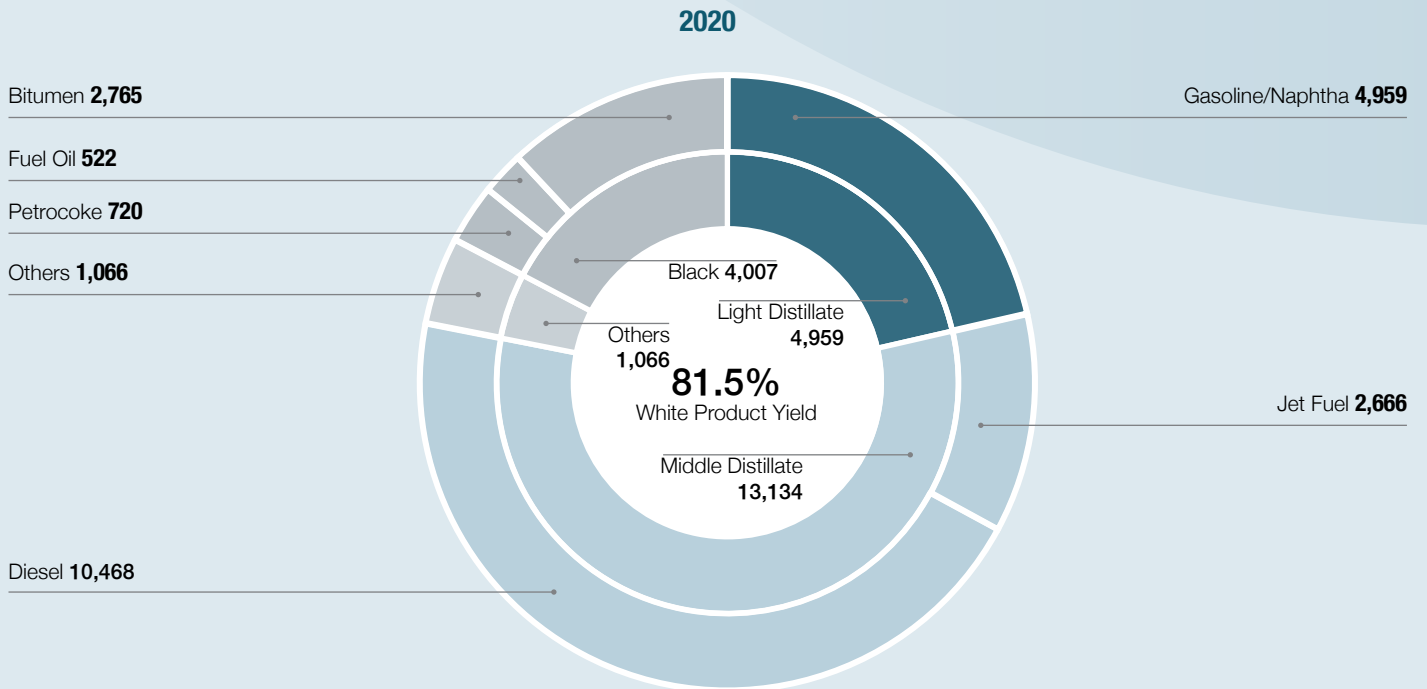
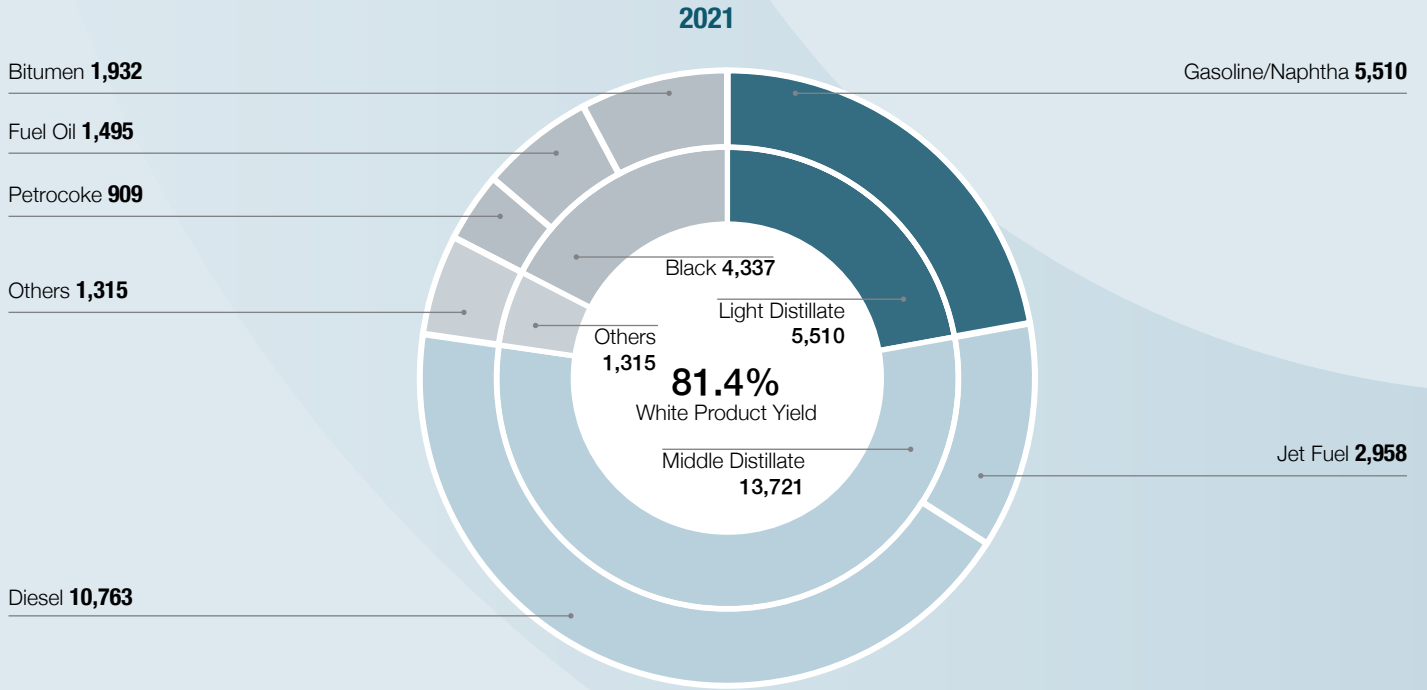


PRODUCT IMPORT



PRODUCTION AND SALES

PRODUCT YIELDS



25.1 million tonnes

With the relative improvement in demand, 25.1 million tons of production was realized.

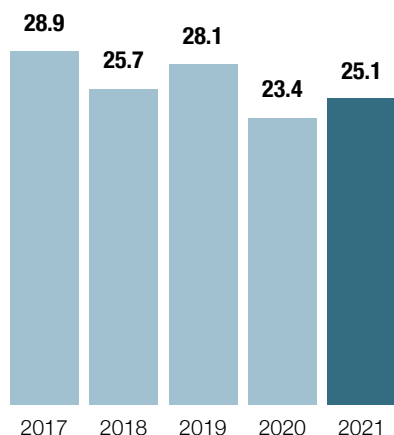
81.4%

The yield of high value-added white products was similar to its previous year's level.

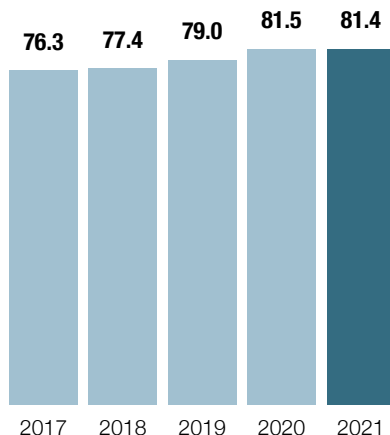
11.1%

There was an 11.1% increase in the production of gasoline and naphtha.

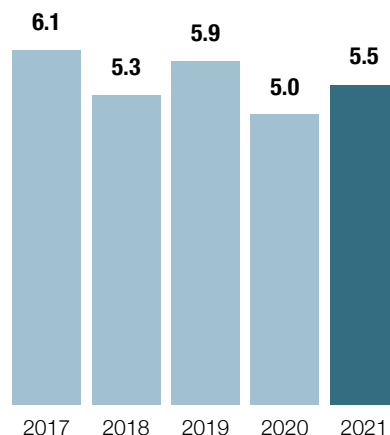
TOTAL PRODUCTION (million tonnes)



WHITE PRODUCT YIELD (%)



GASOLINE and NAPHTHA (million tonnes)



11.0%

The normalization process was reflected in the 11.0% increase in production of jet fuels.

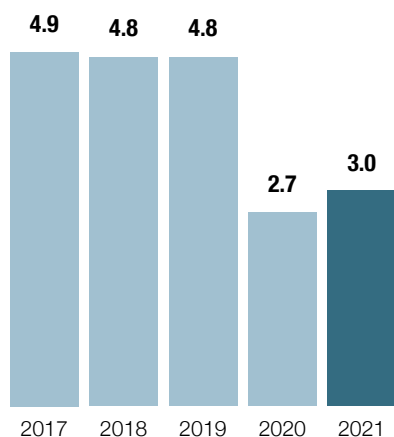
10.8 million tonnes

Production of diesel, which was relatively unaffected by the decline in demand in 2020, increased by 2.8% in 2021.

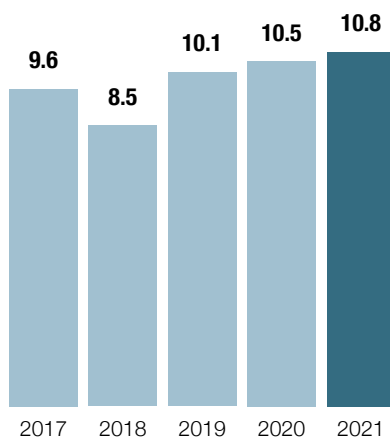
186.5%

Fuel oil production increased by 186.5% due to the base effect.

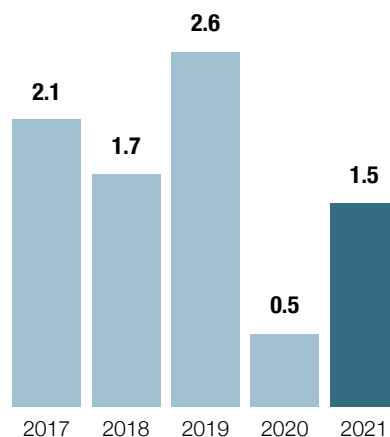
JET FUEL (million tonnes)



DIESEL (million tonnes)



FUEL OIL (million tonnes)



PRODUCTION AND SALES

Tüpraş is focused on digital customer solutions to rapidly meet customer demands and expectations to the highest level. In this vein, the Company introduced measures in place to keep the risk of infection to a minimum during the pandemic with field regulations. The “Tanker Driver Queue Tracking Screen” application allows the screens and boards which drivers monitor before the filling process in refineries to be viewed from the web and from smartphones. The Tüpraş Customer Portal application, which has been expanded with a strategy of generating rapid solutions, the Tüpraş Solution Center (which can be reached by calling 444 1230) and the Customer Notification Management System have been designed especially to meet the needs of customers.

In response to feedback and requests from our customers, the following steps were taken in 2021 as part of the work in the Digitalization and Efficiency in Business processes under the direction of our Marketing and Customer Relations Department;

- Customer and Customer Portal Registration /Modification Applications have been taken to the website and customer registration processes were fully digitized.
- The manual placing of orders has been discontinued by ensuring that all customers place an order through the Customer Portal. The customer's requests or allocation and transactions for additional requests or allocations have been digitized with the Customer Portal application and made available on mobile phones. The Land Filling Contactless Sales Project commissioned at the Izmit Refinery in December paved the way for the digitization of the entire process from the entry of land tankers into the waiting area right up to their exit after filling. The Contactless Sales System is planned to be expanded to all onshore refinery filling operations by the beginning of 2023.
- The new Appointment application, which allows customers to make appointments while placing their orders, was launched in August in the petroleum coke product and is planned to be commissioned in all products in 2023.
- The Land Filling Contactless Sales System, which can work in integration with the newly commissioned TAS (Terminal Automation System) infrastructure and SAP system, enables the management of the driver's experience without human contact through kiosks, mobile application and the Tüpraş Solution Center.
- The Driver Portal Mobile Application, which was introduced in August 2021, provides drivers with instant access to necessary information and announcements. The application, which provides uninterrupted two-way communication, will continue to be continuously developed to meet the needs of drivers with the aim of ensuring efficient process management with the appointment system for drivers and customers who place orders from the Tüpraş system. The Land Filling Contactless Sales Project, which is the first of its kind in the refining industry, is planned to be rolled out into the wagon, pipeline and sea filling processes in the coming period.

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 and received positive feedback regarding the product and service quality in the Customer Satisfaction Survey. While meeting the majority of the country's demand with 21.7 million tonnes in domestic sales, Tüpraş achieved a total sales volume of 27.6 million tonnes when international and transit sales are included.

International sales of 5.3 million tonnes of products

The active integration of Tupras Trading Ltd, established as the London Trade Office in 2018, into the system set in train a transition period in Tüpraş's business approach. In the process, which started with the principle of selling and buying refined products with the best added value in the first place, Tupras Trading Ltd continued to contribute positively to the activities of Tüpraş, with the trading of spot crudes in addition to the trade of fuel oil, light and mid distillate products as of 2021.

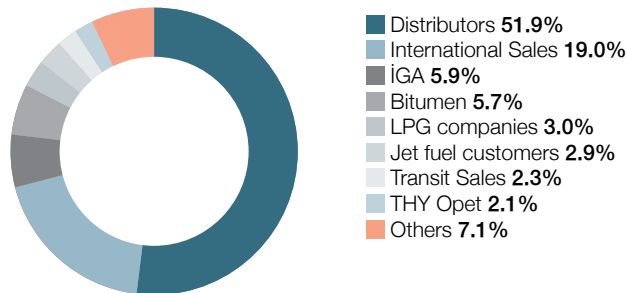
In 2021, Tüpraş realized international sales of 5.3 million tonnes of products worth USD 3.1 billion.

IN 2021, TÜPRAŞ REALIZED INTERNATIONAL SALES OF 5.3 MILLION TONNES OF PRODUCTS WORTH USD 3.1 BILLION.

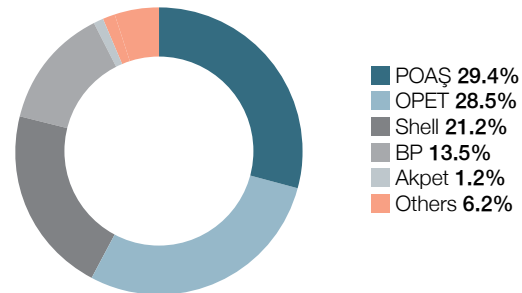
TOTAL SALES OF TÜPRAŞ REFINERIES (thousand tons)

Products	2020	2021	Change %
LPG	717	836	16.5
Naphtha	100	206	104.9
Gasolines	2,298	2,919	27.0
Jet Fuel / Kerosene	2,215	2,989	34.9
Diesel	10,560	11,352	7.5
Fuel Oils	404	397	-1.7
Bitumen	2,372	1,580	-33.4
Coke	782	984	25.8
Others	383	445	16.2
Total Domestic Sales	19,832	21,707	9.5
International Sales	4,356	5,250	20.5
Transit Sales	316	629	98.8
Total Sales	24,504	27,586	12.6

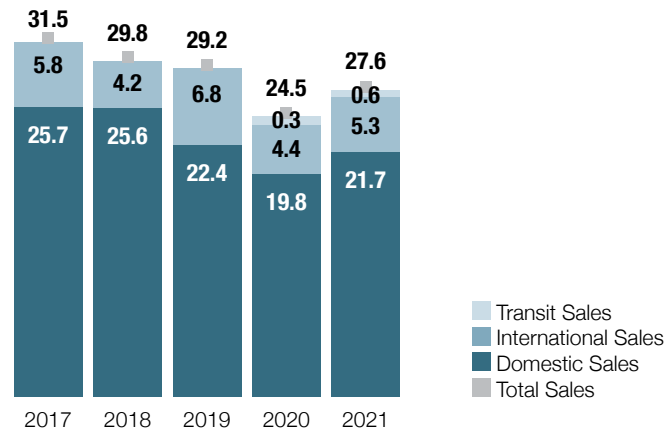
BREAKDOWN OF SALES



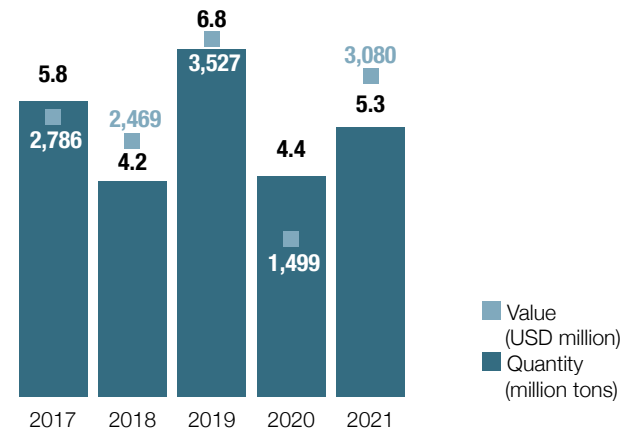
BREAKDOWN OF SALES TO DISTRIBUTORS



TOTAL SALES (million tons)



INTERNATIONAL SALES



İZMİT REFINERY

The İzmit Refinery began production in 1961 with a capacity to process 1 million tons 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 tons/year by the end of 2019.

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 tons of black products into approximately 3.5 million tons 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.

THE HIGHEST CONVERSION RATE IN TURKEY



11.3
million tons

The refining capacity of the İzmit Refinery is 11.3 million tons.



14.5

Nelson Complexity Index



1,974
Employees

At year-end, the number of employees at the İzmit Refinery is 1,974.



3.0
million m³

The storage capacity of the İzmit Refinery is 3 million m³.

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.

A total of 12.7 million tons of material, including 11.2 million tons of crude oil and 1.5 million tons of semi-finished products, were processed at the İzmit Refinery in 2021. As of the end of 2021, the Refinery's total product sales amounted to 14.4 million tons, of which 11.6 million tons were domestic sales.

Izmit Refinery reaches its best ever performance following energy efficiency implementations

The measurement and comparison of the energy efficiency performance of refineries is carried out using the EII (Energy Intensity Index) parameter developed by the Solomon company. In 2021, 30 energy efficiency implementations were carried out at the Refinery, resulting in TL 61 million of savings and an improvement of 1.8 percentage points in the EII. These improvements paved the way for an annual decrease of 53,000 tonnes in refinery carbon dioxide emissions, equivalent to about 140,000 trees. In 2021, studies were conducted to use of energy recovery equipment such as APH and PRT at the highest capacity. Pressure and temperature values were evaluated to ensure the optimization of operations in terms of energy efficiency. In addition, energy savings were achieved through the use of systems such as advanced process control applications and inter-unit communication.

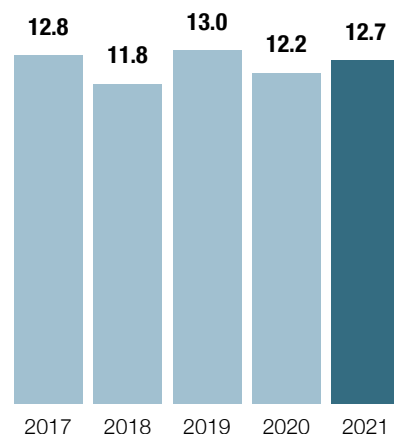
36" underwater crude oil pipeline facility on platform pier

The renewal of the old underwater pipeline, which has been in continuous use for the supply of crude oil at the İzmit Refinery since 1975, was completed in order to eliminate the risk of a possible environmental accident, having completed its economic life. With a total of 120,000 man-hours of work, 6,830 m³ of dredging was carried out on the seabed; in addition to the 36" crude oil pipeline, a total of 2,500 m of underwater pipes were installed, including 10" and 6" fire and drinking water lines. With the completion of the project, operational speed and flexibility were gained by reducing unloading times for docking vessels. While ensuring availability, environmentally safe operating conditions have been provided through the renewal of the platform pier for the service and fire water lines.

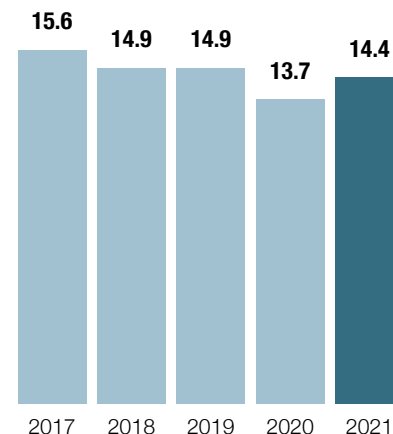
Modernization of the Plt-7 LPG Merox Unit

The İzmit Refinery Plt-7 LPG Merox Cleaning Unit Modernization project was implemented in response to the change in the EN 589 Auto LPG specification standard where the Auto LPG sulphur limit reduced from 50 ppmw to 30 ppmw with effect from 1 April 2021. The LPG-2 Naphtha Wash Unit, which was modernized within the scope of the project, was commissioned on 17 September 2020, the LPG-1 Naphtha Wash Unit was commissioned on 26 April 2021, and investments were carried out for two additional caustic tank facilities. With the project, the sulphur content in LPG products was reduced below 10 ppmw, both ensuring compliance with the legal requirement and achieving environmentally sensitive LPG production at the İzmit Refinery.

CRUDE OIL AND SEMI PRODUCT PROCESSED (million tons)



SALES (million tons)



İZMİR REFINERY

THE ONLY REFINERY
WITH A LUBRICANTS
PRODUCTION
COMPLEX IN
TURKEY



11.9
million tons

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



7.66

Nelson Complexity Index



1,391
Employees

At year-end, the number of employees at the İzmir Refinery is 1,391.



2.5
million m³

The storage capacity of the İzmir Refinery is 2.5 million m³.

THE LARGEST EXPORT PRODUCT SHIPMENT IN THE HISTORY OF TÜPRAŞ WAS MADE IN FOUR SHIPMENTS OF 150,000 TONNES OF FUEL OIL FROM İZMİR REFINERY TO SINGAPORE IN ONE ORDER.

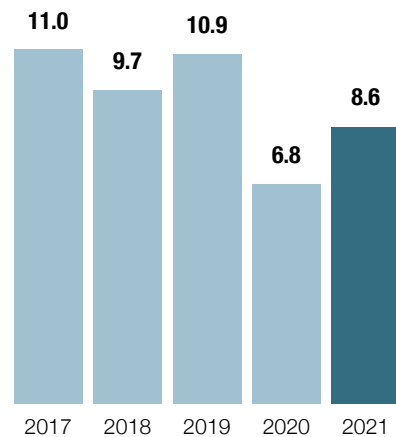
With the aim of meeting Turkey's growing requirement for petroleum products, the İzmir Refinery was brought into operation in 1972. The refinery, which started production with an annual crude oil processing capacity of 3 million tons, is now registered as having an annual refining capacity of 11.9 million tons following significant capacity increases and unit modernizations carried out over the years. The İzmir 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 tons/year capacity.

In 2021, the İzmir Refinery achieved a 72% capacity utilization rate with a total charge of 8.6 million tonnes, including crude oil and semi-finished products, and a total of 7.9 million tonnes of products were sold, 5.3 million tonnes of which were sold to the domestic market.

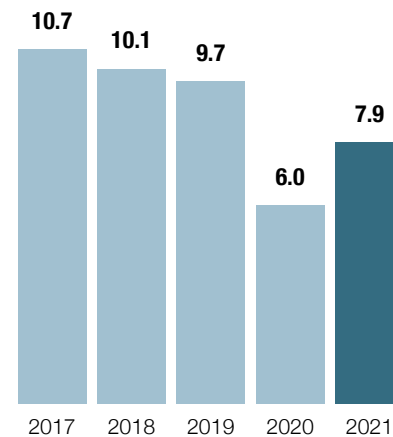
Major projects completed during the year

- The DHP Diesel Desulphurization Unit energy saving projects were completed. With the completion of the project, bringing around USD 2 million (USD 250/hour) in annual energy savings.
- In order to reduce dependence on crude oil in the production of base oils, work on the HC bottom injection got underway at the Furfural Unit. In the May realizations following the trial, the return from 3,200 m³ of HYC bottom processing was calculated as USD 488,000 /month. The increase in efficiency at the HYC bottom processing and the effect of crude oil savings is expected to yield an annual profit of ~ USD 5 million.
- The thermal integration project for the Isomerization Units was completed. The NHT unit charge was gradually increased from 98 m³/h to 103 m³/h, resulting in a 5% increase in the fresh charge of the 9600 unit. The economic return of this 5% capacity increase will vary depending on the price differential between naphtha and gasoline.
- The ESD systems in the CCR, ISO and DHP Units were modernized.
- New decoupling and frequency load shedding systems were installed, ensuring electricity generation and distribution systems were more stable in the face of external failures.
- Refinery Battery Shutdown work was carried out In January and March. The shutdown involved a total of 432,000 man-hours of work including 175,000 for maintenance work and 257,000 for project work. An article on "Battery Shutdown Management Under Special Circumstances of COVID-19 Pandemic" was prepared detailing the shutdown work which was successfully completed under pandemic conditions, and was approved by the Intellectual Rights and R&D Directorate. It will be published in sectoral journals in June 2022.
- The largest export product shipment in the history of Tüpraş was made in four shipments of 150,000 tonnes of fuel oil from İzmir Refinery to Singapore in one order.
- A 10-year record for exports was set with the export of 42,000 tonnes of base oil in three different grades from the refinery.
- For the first time, the export of naphtha to "Dow Open Speck" quality specifications for processing in petrochemical facilities was carried out in the form of a joint shipment with the İzmit Refinery.

CRUDE OIL AND SEMI PRODUCT PROCESSED (million tons)



SALES (million tons)



KIRIKKALE REFINERY

TURKEY'S LARGEST ROAD TANKER FILLING CAPACITY



5.4
million tons

The refining capacity of the Kırıkkale Refinery is 5.4 million tons.



6.32

Nelson Complexity Index



924
Employees

At year-end, the number of employees at the Kırıkkale Refinery is 924.



1.3
million m³

The storage capacity of the Kırıkkale Refinery is 1.3 million m³.



THE CRUDE OIL SUPPLY OF THE REFINERY, WHICH HAS A NAMEPLATE ANNUAL CRUDE OIL PROCESSING CAPACITY OF 5.4 MILLION TONS, IS PROVIDED FROM THE BOTAŞ CEYHAN TERMINAL, USING THE CEYHAN-KIRIKKALE PIPELINE.

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.

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 tons, 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 2021, the Refinery processed a total of 4.4 million tons, including semi-finished products, and 82% capacity utilization was achieved.

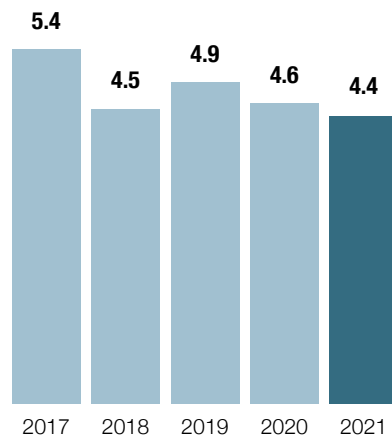
In 2020, 4.4 million tons of petroleum products were produced at the refinery with LPG, gasoline, jet fuel, kerosene, diesel fuel, fuel oil, bitumen and products which will be used as charge for the Fuel Oil conversion project being the main products from the

refinery. The total product sales made to meet the consumption needs of Central Anatolia stood at 4.2 million tons as of the end of the year.

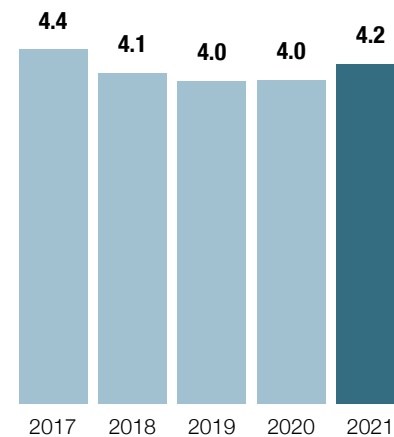
Major projects completed during the year:

- Quick Win Energy Projects paved the way for 57,795 Gcal/year in energy savings
- New projects and optimization activities carried out jointly with other Tüpraş refineries yielded over USD 10 million in gains.
- Work on the petroleum coke storage area was completed.
- The Körfez Ulaştırma Locomotive Maintenance Workshop, the Locomotive and Wagon Spare Parts Warehouse, the Wheel Maintenance and Daily Maintenance Workshop, the Train Operating Office Building, a new switchgear station and the railway facilities which feed these facilities were commissioned.
- The Technical Safety and Environment Directorate and the Electricity/Instrument Maintenance Workshop buildings were renovated.
- Nearly 30 km of lines were renewed in the modernization of Fire Fighting Systems.
- Value has been created through the online monitoring of static equipment, achieved through the one-wireless technology and wireless image transfer projects.
- With the initiative taken at the Kırıkkale Refinery for the Tüpraş strategic transformation plan, the Refinery Management group and the SuAgile / TeamAqua groups were established to reduce water consumption, and are continuing their work.

CRUDE OIL AND SEMI PRODUCT PROCESSED (million tons)



SALES (million tons)



BATMAN REFINERY

THE FIRST REFINERY IN TURKEY



1.4
million tons

The refining capacity of the Batman Refinery is 1.4 million tons.



1.83

Nelson Complexity Index



454
Employees

At year-end, the number of employees at the Batman Refinery is 454.



299
thousand m³

The storage capacity of the Batman Refinery is 299 thousand m³.

FOR THE FIRST TIME SINCE 2014, THE TOTAL TRANSPORTATION BY PIPELINE HAS BEEN SURPASSED BY RAIL TRANSFERS.

Commissioned in 1955 with a crude oil processing capacity of 330,000 tons, the Batman Refinery was the first refinery to be founded in Turkey. The annual refining capacity of the Batman Refinery, which reached 1.1 million tons after the commissioning of the second crude oil processing unit in 1972, was registered as 1.4 million tons in 2019 after the investments of new F-1101 furnace and the E-1114 and E-1115 exchangers.

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. On the back of the decrease in demand for bitumen in 2021, the Batman Refinery experienced intermediate shutdowns, with 556,000 tonnes of crude oil was processed and 532,000 tonnes of products sold.

Semi-finished products produced in Batman Refinery and the diesel and gasoline products from the Kırıkkale and İzmir refineries are transported by railway.

A Solar Power Plant with a capacity of 2 MW was completed at the Batman Refinery in 2021. The power plant catered to a significant portion of the refinery's electricity requirement during daylight hours, reaching up to 100% depending on local and seasonal conditions.

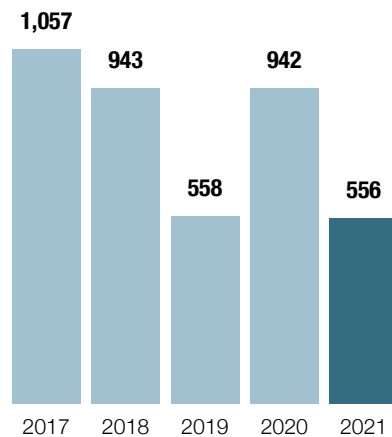
Work has been carried out within the scope of annual planned maintenance of the crude oil units, and the planned maintenance has been completed with zero accidents.

After the increase in pipeline freight, all field work which will allow the transfer of all intermediate products from the Batman Refinery with Körfez Transportation has been completed. For the first time since 2014, the total transportation by pipeline has been surpassed by rail transfers, thanks to the shift of intermediate product transfers from pipeline to railway. While there was a 79% decrease in pipeline transfer compared to the previous year, railway transportation increased by 40% compared to the previous year.

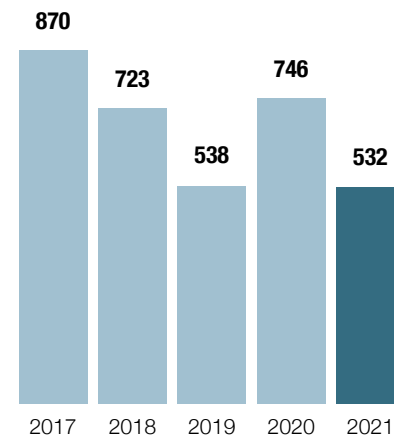
Major projects completed during the year:

- The construction work of the ASA Board Building and Chemical Storage Building has been completed.
- The data forecasting program, which was completed and commissioned at the Plant-1100 unit last year as part of the Spect Forecasting Project, has also been in active use this year. The number of samples sent to the laboratory has been reduced.
- Within the scope of the "Quality of Laboratory Data Project", the Plant-100 Unit Data Analytics Model was completed and brought on stream in 2021.
- Refinery Production System, Refinery Loss Research, and Chargers teams were established and the expected targets from the studies were met.

CRUDE OIL PROCESSED (thousand tons)



SALES (thousand tons)



TUPRAS TRADING LTD

TUPRAS TRADING LTD CONTINUED TO PROVIDE A POSITIVE CONTRIBUTION TO Tüpraş's ACTIVITIES WITH SPOT CRUDE OIL TRADING IN ADDITION TO TRADING FUEL OIL, LIGHT AND MID DISTILLATE PRODUCTS IN 2021.



+7 million tonnes of products traded

In 2021, over 7 million tonnes of products were traded and more than 3 million tonnes of spot crude oil connections were carried out through 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.

Tupras Trading Ltd, which started its activities as a London Trading Office in October 2018, continued to provide a positive contribution to Tüpraş's activities with spot crude oil trading in addition to trading fuel oil, light and mid distillate products in 2021. As of December 2021, Tüpraş had also started to carry out futures and derivatives transactions aimed at managing share price risk through Tupras Trading Ltd.

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.

While the refinery industry working to recover from the ongoing negative impact of the pandemic on margins in the first half of the year, priority was placed on the optimization of the Tüpraş refinery system with the commercial flexibility provided by Tupras Trading Ltd. In this context, storage, contango and geographical arbitrage opportunities were pursued on land and at sea, with these activities also contributing to third-party trade and Tüpraş's commercial activities as well.

In 2021, over 7 million tonnes of fuel oil, light and mid distillate products were traded and more than 3 million tonnes 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.

DISTRIBUTION - OPET

White products:
2nd with 17.9%
market share

Black products:
2nd with 22.6%
market share



1.1
million m³

The storage capacity of Opet is 1.1 million m³.



1,802
Stations
(Including SUNPET)

Opet has 1,802 stations.



56
TL billion

At year-end, Opet's total turnover was TL 56 billion.



WITH A NETWORK OF 1,802 STATIONS OPET PROVIDES HIGH-QUALITY PRODUCTS AND SERVICES TO ITS CUSTOMERS.

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 900 employees, 1,802 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. It also supplies and sells jet fuel via THY-Opet, a 50-50% partnership with Turkish Airlines. The company operates in gas station operation via Opet Market ve Akaryakıt İstasyon İşletmeciliği A.Ş.

Opet maintained its number 2 position in 2021.

Opet achieved sales growth in line with the market during 2021. The Company ranks second with a 17.9% market share in white products and 22.6% in black products.

THY-Opet, which serves a number of domestic and international airlines in all airports throughout Turkey, reached jet fuel sales of 785,902 m³ in 2021.

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”. Important steps are being taken with regard to community health with the “Clean Toilet Campaign” that has been ongoing for 21 years, the importance of which has been even better understood during the pandemic and which supports creation of countrywide awareness of hygiene and cleanliness. Under the “Green Road Project” commenced in 2004, plantings attuned to the climatic conditions have been carried out at gas stations, in their surroundings, and in bare areas determined by the municipalities. The “Model Village Project” was initiated in 2005 with the aim of helping villages become self-sufficient, capitalizing on their historical, geographical and cultural potential. “Respect for History Project” was launched in 2006 to give the historic Gallipoli Peninsula a contemporary appearance while preserving its natural texture. Within the scope of rehabilitation efforts and conceptual studies for the villages in the vicinity of the Ancient City of Troy, the “Tevfikiye Archeo-Village”

and “Çıplak Ethno-Village” projects were carried out. The “Traffic Detectives Project”, which aims to transform prospective drivers into competent drivers who thoroughly know the traffic rules, has been ongoing since 2013. The “Women Power Project”, designed to increase women’s employment at Opet stations and eliminating gender stereotyping in workplaces, has been generating a social impact in terms of social gender equality and employment since 2018. In 2021, the company launched the “Clean Business Project” 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. Entailing free-of-charge training programs to business owners wishing to establish enhanced hygienic standards and to their employees, the project is intended to result in increased hygiene capacities and preference for these businesses.

Forward-looking expectations

Opet’s main priority is to maintain customer satisfaction while growing above the sector without compromising profitability. 2022 is expected to be a year of investments in line with these objectives.

In line with this strategy, the company will continue to expand across the country in the Ultramarket project, which is one of the non-fuel development areas that the company initiated in 2019. Furthermore, the Company will pioneer novelties in areas beyond fuel oil such as dealer network logistics planning and electronic payment systems.

The company’s plans for 2022 also include evaluation of renewable energy projects and undertaking a restructuring to accommodate electric vehicle charging stations.

Opet aims to be the pioneering company in its sector in this field by continuing to take decisive steps within the scope of the digital transformation.

As being included in 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.

MARINE TRANSPORTATION-DİTAŞ

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.



DİTAŞ PROVIDES OPERATIONAL AND COST ADVANTAGES TO TÜPRAŞ WITH ITS CRUDE OIL AND PETROLEUM PRODUCTS TRANSPORTATION.

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 10.4 million tons of crude oil and 5.3 million tons of petroleum products in 2020, with 93.3 of Tüpraş refineries. In 2021, Ditaş also provided product transportation services for THY Opet (1.1% of all operations) and other distribution companies (3.2% 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.

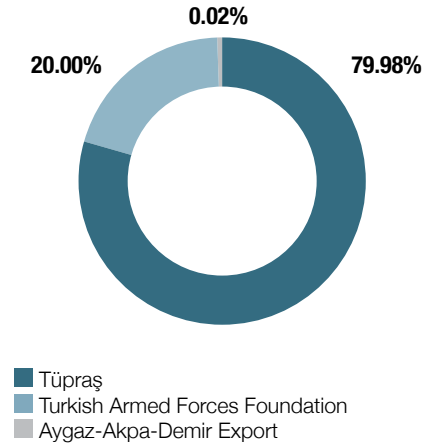
Ditaş carried out its activities with a total of 14 tankers and a fleet with a capacity of 701,138 DWT during 2021. In December 2021, the sale of 164,859 DWT Türk Cumhuriyet tanker, registered among the assets of Beykoz Tankercilik A.Ş., was carried out for more optimal use of the fleet and optimization of resources. Ditaş currently operates two 314,906 DWT crude oil tankers, one 49,990 DWT crude oil/product tanker and ten product carriers with a combined capacity of 171,383 DWT, as well as 13 tugs, six mooring vessels, three service vessels and one pilot vessel for the tug and mooring services needed in İzmit and Aliağa ports.

The first company to hold ISPO certification in Turkey

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 İzmit Terminal; Ditaş was the first company in Turkey and the 11th company in the world to hold this coveted designation.

SHAREHOLDER STRUCTURE



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 2021. 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. During the year, an Occupational Health and Safety audit was conducted by a third party appointed by Koç Holding.

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.

MARINE TRANSPORTATION

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. In addition, in order to raise the safety awareness of the ship's personnel, on-board training started to be provided by the Training Inspector in July.

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 Izmit and Izmir terminals in 2021 (a low figure when compared to previous years due to the pandemic and with the normalization of vetting services starting in September 2021), and 305 ships were provided with loading master services.

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. Cumhuriyet ⁽¹⁾ ve T. Sadberk
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.	Bareboat charter tankers were removed from the fleet.

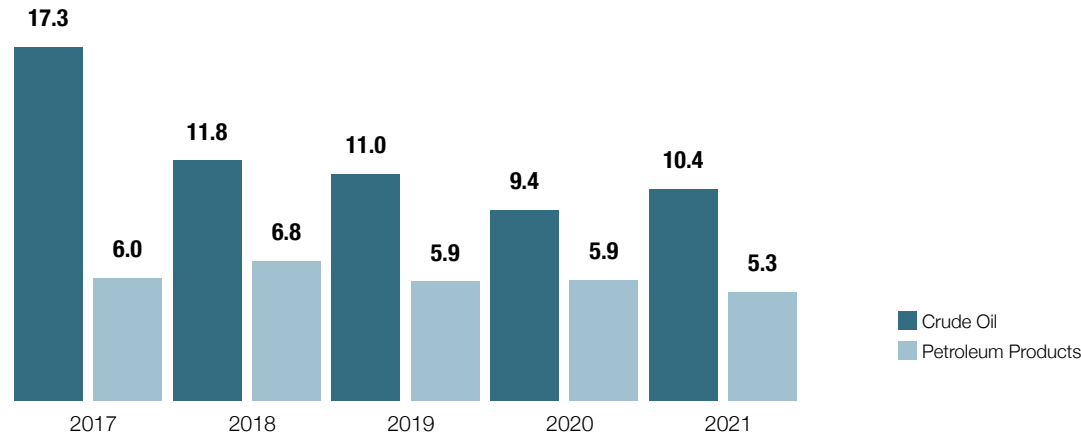
⁽¹⁾ T. Cumhuriyet (Blue Ship) tanker registered in the assets of Beykoz Tankercilik A.Ş. was sold on 23 December 2021.

Environmental Performance	2017	2018	2019	2020	2021
Total Grey Water Consumption (million m ³)	0.02	0.03	0.03	0.02	0.02
Total Water Consumption (million m ³)	0.04	0.05	0.08	0.04	0.03
Raw Water Usage Rate per Cargo (m ³ /tons)	0,026	0,002	0,002	0,001	0,001
Total Amount of Solid Waste (tons)	23,036	16,168	22,089	15,397	11,679
Hazardous Wastes (tons)	22,977	16,104	21,980	15,267	11,573
Non-Hazardous Wastes (tons)	58	64	109	131	106
Total Spending on Environmental Investments and Operating Expenses (TL million)	0	2.6	50.0	53.3	1.7

active role

93.3% of crude oil shipments and 95.7% of petroleum product shipments were carried out in line with the needs of Tüpraş refineries.

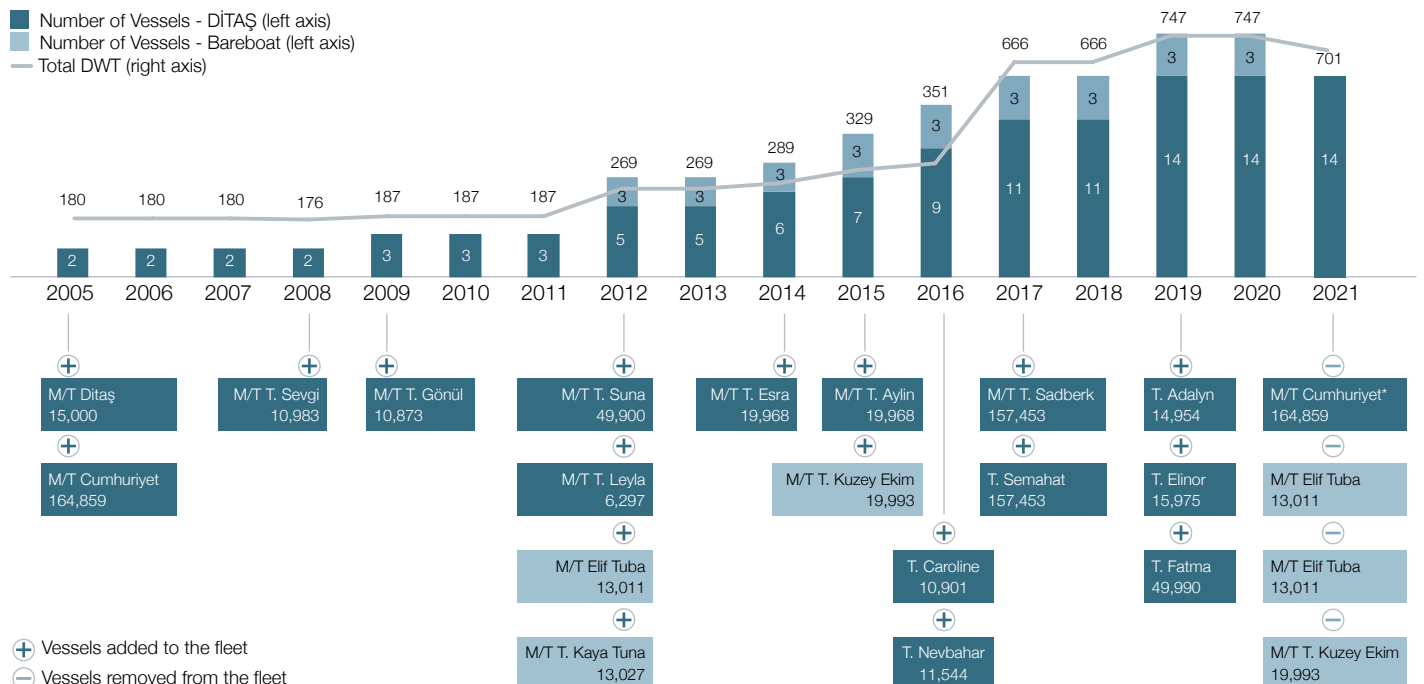
CRUDE OIL AND PETROLEUM PRODUCTS TRANSPORTED (million tons)



FINANCIAL INDICATORS (USD million)

	2017	2018	2019	2020	2021
Net Sales	254.3	213.5	213.2	199.1	182.4
Operating Profit	49.4	69.1	70.8	80.4	66.6
Net Profit	39.7	49.6	52.2	59.7	59.9

NUMBER OF VESSELS AND CARRIAGE CAPACITY



(*) T. Cumhuriyet (Blue Ship) tanker registered in the assets of Beykoz Tankercilik A.Ş. was sold on 23 December 2021.

MARINE TRANSPORTATION

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	6,297 tons
Length	121.62 m



M/T T. Suna

Tanker Type	Oil/Chemical
Built in	2012
DWT	49,900 tons
Length	183.31 m



M/T T. Esra

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



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	19,968 tons
Length	156.50 m

**M/T T. Sadberk**

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

DITAŞ OPERATED WITH A TOTAL OF 14 TANKERS AND A FLEET WITH A CAPACITY OF 701,138 DWT DURING 2021.

**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

**M/T Cumhuriyet***

Tanker Type	Crude Oil
Built in	2001
DWT	164,859 tons
Length	274.18 m

^(*) T. Cumhuriyet (Blue Ship) tanker registered in the assets of Beykoz Tankercilik A.Ş. was sold on 23 December 2021.

KÖRFEZ ULAŞTIRMA A.Ş.

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.

Körfez Ulaştırma continued its delivery runs with a total of eight locomotives in January-November, including 3 locomotives leased from the TCDD (Turkish State Railways) in 2021, and with a total of 10 locomotives in December, including two newly purchased locomotives in operation.

The railway between Kırıkkale and Ankara, which had been closed for an extended period of time, was completed and opened to freight traffic in May 2021. With the shortening of the railway distance between İzmit and Kırıkkale, the number of trips made by Körfez Ulaştırma locomotives increased.

In addition to its RTO activities, the Company has also carried out fuel oil transportation on the İzmit-Kırıkkale and Kırıkkale-Mersin-Batman lines and the transportation of iron ore, which started in June 2020, on the Sivas-İskenderun line with its operator certificate and capacity. The number of companies carrying out diesel transportation between İzmit and the Ankara Güvercinlik facility increased to two as part of the Tüpraş's transportation of DAP.



THE DELIVERY OF SEVEN HYBRID (DIESEL/ELECTRIC POWER) LOCOMOTIVES ORDERED BY KÖRFEZ ULAŞTIRMA FROM THE SWISS COMPANY STADLER IN 2019 WAS COMPLETED IN DECEMBER 2021.

Körfez Ulaştırma increased the volume of fuel products and intermediate products which carries from 1.5 million tonnes to 1.7 million tonnes in 2021, with 86% of this amount realized using its own trains (2020: 77%). The amount of iron ore carried by Körfez Ulaştırma with its operator role increased from 170,000 tonnes to 326,000 tonnes in 2021.

In 2021, Körfez Transportation used 439 wagons purchased from Tüpraş in 2019 and 26 wagons purchased from Opet in 2020 for transportation, and returned the wagons leased from the TCDD (Turkish State Railways) under a long-term agreement at the end of 2020.

As of the end of 2021, 81 train drivers were working on the trains operated by Körfez Ulaştırma. The Company employed 36 personnel on a salary in the locomotive workshop and warehouse within the Istanbul and Ankara offices and the Tüpraş Kırıkkale Refinery.

Workshops

The rail wagon maintenance and repair workshop at the Kırıkkale Refinery, which served rail wagons for other companies in 2021, is the most comprehensive of its kind in Turkey, meeting ECM standards. In addition to the necessary investments for wheel machining activities in the workshop, investments in the workshop and warehouse for the maintenance of locomotives owned by the Company and material storage were completed in the Kırıkkale Refinery. The requisite ECM certificate was obtained for locomotive maintenance.

Record fall in road transportation

On the back of Körfez Ulaştırma's performance in 2021, the share of highway transportation in total highway and rail transportation was reduced by up to 6%, 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

The delivery of seven hybrid (diesel/electric power) locomotives ordered by Körfez Ulaştırma from the Swiss company Stadler in 2019 was completed in December 2021. Commercial services got underway on December 1 with the first two locomotives, once their approval and registration processes were completed.

35 platform wagons, which were ordered in 2020, were delivered in the first quarter of 2021. The approval and registration processes of 75 fuel wagons by suppliers are at the final stage, and deliveries will be completed in the first quarter of 2022.

With the completion of these locomotive and carriage investments, Körfez Ulaştırma targets the following;

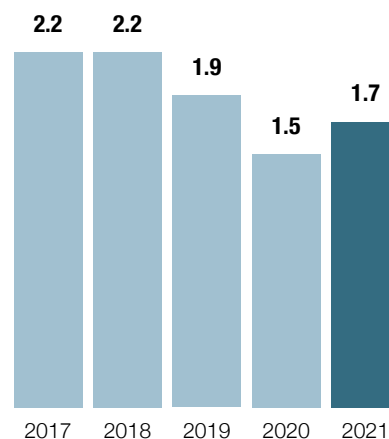
- To increase third party railway transportation in addition to Tüpraş's total railway transportation of 2 million tonnes per year,
- To strengthen its position as the largest carrier of railway fuel in Turkey, and as such, increase its contribution to the country's goal of developing railway transportation

Greener transportation

Transporting 1 tonne of products a distance of 1km by diesel locomotive generates one quarter the volume of emissions as it would be road, while an electric locomotives generates just one eighth of the emissions as it would by road. The commissioning of closed railway lines in 2021 paved the way for a reduction of about 3,000 tonnes in CO₂ e emissions when compared to the previous year, thanks to the use of diesel locomotives by Körfez Ulaştırma.

It is aimed to carry out transportation with zero carbon emissions (Scope-1) for transportation with hybrid (which can work in diesel/electric modes) locomotives on electric lines. Within the scope of the "Carbon neutral by 2050" target, greenhouse gas emissions arising from activities are monitored and studies are carried out to reduce them. In this direction, it is aimed to reduce the intensity of Scope-1 emissions from activities by 45% in 2030.

TOTAL AMOUNT OF FUEL PRODUCTS AND INTERMEDIATE PRODUCTS CARRIED^(*) (million tonnes)



^(*) Including DAP deliveries on behalf of Tüpraş.

SUSTAINABILITY AT TÜPRAŞ



The approach to sustainability at Tüpraş and activities carried out in 2021

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 Transformation Plan by 2050.

TÜPRAŞ ACHIEVED ENERGY SAVINGS OF 1,925,000 GJ THROUGH 65 ENERGY EFFICIENCY PROJECTS IN 2021, AND HAS REDUCED CO₂ EMISSIONS BY 2.5 MILLION TONNES THROUGH 598 PROJECTS SINCE 2008.

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 phase out all emissions by 2050. As of 2021, Scope 1 and 2 emissions were 18% lower than in the base year, and activities and actions are continuing in line with the targets set.

Acting as a responsible manufacturer, Tüpraş achieved energy savings of 1,925,000 GJ through 65 energy efficiency projects in 2021, and has reduced CO₂ emissions by 2.5 million tonnes through 598 projects since 2008. The energy intensity index value, which is used to measure the energy efficiency performance of refineries around the world, was brought down to 93.5 in 2021, thus marking an improvement of 26 percentage points since 2008.

Focusing on water efficiency, Tüpraş has recovered approximately 120 million cubic meters of wastewater over the past six years and reused it. In 2021, the ratio of water consumption to crude oil was reduced by 22% compared to the previous year.

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.

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 the 2021-22 period, we continued 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.

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. In accordance with the International Maritime Organization's (IMO) rule that the sulphur content in marine fuels should be less than 0.5%, the Company has invested in scrubbers for 4 tankers. The delivery of seven hybrid (diesel-electric) locomotives ordered by Körfez Ulaştırma from the Swiss company, Stadler, was completed in December 2021. Transporting one tonne of products a distance of one kilometer by diesel locomotive produces one quarter the volume of emissions as transporting the a tonne of products one kilometer by road, while an electric locomotives produces just one eighth of the emissions as it would by road. In 2021, a reduction of approximately 3,000 tonnes in CO₂e emissions was achieved in Tüpraş transport carried out by Körfez Ulaştırma using diesel locomotives when compared to the previous year.

The target is to carry out transportation with zero carbon emissions (Scope-1) for transportation with hybrid locomotives on electrified lines. Körfez Ulaştırma Scope-1 emissions from activities are targeted to fall by 45% in 2030.

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.

Sustainability Management

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

In addition to responding to changing stakeholder expectations and global trends, Tüpraş regularly reviews its priority issues within the scope of its strategies in order to identify risks and opportunities regarding environmental, social and corporate management.

SUSTAINABILITY AT TÜPRAŞ

	Priority Issue	Sustainable Development Goals
Sustainability Priorities of Tüpraş	Occupational Health and Safety	 
	Innovation, R&D and Digitalization	  
	Gender Equality	     
	Environment, Climate and Energy	      
Corporate Principles	Customer Satisfaction	
	Asset Management and Availability	
	Legal Compliance	

In this context, Tüpraş has started to renew its prioritization analysis, which it started in 2016, and detailed interviews are continuing with internal and external stakeholders under a broad perspective. As a result of these studies carried out with consultant organizations, the expectations of internal and external stakeholder expectations will be identified and key performance indicators and targets in the ESG fields will be determined and reflected in the 2021 Tüpraş Sustainability Report. Tüpraş serves the SDGs on the priority issues which it has determined. Tüpraş has included the contribution of its practices in the field of sustainability to SDGs in its 2020 Sustainability Report. In parallel with the studies, work continues on determining and establishing the Sustainability Committee and sub-working groups.

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. At the beginning of 2021, the Tüpraş **Board**

of Directors Diversity Policy was approved and a target where women would account for 25% of the board of directors within 5 years was adopted. During the year, 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, **Human Rights, Donations and Sponsorship, Anti-Bribery and Anti-Corruption, Supply Chain Compliance, Competition Law Compliance, Sanctions and Export Controls, Social Investment, Gift and Entertainment, Information, Compliance Policies and Ethical Principles** were adopted by the Board of Directors 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.

22%

Tüpraş achieved an average improvement of 22% in its sustainability indices evaluation scores in 2021.

Decisions regarding the disclosures prepared within the scope of sustainability principles were taken by the Corporate Governance Committee and reported to the Board of Directors within the maximum periods of time determined for the disclosure of annual activity reports to the public, as specified in the relevant regulations of the Capital Markets Board.

Tüpraş closely monitors global developments and the energy transformation and is part of Green Deal Task Force established within TÜSİAD within the scope of the European Green Deal. As a result of the 2021 studies of Tüpraş, Sustainability Agile Team, Tüpraş, which is included in indices such as FTSE4Good, MSCI ESG Rating, BIST SE (Refinitiv), Sustainalytics and Vigeo Eiris, Bloomberg GEI, has achieved an average improvement of 22% in its evaluation scores. It continues to carry out work to consolidate its position in this field and continuously improve its performance.

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 sustainability report.

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.

	2020	2021	ESG Rating Score Card						Advancement
FTSE4Good	2.2	3.4	0-5						55%
MSCI ESG Rating	3.9 (BB)	4.3 (BB)	0-10						10%
V.E. (Moody's)	40	49	Weak 0-29/100	Limited 30-49/100	Robust 50-59/100	Advanced 60+/100	23%		
Sustainalytics	36.9	33	Risk band	Negligible 0-10	Low 10-20	Medium 20-30	High 30-40	Severe 40+	11%
BIST SE (Refinitiv)	61.07	69.3	Poor 0-25	Satisfactory 25-50	Good 50-75	Excellent 75-100	13%		
Bloomberg GEI Index*		63.3							



*Tüpraş was included in the Bloomberg GEI Index in 2022.

SUSTAINABILITY AT TÜPRAŞ



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.

The Tüpraş **Customer Relations Policy**, which covers the management and resolution of customer complaints, has been disclosed to the public. 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. Tüpraş holds the ISO 10002-2014 Customer Satisfaction and Complaint Management Certificate.

Within the framework of Supplier Management Policy, the Supplier Code of Conduct was published and the Tüpraş Supplier Portal was brought into use.

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.

Detailed information on the cooperation with different stakeholders can be found in the sustainability report and the Tüpraş website under the heading "Communication with Stakeholders" under the Sustainability tab.

Tüpraş has adopted the principles of the UN Global Compact, of which Koç Holding is a signatory.

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.

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 determine the Scope 3 emission footprint.

Taking part in the TÜSİAD Green Deal Task Force led by the Koç Group, Tüpraş contributed to the preparation of the "New Climate Regime Report Through the Lens of Economic Indicators". The report highlights the possible effects of the Green Deal on sectors exporting from Turkey to the EU, as well as its repercussions on the Turkish economy.

In March 2020, a working group was established within the Koç Group Environment Board, including Tüpraş, in order to follow the developments within the scope of the Green Deal and to examine the action plans and planned mechanisms and to evaluate the potential impact areas on the Group from an environmental point of view. Tüpraş contributed to the preparation of the Koç Group evaluation note within the framework of the EU Carbon Border Adjustment Mechanism (CBAM) public consultation process, which was one of the most important developments of 2020 within the scope of the Green Deal, and was shared with the Koç Group through the related organizations.

Tüpraş has participated in climate change conferences since 2015, and participated in the COP 26 as part of the Turkish delegation representing the energy sector this year, and shared its experiences through a series of presentations within the scope of the Partnership for Preparation for Carbon Markets. Tüpraş also leads the Carbon Pricing Sub-Working Group established within the TÜSİAD Environment and Climate Change Working Group.

In addition, Tüpraş joined other companies in providing support to the Task Force on Climate-Related Financial Disclosures (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.

Sustainability Reporting

Tüpraş shares its practices in the field of sustainability with the public through annual reports, as well as the sustainability reports prepared in accordance with Global Reporting Initiative (GRI) Standards under the "Basic" option. The priority issues that form the basis of the content of the sustainability report have been obtained as a result of the processes carried out in accordance with the reporting principles specified in the GRI Standards.

The shared sustainability performance chart data covers refining activities carried out by Tüpraş in Turkey between 1 January 2021- 31 December 2021.

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.

INVESTMENTS

TÜPRAŞ PRESSED FORWARD UNWAVERINGLY IN ITS INVESTMENT ACTIVITIES IN 2021.



USD 152 million

In 2021, Tüpraş invested USD 112 million on a standalone basis and USD 152 million on a consolidated basis.

Along with the primary investments intended to improve product quality, which began after the acquisition of Tüpraş by the Koç Group, the Company also took a number of strategic investment decisions focused on technological development, change and the strategic transition, and investment decisions continue to be made on an axis of operational excellence, efficiency, occupational safety, legal requirements and sustainability issues. Tüpraş's investments during the last sixteen years have reached USD 7.1 billion, of which USD 6.4 billion has been allocated to refining.

Tüpraş pressed forward unwaveringly in its investment activities within the scope of its strategic plans in 2021. Accordingly, the Company continued work in its main investments for new units and process improvements and has implemented expansion and renewal projects on the axis of operational excellence, efficiency, occupational safety, legal requirements and sustainability.

Sustainability projects and investments at the forefront of Tüpraş's focus in investments

The Company's sustainability-themed investment activities implemented in 2021 focused on areas such as the installation of renewable energy units and the renovation of flue gas emission units. Tüpraş allocated a total of USD 60 million to sustainability investments in 2021 while its total standalone investments reached USD 112 million.

In the same period, when evaluated together with its subsidiaries, Ditaş and Körfez Transportation, the consolidated investment spending reached USD 152 million, a figure broadly similar to the consolidated investment spending in the previous year.

A total of TL 4.1 billion in regional and large-scale incentive certificates have been obtained for various ongoing projects at Tüpraş's refineries. The most important of the 82 new and 218 investment projects ongoing in 2021, which are being undertaken to contribute to Tüpraş's operations, productivity, and profitability, are presented below:

İzmit, İzmir, Kırıkkale Refineries

Off-Gas Recovery Projects at Vacuum Units of Refineries

The aim of these projects is to remove hydrogen sulphide from gases emitted from the vacuum columns at the İzmit, İzmir, and Kırıkkale refineries through pressurizing and amine-scrubbing and to inject the treated gas into refineries' furnace burner

systems as fuel. Detailed engineering work continued in the project, which will save energy and has a cost of approximately USD 51.8 million, during 2021.

Establishment of New Sulfur Units

The commissioning of the İzmit Refinery Fuel Oil Conversion unit brought with it a need for new capacity in the sulphur units as a result of both the maximum crude oil unit charge being reached and the processing of alternative heavy crudes with a high sulphur content. Accordingly, the decision was taken to install new sulphur units. ARU and SWS units are also planned to be installed within the scope of the project at the İzmit Refinery. The USD 400 million project for the three refineries was tendered as an EPC (Engineering, Purchasing, Construction) project, and the bids were evaluated in 2021. The decision was subsequently taken to only continue work on the construction of the new sulphur unit in the Kırıkkale Refinery, evaluating the current needs together with the proposals received. Accordingly, the EPC Contract was signed with the company which won the tender to carry out the work at the Kırıkkale Refinery.

İzmit Refinery

Revamp of the FCC Unit, Flue Gas Treatment and Energy Recovery

On-site construction assembly work carried out within the scope of the energy recovery and reactor efficiency improvement work at the FCC Unit in the İzmit Refinery was completed in 2021 in the USD 74 million project, and the project was completed and commissioned at the end of December.

Modernization of the PLT-7 LPG Merox Unit

In order to lower the total sulfur content of Auto-LPG from 50 ppm to 30 ppm, to meet legal requirements and regulatory compliance, the PLT-7 LPG-1 and LPG-2 Merox units were modernized within the scope of the project. The USD 7.15 million project was completed, with the LPG-2 unit commissioned in 2020 and the LPG-1 unit commissioned in May 2021.

Renovation of Tank Field Switch Systems

In 2021, work continued on the Equipment supply and field assembly in the USD 4.6 million project, which is aimed at renewing the switch systems, transformers and cables of the switch rooms which feed the refinery tank field. The project is planned to be completed in 2022.

INVESTMENTS



Propylene Sales Lines Facility

New product ranges are currently being evaluated due to variable product profitability. In this context, a USD 12 million project has been initiated for the purpose of separating propane and propylene in the LPG stream produced from the FCC Unit and selling the products. Field assembly work, along with detailed engineering and equipment procurement work, continued in 2021.

Installation of a Solar Power Plant (SPP)

The current electricity needs of the İzmit Refinery are met through steam and gas turbines. The surplus of generated electricity is sold through the 154 kV TEİAŞ Yarımcı transformer, which the refinery is connected to. Following a study conducted within the scope of determining renewable energy potential, a solar power plant investment is to be carried out. Determination of the potential, pre-engineering and permitting studies were carried out in 2021 for the installation of the solar power plant in Tüpraş's refineries within the scope of the Strategic Transition Plan.

İzmir Refinery

Capacity increase in CCR platforming unit

The project aims to increase the capacity of the U-9200 Platformer Unit from 160 m³/hour to 225 m³/hour and process all heavy naphtha, thereby obtaining high added value products such as platformate and hydrogen. Detailed engineering and equipment procurement work was carried out and fieldwork got underway in 2020, with construction assembly work continuing on the USD 32.9 million project in 2021.

FCC unit revamp, flue gas treatment and energy recovery

This project sets out improvements to the energy-recovery and reactor efficiency at the refinery's FCC unit. After preliminary engineering studies were completed in the USD 65.5 million project, detailed engineering and equipment procurement studies continued in 2021. In addition, a tender has been submitted for construction assembly work and the tender process is ongoing.

Wind and Solar power projects

Preliminary engineering and permit studies have been carried out for the wind power and solar power projects at the Izmir Refinery.



Construction of New Flue for the U-7000 Crude Oil Unit

The U-7000 Crude Oil Unit, which was commissioned in 1978, has 90 m high concrete flue. In addition to ensuring operational reliability, the decision was taken to build a new flue at a height suitable for flue emission values. Detailed engineering work was completed in 2021 in the USD 6.8 million project, and the construction assembly tender has been submitted.

Establishment of a Crude Oil Injection System

As a result of the evaluations conducted in order to make more use of opportunity crude oils, the need to expand the existing crude oil injection system at the Izmir Refinery has emerged. The project, which is planned to be carried out in this vein, aims to provide controlled charging to crude oil units thanks to the injection system of crude oil, which allows opportunity crudes to be used. Detailed engineering and equipment procurement work was carried out in the project with a budget of USD 7.7 million in 2021, and the tender for the construction assembly was finalized.

Wind Farm and Solar Power Plant Installation Projects

The electricity needs of the Izmir Refinery Power Plant are met by gas turbines and condenser steam turbines. The increase in capacity at the refinery has brought with it an increased need for electricity, and electricity has also been purchased from TEİAŞ to meet this growing need for electricity.

The projects are aimed at meeting a part of refinery's electricity needs through renewable energy resources without creating emissions, in line with the carbon neutral target.

- Preliminary engineering and permitting works have been carried out in the USD 21 million wind farm project in 2021.
- In the solar power plant project, determination of the potential, preliminary engineering and permitting studies were carried out in 2021.

INVESTMENTS



Kırıkkale Refinery

Installation of new SWS Unit

With the project, the entire sour water stream in the refinery will be directed to Sour Water Stripping (SWS) units through separate lines with the aim of controlling unit charges, treating all existing sour water streams at the desired level and purifying all sour water by backing up SWS units when necessary. Detailed engineering work has been completed on the USD 15.3 million project in 2021, and the procurement of equipment is ongoing.

Improvement of Fire Fighting Systems

A USD 29.1 million project has been launched to review and modernize the refinery's existing fire systems. Field studies started in 2021 and work on the project is currently underway.

CWTP Unit Modernization

The refinery's demineralized water needs are met from the CWTP Unit. With the old demineralized water unit equipment reaching the end of its working life and given the frequent maintenance activities, there is a risk of interruption in the

production of demineralized water needed by the refinery. In order to avoid such problems and prevent discharge problems, a new demineralized water unit is planned to be installed with a capacity of 250 m³/h with a raw water pretreatment plant, and a condensate polishing system is also planned to be installed by directing condensate returning from the refinery to the existing strong anion and mixed bed resins. The USD 17.8 million project was tendered as an EPC in 2021 and a contract was signed with the winning bidder in the tender, and field work duly got underway.

Installation of a Solar Power Plant (SPP)

Currently, the refinery's electricity is generated by a back-pressure extraction turbine and a gas turbine. With the study carried out to identify the potential of renewable energy, it was determined a solar power plant investment can be carried out. Work to determine the potential, preliminary engineering work and permit processes were carried out within the scope of the project in 2021.

Solar Power Plants

A solar power plant was commissioned at the Batman Refinery in 2021.



Batman Refinery

C-1201 Naphtha Splitter Column Refurbishment

The decision was taken to renew the column, which has been operating for about 55 years, in order to address process safety risks which could arise from a decrease in the thickness of the column to a level below the minimum acceptable level as a result of corrosion. The USD 210,000 project, for which the equipment was purchased in 2020 and field installation has been carried out, was commissioned in 2021.

Installation of Solar Power Plant (SPP)

The Batman Refinery receives power from the TEİAŞ (Turkey Electricity Transmission Corporation) Batman 2 transformer center. The refinery obtains energy through an overhead power cable which extends from the TM-1 transformer center. The Batman Refinery is an organization with a production license,

but is a distribution system user. Within the scope of the zero carbon energy production study, it is envisaged that 3.64 million kWh of electricity will be generated annually with the installation of the solar power plant, which will with an installed capacity of 2 MW; thus, 22.5% of the Batman Refinery's electricity consumption will be met through renewable resources. Preliminary engineering work and permit processes in the USD 1.5 million project were conducted in 2020 and the field studies were completed, and the power plant was commissioned in 2021.

The study carried out within the scope of determining renewable energy potential found that further solar power investments could be carried out, and work on determining the potential, preliminary engineering and permit studies were carried out during 2021.

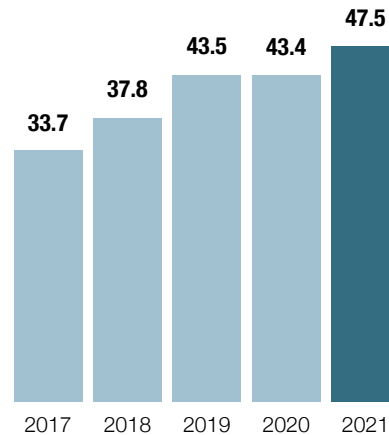


With its announced Strategic Transition Plan, Tüpraş not only plans to be the leader of the future of the energy sector, it also plans to reduce carbon emissions in its refinery operations and become a key player in alternative energy production going forward. The R&D team, 63% of whom are women, and the research staff, 21% of which hold a PhD, supports the transformation strategy with their work on research and development. The sustainable refining strategy sets out the operational solutions and improvements which will increase the profitability of the refinery, with the key areas of activity in the Tüpraş R&D Center being the digital transformation, sensor and robotic technologies, energy efficiency, renewable fuels, carbon capture and conversion, material technologies, hydrogen technologies, water and waste management.

Tüpraş allocated TL 47.5 million to R&D activities in 2021. The Tüpraş R&D Center employs 46 researchers and 16 laboratory technicians, including 52 personnel holding a postgraduate degree and 21% who hold a PhD. Ten researchers are continuing their doctoral studies and six researchers are continuing their studies for a master's degree. The R&D Center, which consists of 7 agile teams which work with the refinery teams in a manner compatible with the common goals, continues to work with more than 150 devices in an area of 12,950 m² over three buildings, including an office, a laboratory and a pilot facility.

The Tüpraş R&D Center was awarded the 3rd prize in the Category C (Companies Employing 51-75 R&D Personnel) in the eighth R&D and Design Centers and Technology Development Zones Summit held by the Ministry of Industry and Technology in 2021. A number of criteria are taken into account in the evaluation, including the employment of R&D personnel, expenditure intensity, project capacity, cooperation and interaction, commercialization and intellectual property competence.

R&D EXPENDITURE (TL million)



OPERATIONAL SOLUTIONS AND IMPROVEMENTS WHICH WILL INCREASE THE PROFITABILITY OF THE REFINERY WITHIN THE SCOPE OF SUSTAINABLE REFINING STRATEGY ARE AMONG THE PRIORITIES OF THE R&D CENTER.



Environmental Sustainability Projects

With its innovative project and research activities, the R&D Center at Tüpraş will play an important role in the implementation of the Strategic Transition Plan, initiated with the aim of “strengthening Tüpraş’s position as Turkey’s largest industrial company by producing different types of energy with an integrated business model in a carbon-neutral manner and leading our country’s clean energy transformation”.

Carbon Capture, Use and Storage

Tüpraş is a partner in two Horizon2020 projects focused on carbon capture and use:

- The **MOF4AIR** (Metal Organic Frameworks for carbon dioxide Adsorption processes in power production and energy Intensive industries) project aims to develop innovative materials which will efficiently capture carbon dioxide in order to reduce emissions of carbon dioxide gas from industrial processes. Tüpraş will conduct first-hand refinery field tests of the technology for the capture of waste carbon dioxide gas in flue gases.
- The **COZMOS** (Efficient CO₂ conversion over multisite Zeolite-Metal nanocatalysts to fuels and OlefinS) project involves the development of innovative catalysts to efficiently convert carbon dioxide gas in process streams from industrial processes into high value-added products such as propane and propylene. Performance tests of the catalysts to be developed will be conducted at the pilot facility to be established within the infrastructure of the Tüpraş R&D Center.

The **MOFAC2CAP** (Development of Novel MOF Aerogel Composites to Capture CO₂) project, whose two-stage international and national applications were completed within the scope of the M.ERA-NET 2020 call in the field of materials science and engineering opened by the European Union, was found eligible for grant support. Tüpraş is the international and national project coordinator in the MOFAC2CAP project, with L’École normale supérieure (L’ENS) University from France and Koç University from Turkey being partners. In the project, innovative MOF/aerogel composite materials will be developed and synthesized in order to selectively capture carbon dioxide from carbon dioxide-rich process gas mixtures and flue gases, and their carbon capture performance will be tested in a laboratory-scale adsorption test system to be established within the scope of the project.



The TÜBİTAK 1005 - National New Ideas and Products Research Support Program was completed in cooperation between Tüpraş and the Turkish Petroleum Corporation (TPAO) under the coordination of METU Petroleum Research Center. Under this program, the “Technical and Economical Investigation of the Most Appropriate Business Model for Injection of Flue Gas / Carbon Dioxide to be Captured from the Batman Oil Refinery to the Batı Raman Oil Field” project underwent an evaluation and was found eligible for support.

In the project, the technical and economic feasibility of capturing waste carbon dioxide gas in the flue gases released as a result of crude oil refining at the Tüpraş Batman Refinery, its transportation to the Batı Raman field and injecting it into the field with the improved oil recovery method will undergo evaluation. The project was aimed at both reducing carbon dioxide emissions and ensuring the continuity of domestic crude oil production from the Batı Raman field.

In cooperation with the Koç University Tüpraş Energy Center (KUTEM), work started on the R&D Center project under the name of “PSA-to-Fuels - Development of Catalytic Systems Focused on the Conversion of Carbon Dioxide-Rich Refinery Process Gases into Valuable Fuels or Chemicals”, where refinery

process gases with a high CO₂ content are converted into high-value-added products such as ethanol and dimethylether (DME) using innovative catalysts. CO₂ conversion, catalyst research and development and catalyst performance test studies are carried out in the laboratory scale catalyst performance test system established within the scope of the project.

Renewable Fuels

Tüpraş is a partner in two important projects on biofuels, one of the focus areas within the context of the announced transition plan.

One of these projects is the EBIO project, which is supported under the Horizon2020 program. The project will investigate the improvement of the properties of biomass-based liquids through electrochemical method with an evaluation of the obtained products as intermediate and final products at the refinery. Tüpraş will determine the necessary conditions for the production of renewable jet fuel from biofuels.

The other key project is the Micro-Jet project, which receives support within the scope of TÜBİTAK ARDEB 1003 Program and which Tüpraş participates in jointly with key establishments such as Boğaziçi University, Koç University, Turkish Airlines, THY-Teknik and THY-OPET. The project aims to obtain sustainable and economical bio-jet fuel with high-efficiency fuel synthesis catalysts by using microalgae biomass which are appropriate for Turkey’s geographical production conditions.

Green Hydrogen

Green hydrogen technologies, an investment area which Tüpraş has prioritized in its Strategic Transition Plan, are one of the research areas covered at the Tüpraş R&D Center. The second phase of the project, which is being carried out jointly with Koç University, is currently under way. In the first phase of the project, a prototype was developed and a patent application was filed for the recovery of hydrogen spent in the refinery desulfurization process. Studies are underway to increase the conversion efficiency of the developed system and the durability of the electrodes developed in the first phase.

Fine Hydrocarbon Conversion

The conversion of fine hydrocarbon fractions in refinery intermediate and end products into valuable chemicals and fuels is crucial in bringing about Tüpraş’s sustainable transformation. In this regard, two research projects supported

biofuels

Tüpraş is a partner in two important projects on biofuels.



by the HORIZON2020 program are ongoing. The **MACBETH** (Membranes and Catalysts Beyond Economic and Technological Hurdles) project aims to develop innovative and co-designed catalytic membrane reactor applications, innovative processes and catalysts. In this project, Tüpraş's role is to design, form and finalize catalyst support materials with high performance for process technologies for the conversion of propane, an LPG fraction, into propylene, a more valuable product, and to produce catalysts for direct use for field demonstration. The **BIZEOLCAT** (Bifunctional Zeolite based Catalysts for Sustainable Hydrocarbon Transformation) project is aimed at developing innovative catalysts and processes for the conversion of propane and butane, which are LPG fractions, into olefins such as propylene and butadiene and aromatics such as benzene and toluene. In addition to our role in the composition design, shaping and production of different types of powder-based catalysts in kg scale for scale-up studies and pilot-scale tests, the project also involves the validation of innovative catalysts developed with the project partners in the multi-functional pilot scale reactor system which will be designed and commissioned. In these two projects, which are aimed to reach TRL 7 and 5 levels, respectively, petrochemical products

will be produced with the dehydrogenation reaction applications to be carried out through the innovative processes and catalysts developed. The project will also enable the production of hydrogen, which is extremely important for the refinery.

Water Treatment and Waste Recovery

The Tüpraş R&D Center is also involved in project studies on water and waste management, which is of tremendous importance in terms of sustainability. These efforts have intensified in recent years.

As part of the Horizon2020 project, **INTEGROIL** (Demonstration of a Decision Support System for a Novel Integrated Solution aimed at Water Reuse in the Oil & Gas Industry), where advanced wastewater treatment technologies were tested on a pilot scale at the İzmit Refinery, was successfully completed in 2019. Subsequently, intensive project development studies in this field yielded results and two projects in which Tüpraş is a partner - **AquaSPICE** (Advancing Sustainability of Process Industries through Digital and Circular Water Use Innovations) and **CORALIS** (the Creation Of new value chain Relations through novel Approaches facilitating Long-term Industrial Symbiosis) – were found eligible for support within the scope of Horizon2020. Within the scope of these two projects, studies will be implemented to advance the level of technology in the field of wastewater recovery at refineries, including digitalization issues. Through these projects, Tüpraş will not only have the opportunity to follow the developed technologies first hand, but will also achieve significant environmental gains if the technologies are used.

Within the scope of the EIC-FTI-2018-2020: Fast Track to Innovation (FTI) call, which was initiated under the Horizon2020 program and aims to accelerate the commercialization of innovative technologies, the **EPC-EqTech** project (an innovative turnkey solution to process spent caustic created in the Oil and Gas industry at low-cost and which meets wastewater regulations) received the go-ahead for funding. The project, which started in July 2021, aims to develop innovative electrochemical technologies for waste caustic treatment. In this project, Tüpraş will have the opportunity to test these technologies, which have the potential to provide a great contribution to the environment, firsthand at the Kırıkkale Refinery.

Horizon2020 Success Stories

Tüpraş became the most successful Turkish industrial organization by obtaining EUR 7.83 million in grant support, with a total of 17 projects which have either been completed or for which work is ongoing within the scope of Horizon2020, one of the European Union Framework Programs.

Within the scope of the Horizon2020 Program, 5 of the 17 projects in which Tüpraş is a partner have been successfully completed while work on 12 is still ongoing.

Completed	Ongoing
1. SafeAST (2015-2017)	1. BAMBOO (2018-2022)
2. iPerm (2016-2018)	2. BiZeolCat (2019-2023)
3. INTEGROIL (2016-2019)	3. COZMOS (2019-2023)
4. Indus3Es (2015-2020)	4. MOF4AIR (2019-2023)
5. FUDIPO (2016-2021)	5. FACTLOG (2019-2023)
	6. MACBETH (2019-2024)
	7. HYDROPTICS (2019-2023)
	8. ACHIEF (2020-2024)
	9. CORALIS (2020-2024)
	10. AquaSPICE (2020-2024)
	11. EBIO (2020-2024)
	12. EPC-EqTech (2021-2023)

The **FUDIPO** (Future Directions of Production Planning and Optimized Energy and Process Industries) project, supported under the Horizon2020 program, was successfully completed after 52 months of work. The project aimed to contribute to industrial sustainability efforts by developing various optimization, control and data-based decision support tools in different industries (refining, paper, wastewater treatment, heat and power plants). Tüpraş hosted the development of a holistic decision support system in diesel production unit at the İzmit Refinery, which aims to monitor product quality and determine optimum process conditions to ensure this quality. The project, which aims to achieve energy and resource efficiency by using digital twins in industrial processes, will lead the studies in this field.

Horizon Europe Program

Horizon Europe, the 9th Framework Program of the European Union, was initiated on June 24, 2021 with the aim of supporting science and innovation with a budget of EUR 95.5 billion to cover the period between 2021-2027. The aims of the program, which marks a continuation of the Horizon2020 Program, are to strengthen the European Union scientifically and technologically, to increase Europe's innovation capacity and competitiveness and support employment, to meet society's priorities and to maintain Europe's socioeconomic models and values.

FLEXIndustries (Digitally-enabled FLEXible Industries for reliable energy grids under high penetration of Variable Renewable Energy Sources - VRES) was the first project carried out by Tüpraş to receive funding under the Horizon Europe Program. The program aims to implement the most appropriate energy efficiency management and process flexibility practices in 7 different energy-intensive sectors (automobile, biofuel, polymers, steel, paper, pharmaceuticals and cement). Tüpraş will support the project with scenario-specific replication studies from the refinery, focused on flexible use of energy and integrated energy method. Feasibility studies will continue during the evaluations of potential adaptation of the developed applications to the refinery.

R&D Projects Focused on the Digital Transformation

Chemometrics Studies

Regular quality monitoring of intermediate products and products is of critical importance in ensuring sustainable and flawless production at the refinery. Any delay in the period between sampling to reporting of the analysis risks delays to necessary interventions to be made to the units. This project aims to report the physical properties of naphtha products in crude oil units using spectroscopic methods and chemometric models. An infrastructure for real-time quality monitoring based on chemometry was established during 2021 for physical property reporting of crude oil unit intermediate products. Under the project, the number of physical tests, the amount of samples, the chemical contact, the time spent and the operating expenses of the devices were reduced significantly.

the most successful in Horizon2020

Tüpraş became the most successful Turkish industrial organization by obtaining EUR 7.83 million in grant support, with a total of 17 projects.



Detection of Abnormal Conditions in Processes and Equipment

The project aims to allow early detection of malfunctions which may occur in refinery processes while determining their root causes by processing sensor data with machine learning methods. Thus, while contributing to the more controlled management of the operations of the business and process units, it will also support the business planning of the maintenance unit. The developed models will provide financial benefits by detecting errors before they reach the alarm limits and will serve process safety by preventing possible risks.

PIANiSM

The ITEA-labeled and TUBITAK-supported PIANiSM project aims to transform predictive maintenance techniques into software which can be used in various industries for the purpose of an end-to-end automated production process and optimization of value chains. Innovative solution methods such as data science, machine learning and real-time data processing are used in the project. Tüpraş is involved in the project as a use

case provider and aims to predict the types of failures which may occur in critical rotating equipment in the refinery before they occur. Accordingly, the project envisages a reduction in maintenance costs through early planning of unplanned downtime and maintenance activities.

Membrane Pollution Monitoring

One of the projects serving Tüpraş's digital transformation journey is the "Pollution Monitoring in Membranes" project implemented at the İzmit and Izmir Refineries Wastewater Treatment Units. With the project, the parameters that cause pollution can be monitored while preventing the formation of permanent pollution in the membranes and damage to the membranes due to premature washing. The project increases the service life of membranes, while saving energy consumption and increasing unit water recovery.

Storage Tank Optimization

The project aims to develop a decision support tool which recommends optimal tank configuration of tanks where end-products, intermediates and additives are stored in the refineries. The developed tool is designed to be used for tank service changes and tank investment evaluations, taking into account a wide array of features such as tank maintenance plans, tank types and volumes. This therefore avoids unnecessary tank investment costs while tank service assignments can be digitally planned in the long term.

R&D Projects which add Value to Tüpraş

The RUVIOilDiver (Development of Robotic Applications for Live Tank Bottom Inspection) project, the design and application which was carried out within the scope of SME Support Call for TÜBİTAK 1707-Order-Based R&D Projects, was found eligible for funding. The robotic system, which will be manufactured for the first time in Turkey, aims to carry out tank floor inspections while the storage tank is in operation, thus enabling floor inspections of storage tanks, along with a variety of tasks performed in risky and challenging environments such as refineries, to be performed more safely, efficiently, precisely and cheaply thanks to robotic technologies.



In order for the existing coking unit within the scope of the Fuel Oil Conversion Unit to continue its operations in a safe and sustainable manner, the “Laboratory Scale Coking Unit” has been added to the R&D Center infrastructure. This unit will enable the simulation of the operations of the Coking Unit on a laboratory scale as well as offering solutions to unit problems, thereby contributing to the sustainability of production. The established mini Coking Unit will represent a major step forward in researching and quickly reaching solutions to issues such as examining the relationship between the crude slate and products, better understanding parameters which affect unit performance, evaluating the suitability of alternative sources of crude oil for refinery operation.

Within the scope of the “Development of Bitumen-Based Qualified Products” project, development studies were carried out for asphaltic primer material, which is used in the defence industry and a product currently subject to problems in terms of supply, price and quality because it is imported. The first sales of the domestically produced and continuously available asphaltic primer product, which fully meets customer expectations, were made in 2021.

Collaborations

The Horizon2020 program offers Tüpraş the opportunity to develop cooperation with more than 120 stakeholders from 26 countries. Thanks to this business network developed with some of the world’s leading universities, research centers, leading industrial organizations and SMEs, new technologies and scientific developments can be followed closely while also presenting new opportunities for cooperation.

Tüpraş is a member of the A.SPIRE platform, which includes important European institutions and organizations. A.SPIRE follows a research and innovation roadmap to keep global warming below 2 degrees, which is also the target of the Paris Agreement. Tüpraş R&D Center also 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. The SPRINT Robotics initiative, founded in 2015, is a non-profit organization that promotes the development, availability and application of robotic technology for inspection and maintenance in capital-intensive facilities such as refineries globally. Tüpraş became a member of this platform in 2020, which also includes companies in the refining sector such as Shell, BP, Chevron, Total, Aramco. The initiative, which has end users, industrial service providers, system integrators and technology developers in its value chain, offers a great advantage for the close monitoring of technologies in the field of robotics.

In 2017, Tüpraş became a member of the “Delayed Coking Project”, which has been carried out since 1999 under the coordination of the University of Tulsa. While the project provides access to the knowledge gained over 20 years, the applicability of the project gains in the coking unit is evaluated. In addition, it provides opportunity to develop a different perspective on the problems in the unit and to make improvements.

Within the scope of collaboration between industry and academia, the studies of the projects titled “Development of Technologies for Low Carbon Footprint in Refinery Integration of Biofuels” under the direction of Koç University, and “Production of Catalyst/Adsorbent Support Materials for Use in Refinery Applications” under the direction of Eskişehir Technical University within the scope of TÜBİTAK 2244-Industry PhD Program are ongoing. The projects serve the goal of training

48 scientific publications

The Tüpraş R&D Center published 48 national and international scientific publications in 2021.



qualified personnel for the sector and our country by supporting doctoral students in the fields of study determined in line with Tüpraş's needs and sector developments.

One of the projects within the scope of collaboration between industry and academia that continues within Tüpraş R&D is the study conducted with Boğaziçi University on the investigation of the biogas production potential of refinery wastewater treatment (WWT) sludge. Thanks to the project, the biogas potential of the WWT sludge of the refinery will be determined and possible environmental and economic gains will be evaluated using the obtained data.

The "Crude Oil Process Optimization" project, carried out in cooperation with Istanbul Technical University, aims to ensure that the refinery's long-term planning can work in harmony with daily planning in a way that can adapt to sudden changes such as cargo cancellation and unit stoppage. Determining effective and fast decision-making in crude oil tender processes, improving crude oil inventory management, increasing operating efficiency and profitability, facilitating business transfer in rotation are among the most important achievements of the project.

Patents and Scientific Publications

Within the framework of Tüpraş's intellectual rights studies, three patent applications (two Turkish national patents, one PCT (Patent Cooperation Treaty) were filed in 2021. This took the total number of patent applications filed since the commissioning of the R&D Center to 101, of which 72 are national and 29 are international. Tüpraş applied for seven national trademarks in 2021. Currently, there are a total of 51 trademark applications pending, nine of which are registered internationally (4 EU, 1 WIPO) and 35 of which are registered nationally.

The Tüpraş R&D Center published 48 national and international scientific publications in 2021, taking the total number of such publications since it commenced operation to 352.

R&D Agile Organizational Structure

The Tüpraş R&D Center started to work within the framework of an agile organization by bringing together a number of units, functions and competencies in order to increase the value it adds to the Company in a constantly changing and highly competitive world. In our new organization, there are portfolios suitable for Tüpraş's priorities and requirements, including purpose/value teams, operational teams and a center of expertise.

The Tüpraş R&D Center aims to maximize the value it offers by continuing to develop its research infrastructure and technical competencies through new units and by prioritizing this correctly in the focus of interaction with stakeholders. In this vein, the Tüpraş R&D Center works to the following goals;

- Reducing project times,
- Maximizing value on a customer basis,
- Accelerating decision-making processes by establishing autonomous and aligned teams,
- Ensuring the development of and effective use of areas of expertise,
- Ensuring that teams work with more value-oriented, less hierarchical structures in order to focus and produce output in the projects they work on.



Enterprise, innovation, open innovation and start-up integration activities are carried out in Tüpraş for current work and for the work of the future. Tüpraş, which joined the Koç Innovation Program in 2017 and established the Innovation Directorate within its body, continues its work to;

- spread a climate of innovation and enterprise throughout the company,
- support the cultural transformation,
- create sustainable value from these studies and increase competence

and carry out internal and external communication and training activities in this area.

Tüpraş maintains its efforts to commercialize the creative and innovative ideas submitted by its employees with its in-house enterprise program carried out with start-up methodologies, through in-house activities. 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 Inowhatif E-Bulletin and Enterprise Newsletters prepared within the company.

Open innovation activities are actively carried out in order to add value to both Tüpraş and entrepreneurs by integrating into the domestic and international enterprise ecosystem. Open innovation activities are carried out with the aim of finding innovative solutions to meet needs arising within the company and to benefit from new areas of growth by following new technologies being developed in the area of energy conversion. In addition to a large pool of more than 15,000 start-ups, continuous scans are carried out with the domestic and international network and various business partnerships are entered into between the relevant departments of the Company and entrepreneurs.

Idea Unit – the platform where raw ideas turn into value

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 all content is accessible.

Innovation Volunteers Team

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

TÜPRAŞ MAINTAINS ITS EFFORTS TO COMMERCIALIZE THE CREATIVE AND INNOVATIVE IDEAS OF ITS EMPLOYEES WITH ITS IN-HOUSE ENTERPRISE PROGRAM CARRIED OUT WITH START-UP METHODOLOGIES THROUGH ITS IN-HOUSE ACTIVITIES.



take part in the in-house enterprise project teams may become an Innovation Volunteer through the Idea Unit portal.

Inowhatif Talks Event Series

and experience on specified topics, regardless of the expertise within the company. In 2021, events were held on the topics of “The jobs and work environments of the future”, “NFT”, “Blockchain”, “Autonomous vehicles”, “Innovation in finance”, “Digital intelligence” and “The Data-driven innovation mindset”.

In-House Enterprise Program

Within the scope of the in-house enterprise program, Tüpraş employees carry out commercialization studies of their creative and innovative ideas with start-up methodologies. Projects which will create new growth areas and new markets are supported under an enterprise-based approach. In the process, enterprise teams are supported with intensive training on enterprise methodologies, venture mentoring and senior management sponsorships. Projects are implemented with an agile approach in the program, which adopts the Design-Oriented Thinking, Lean Initiative methodology.

Examples of In-House Enterprise Projects

With the in-house enterprise teams formed from different locations and departments, work continued on projects

which will create new growth areas and new markets with an enterprise-based approach.

Emuphal-T

Bitumen and bitumen emulsions are among the main components of asphalt. As a continuation of the Modified Bitumen (Tüpraş brand: Modiphal-T) project, which was commercialized in 2020, the Bitumen Emulsions (Tüpraş brand: Emuphal-T) project was implemented in 2021. Within the scope of the enterprise program, a business model was developed in which these specially qualified bitumen products were presented with CE marking and laboratory service in cooperation with seven different departments and sales were started for the first time at Tüpraş.

Secure Logistics

The Secure Logistics project develops solutions which provide security at every stage from filling to discharge while sharing instant location information, for logistics companies carrying out transportation of valuable liquids. The Secure Logistics project develops solutions which provide security at every stage from the filling to the discharge while sharing instant location information for logistics companies carrying out transportation of valuable liquids. An agreement was signed with the first customer in 2021.

INNOVATION

Bolluca

Sulphur is the 4th main nutrient in soil. With increasing restrictions on sulphur emissions, the soil's need for sulphur has increased over time. Tüpraş's innovative business model aims to commercialize sulphur, one of Tüpraş products, with a focus on agriculture.

Hidrosimo

The program, developed by the Tüpraş Simulation team, enables easy hydraulic calculations. The project is aimed to be commercialized in 2022.

Internal Mentoring Program

Employees are selected for in-house enterprise support projects as internal mentors. In addition to being involved in in-house activities, idea generation workshops and all processes of the In-House Enterprise program, they also participate in ecosystem events take part as a panelist or speaker.

Open Innovation Studies

Enterprise and innovation activities are carried out both in the present and for the future in a way that supports sustainable growth and continuity in line with the Company's strategies. Open innovation activities aim to find innovative solutions which will meet the Company's needs and capture new areas of growth by following new technologies.

Interactions have taken place with more than 200 startups both at home and abroad every year through these channels, which provide access to 15,000 startups. Initiatives with viable solutions for their innovation focus areas find the opportunity to find solutions to real needs and access the demo opportunities in Turkey's largest industrial enterprise. Processes were carried out with a total of more than 30 units in four refineries and the headquarters, and demo studies were conducted with more than 120 stakeholders from within the company.

In addition to being a customer of successful applications, the PoC/demo is also evaluated strategically. Integration with start-ups is discussed in many ways, ranging from conducting PoC/demo work to becoming an investor.

Inowhatif360 Program and Evaluation Team

The purpose of the Inowhatif360 program can be summarized as providing operational benefits as an early adopter of initiatives which can meet needs and resolve problems in the

field or business processes in the short and medium term, ensuring Tüpraş rapidly benefits from innovations in the sector. The Inowhatif360 Evaluation Team has been established with representatives from all locations of the Company for the coordination of the Inowhatif360 Program and effective cooperation processes. The team manages the collaborations with a team spread throughout Tüpraş for the implementation of innovative solutions for operational processes and supports the process with a wide cooperation.

Start-up Collaborations and PoC (Proof of Concept) Work for Operational Processes

In cooperation with the Inowhatif 360 Evaluation Team and related business units, more than 35 domestic and international initiatives on operational processes were communicated in detail in 2021. PoC scenarios were prepared with 17 ventures in a wide range of different areas including "Innovative valve design", "NLP", "Remote equipment monitoring platform", "wastewater management" and "Robotic solutions", with cooperation carried out in these areas.

Emerald Technology Ventures Investment

As part of a long-term cooperation agreement with the Emerald Industrial Innovation Fund, an international venture capital fund which invests in new technology companies in the United States and Europe, Tüpraş has started investing with the status of an LP through Emerald.

Emerald Sprint Acceleration Program

Emerald Sprint is a program designed to speed up the pilot stages by matching large companies with start-ups selected by experts in the field of decarbonization.

Tüpraş is included in two programs; Sprint 1 matches innovative technologies for carbon accounting and measurement while Sprint 2 specifically matches innovative technologies such as hydrogen, carbon capture and conversion for Scope-1 emission reduction.

Within the scope of the program, the start-ups selected for the program were examined under the headings "Hydrogen", "Carbon accounting", "Carbon retention and conversion" with the participation of all relevant departments. Detailed interviews were conducted with the initiatives in the focus areas along with studies of pilot application scenarios.

4 start-ups

Tüpraş has invested in four start-ups under the LP status through Emerald Technology Ventures.



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 as part of new technologies and business models in energy transformation, within the scope of Strategic Transition Plan. In addition to the Emerald Industrial Innovation Fund, long-term partnerships in the field of venture capital have been established, first of all to carry out co-investment (co-invest) and subsequently direct investments.

Accordingly, negotiations have been initiated with a number of start-ups and investors in the areas of green hydrogen, carbon capture, utilization, conversion, renewable energy and fuels, industry 4.0 and waste management.

Tüpraş has invested in four start-ups with the status of LP through Emerald Technology Ventures and plans to invest in two start-ups in the near term.

Keiretsu Forum Türkiye Cooperation

As part of the Keiretsu Forum Türkiye cooperation, DemoDay events were organized in which initiatives were met that developed solutions for open innovation focus areas within the company. Active participation was provided in the events organized by Keiretsu Forum Türkiye.

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. More than 2,000 students and entrepreneurs have been reached through sharing about enterprise, innovation and Tüpraş's innovation studies as panelists or speakers at the universities and events of student clubs at universities. We play an active part as a jury by providing mentorship support in acceleration programs, competitions and other enterprise activities.

DIGITAL TECHNOLOGIES, ROBOTICS AND CYBER SECURITY



Digital Strategies

Within the framework of the 2050 strategic transition plan which it has created with the aim of “producing the energy of the future”, Tüpraş has also updated its digital strategies to continue its innovative and pioneering practices in order to strengthen this transformation with digital technologies and to adapt to the future of work more rapidly under changing conditions. It has determined the following strategies, which it has renewed within the framework of the “interconnected” concept that it created in 2020;

- Connected People
 - Digitizing the Total Experience
 - Agile Transformation, Design the Future
- Connected Operations
 - Providing Operational Transparency
 - Creating a Smart and Autonomous Refinery
 - Achieving Operational Excellence
- Connected Digital Processes
 - Digitizing the Total Experience
 - Achieving Operational Excellence

In these strategies, which have been updated with a human-oriented approach, the keyword “interconnected” has been used in the sense of being connected to each other, taking the same data at the heart of the decision making at all levels, and acting together as part of a whole.

These strategies are aimed at directly supporting the company's main goals of operational excellence, efficiency, sustainability, low carbon, technical and cyber security, and to provide a strong benefit from automation with extensive operational transparency, employee productivity and experience, artificial intelligence and mobility.

Within the framework of the developed strategies, digitalization initiatives have been created in a very broad perspective, based on all applications which manage processes such as physical activities such as production activities, maintenance at the refinery, analytical projects such as mobile and wearable technologies, robotic projects, optimization, predictive maintenance, production planning and key processes such as planning operations for shipping, back-office operations, financial operations and crude oil supply.

These digital strategies which have been created are published on the Company's corporate website at address: <https://www.tupras.com.tr/strateji#dijital-donusum>

OPERATIONAL TRANSPARENCY, HIGH AUTOMATION, EMPLOYEE PRODUCTIVITY AND EXPERIENCE, ARTIFICIAL INTELLIGENCE AND MOBILITY ARE SET TO BRING EXTENSIVE BENEFITS IN TÜPRAŞ'S DIGITAL STRATEGIES.

Connected People – Agile Transformation, Design the Future

With this theme, Tüpraş, which has set a priority as cultural transformation rather than technological transformation since the first years of its initiation of the digital transformation, aims to achieve the transformation which will ensure the digital transformation is sustainable, to keep the company ready for new trends and technologies, and to provide individuals with competence in this regard. The following have been determined as focus areas under this theme.

- Activating all stakeholders in the value chain,
- Creating sustainable innovative technologies and products which can provide efficiency, speed and safety in refinery sites,
- Completing the agile digital transformation and adapting to change,
- Providing technology management and cultural transformation,
- Maintaining and managing existing human resource capabilities,
- Digitizing the total experience in all areas

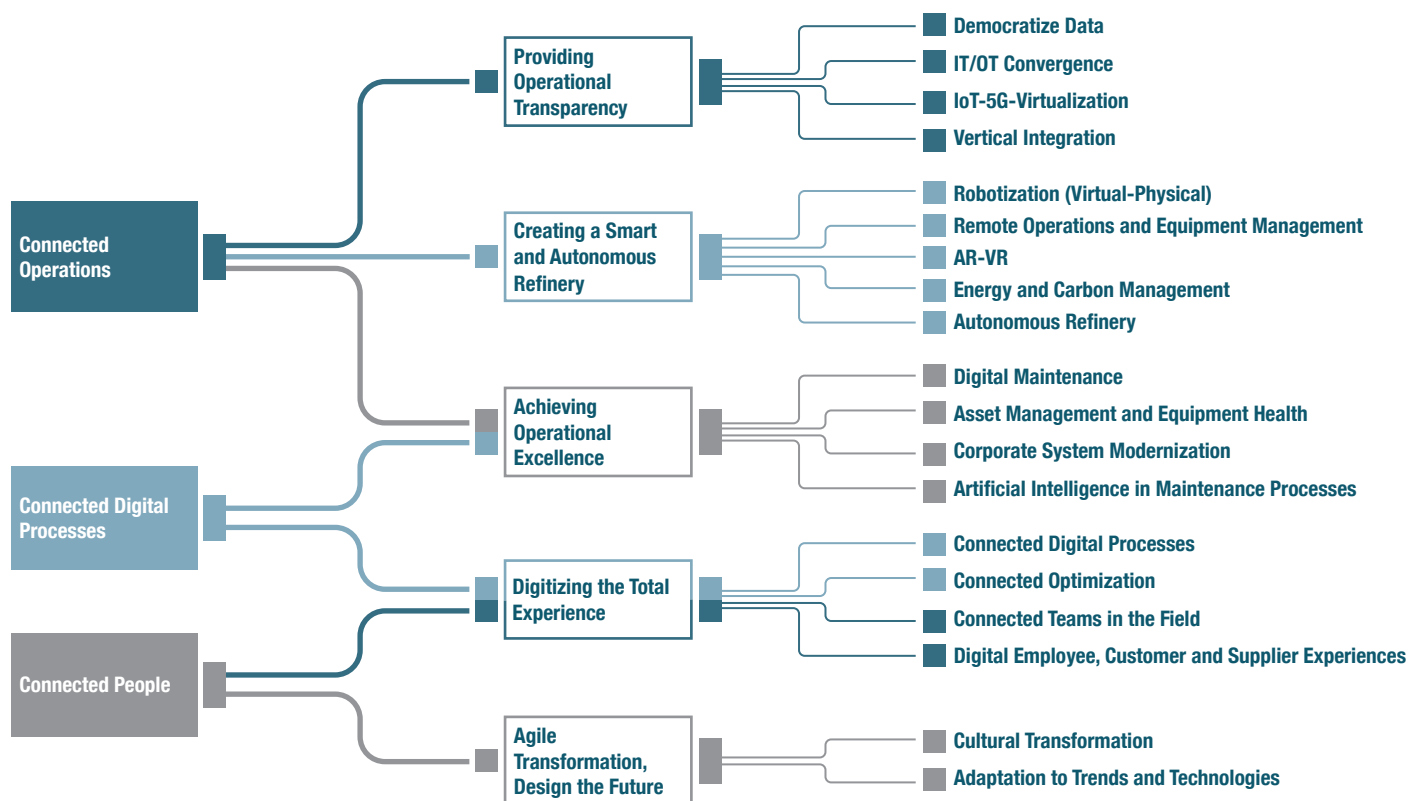
Some of initiatives prepared in this context are summarized below:

New Digital Experiments:

Within the scope of this strategy, pilot trials for a wide range of technologies were conducted in 2021. Edge Computing, AR/VR Technologies, IoT Scenarios, Industrial Virtualization, Asset Management Platform (ASM) and Digital Twin technologies were determined as technologies which were suitable for refinery conditions and yielded efficiency, and project designs have been prepared for the scenarios needed in 2022.

Citizen Analyst and RPA:

This initiative, which aims to liberalize the data and use it at every point of the decision mechanism, plans to use the 'single and the same' data at the center of the decision at every level, not only for data analysts but also for all company employees. The first results of the "Citizen Analyst" transformation were obtained by supporting employees with big data analysis training created for this purpose during 2021.



DIGITAL TECHNOLOGIES, ROBOTICS AND CYBER SECURITY



Training started with 110 participants in the “Analytical Tüpraş Training and Project Program” which was created in this context. In 2022, citizen analysts will be created in all departments in a process which will continue with training camps and project development work. Similarly, in line with the aim of spreading the digital thinking structure to the Company culture, efforts have been initiated to prepare “RPA Coaches” who will manage RPA (Robotic Process Automation) activities. RPA technology, which was commissioned in 2018, has been one of the milestones in the digital transformation at Tüpraş with its agile and flexible approach which enables the digitalization of business models. RPA Coaches, who will be trained on a voluntary basis from all departments, aim to create a digital workforce which can work on a 24/7 basis, ensuring business continuity and reducing the operational workload on business units. Tüpraş is moving towards becoming an “analytical and digital competitor” by spreading its digital/analytical power and culture to all its departments.

Connected Operations - Providing Operational Transparency

With this theme, Tüpraş aims to ensure that all decision-makers have access to real-time, individual data and decision support systems, ensuring that all kinds of physical activities at the refinery site are completely visible and measurable from a digital platform. The following are designated as the main areas of focus in this theme;

- Implementing operational transparency
- Creating an intelligent and autonomous refinery
- Making maximum use of IoT, 5G and virtualization technologies
- Creating decision support systems which are integrated with all operations
- Ensuring convergence of IT systems with OT systems
- Achieving operational excellence

Some initiatives in this context:

>TL 100 million

The projects managed by Tüpraş in the fields of analytics and Artificial Intelligence offer the potential to bring over TL 100 million in cost advantages.



Data Analytics and Artificial Intelligence Scenarios

Optimization and data analytics scenarios, which are often reworked in order to manage the negative effects of fluctuations in demand in the refining sector, have become one of the most important tools.

After studies were conducted which were focused on product quality and production parameter estimators using a data science approach on the big data infrastructure, ProCast, the first project in which the entire refinery was modeled with machine learning, was commissioned. Subsequently, the infrastructure for the transition to proactive production, referred to as Refinery 4.0, was established and energy efficiency instant follow-up studies, which started in 2020, were developed together with the coding of field workers in all refineries, carbon emissions were integrated into the monitoring system and energy twins of the units started to be created. As such, company strategies were created to help the Company achieve its “carbon neutral” target.

Artificial Intelligence algorithms created on crack price estimations and dynamic hedging policies to support financial processes have become a useful tool in the decision-making process. In this context, refinery-based product sales forecasts and production planning processes were improved upon, and the market price forecasting system was perfected in cooperation with Entek, a Koç Group company, in order to effectively manage the electricity budget.

The cost advantage of the projects managed by Tüpraş in the fields of analytics and Artificial Intelligence exceeds TL 100 million.

Data governance

A maturity assessment study was carried out in order to harmonize data and determine responsible persons and authorities in line with a certain standard, and ensure the quality and continuity of the data. As a result of the study, a road map was determined and necessary infrastructure, training and coordination studies got underway. A governance committee is planned to be established 2022 with the process ensuring continuity throughout Tüpraş.

DIGITAL TECHNOLOGIES, ROBOTICS AND CYBER SECURITY

Creating a Smart and Autonomous Refinery

Autonomous and risk-free operation is targeted by providing solutions which will increase efficiency in all occupational safety and production processes. The following are identified as focus areas in this theme;

- Ensuring field observation and routine work is autonomous with robotic processes,
- Providing remote operation and equipment management,
- Using virtual technologies in occupational safety and emergency management trainings and field tours,
- Providing Net-Zero and maximum energy efficiency with digitalization and Artificial Intelligence,
- Developing a perspective which will monitor continuous improvement with autonomous refinery processes and smart devices

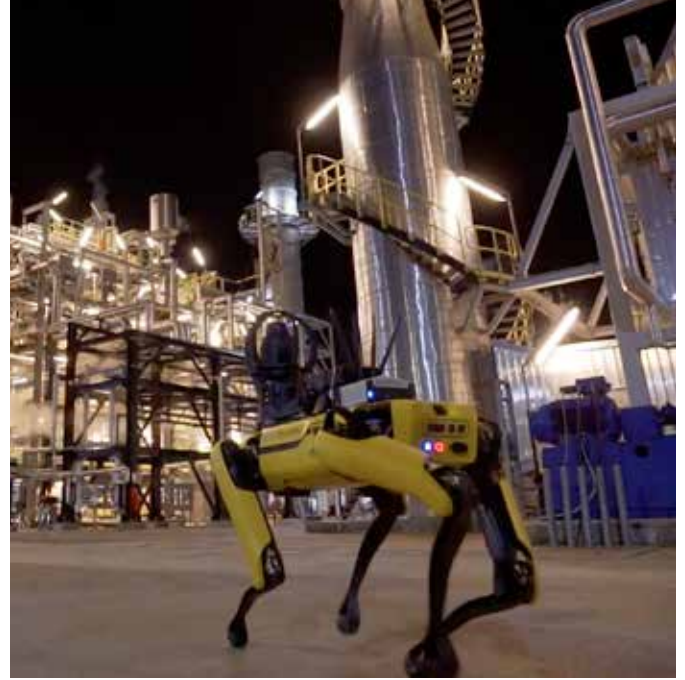
Robotics studies

The Tüpraş Robotics Team continued to carry out project development studies for advanced technologies and digitalization studies at production sites in 2021. Placing the safe business approach at the heart of all business processes, Tüpraş has completed studies to place Artificial Intelligence-supported autonomous robot applications into operation in high-risk working environments in the refineries.

Having carried out pilot trials of robotic technologies in periodical control studies of oil storage tanks, measurements and high-risk work areas in the refineries, Tüpraş recently completed testing applications in production sites with Spot, an intelligent four-legged robot manufactured by the American robot company, Boston Dynamics, which can also be controlled remotely. With these studies, the first steps have been taken to bring ease to the work of the technical teams in repetitive and risky processes and to allow them to use their competencies in different fields.

Field Mobilization

The tests of mobile applications and industrial tablets have been completed successfully and started to be used in field operations in 2021. The study, which is a pioneering example in the field in refineries in Turkey, will provide an important transformation in a digital perspective. Within the scope of



the project, which has involved many businesses and has continued for about a year, infrastructure preparations have been completed in the field and tablets complying with refinery conditions and regulations have been supplied. The project, which marks a significant step in the digital transformation given that mobile devices cannot normally be used in the refinery areas due to security reasons, is expected to provide substantial benefits in many areas such as production, operational reliability, process safety, maintenance, quality, occupational health and technical safety, training, remote communication and communication at any time, and the sharing of documents.

Connected Digital Processes - Achieving Operational Excellence

The aim of this theme is to restructure the maintenance processes in digital environments to include the predictive maintenance model and performance and risk parameters, to support the maintenance and production processes with Artificial Intelligence technologies and to integrate the

TAS project

The TAS project was commissioned at the İzmit Refinery and the first filling was carried out by live order.

architectural simplification and cyber security approach into all processes. In this theme, the following areas have been identified as focus areas;

- Establishing smart and integrated stock management,
- Establishing digital maintenance processes,
- Establishing systematic equipment health and asset monitoring management,
- Activating Artificial Intelligence supported process control processes,
- Modernizing the Institutional/Financial systems,
- Providing security and quality management in software development processes,
- Simplifying and measuring all digital transformation processes,
- Ensuring the optimization by providing inter-application integrity

Some of the projects which fall under this scope are listed below:

DBO and ZBB

Within the scope of this strategy, Tüpraş continued to evaluate the opportunities and problems identified in the Digital and Analytical Projects committees held every month, which included the senior management. In order to more effectively monitor the results of the projects which are reflected in the financial statements, Tüpraş designed a DBO (Digital Based Operations) process in addition to the ZBB (Zero Based Budgeting) savings approach, and carried out studies to create a system to evaluate the projects which provide financial returns under a separate method, thus more accurately calculating the expected returns of projects at the initial stage while achieving transparent traceability of results and supporting the promotion of project proposals.

TAS

The product filling and sales systems (Terminal Automation System - TAS) project, which is one of the most important steps in Tüpraş's transformation towards becoming a digital refinery and within the framework of sustainable efficiency targets, was commissioned in the A and B regions of the İzmit Refinery, and the first filling was carried out with a live order on 13 August. When the TAS, a project in which Tüpraş has been working

jointly with a number of business units, suppliers and solution partners for nearly two years, enters operation at all points, together with other refineries, all business processes in sales systems such as shipping, pipe, land, wagon filling and scrap will be transferred to the digital environment.

Contactless and Scheduled Sales

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. When the application, which is the first in its sector, is extended to the land filling process of all refineries, it will be integrated into the pipeline/wagon and sea filling processes, thus achieving the goal of 360-degree digital customer experience in all its dimensions.

AR-VR-XR-Based Studies

Solutions which would provide added value by testing field applications of wearable technologies, wireless and mobile solutions which will support remote intervention, especially during the pandemic, were commissioned in 2020. Tüpraş also won first prize in the digitalization category at various competitions with the "Smart Helmet" project carried out in this area, also focused its efforts on enriching its work with AR-VR-XR-based technologies in 2021. The company has carried out work to use the technologies of Extended Reality (XR), Augmented Reality (AR) and Virtual Reality (VR) primarily in training activities. Accordingly, Tüpraş aims to take steps to increase productivity and job security by ensuring that field employees gain competence more quickly. In addition to AR/VR supported 3D simulation, training and field tour activities with the "Remote Virtual FAT (Factory Acceptance Test)" systems, other benefits of these technologies include cost reductions and time savings.

Tüpraş, which has achieved efficiency in various AR/VR supported scenarios simulated in 2021, will continue to invest in this platform and continue to work by extending the use of data-based decision support mechanisms in the field together with wearable technologies to all field workers.

HEALTH AND SAFETY PRACTICES



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.

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 overall performance evaluation calculations carried out by Tüpraş.

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. 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 2021, a total of 292,712 person-hours of basic and technical OHS training was provided, of which 108,672 person hours was for Tüpraş employees and 184,040 person hours to contracted employees.

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.

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

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.

accidents occur, and to prevent a repeat of accidents by learning lessons from the accidents that have happened.

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.

Risks arising from operations are monitored under HAZOP (Hazard and Operability) studies, which are reviewed every 2 years and renewed every 4 years. The aim of these studies is to reduce the incidence of major accidents to a level of 1x10⁻⁶. 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.

In 2020, internal trainings, including major accident scenarios, began to be implemented both in-class and online, in order to raise awareness among employees and improve their competencies, especially in process safety, and continued in

2021. Along with the digitalization studies, the management of process safety risks and the online monitoring of the effectiveness of barriers and projects on actions (alarm management, barrier monitoring-Safepool, digitalization of SU/SD procedures, process safety field audits etc.) are carried out.

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.

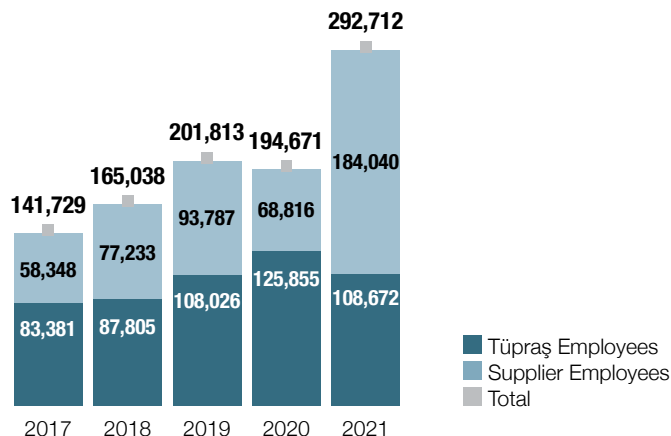
At Tüpraş, it is accepted that the concept of safety is not the duty of a certain group, but an obligation that everyone must comply with. Therefore, "safety" is a value, not a priority. It is expected that there should be no activities which would go against the safety culture.

A study of OHS accidents occurring in 2020 and 2021 found a significant decrease in the number of accidents caused by facilities or equipment, but that accidents caused by human error in their last choice selections continued. For this purpose, in 2021, besides planning and improving field control, studies on "Human Behavior - Errors" were carried out. Studies on human factors and human performance optimization will continue in 2022.

The following measures were taken within the aim of improving general OHS performance, creating a safer working area and raising awareness among employees in 2021;

- The contractor management system (Single OSGB) was extended to all refineries and the next phase started to be rolled out in the Kırıkkale Refinery,
- Within the scope of work checks with the purpose of achieving a Lean Work Permit Standard, the following steps were implemented;
 - Permit processes were simplified and a more effective and controlled system was introduced,
 - Employee participation and effective additional audits were put in place by sharing authority and responsibilities,
 - Forms and certificates were simplified,
 - Work to establish the basis for the necessary regulations in terms of compliance with international good practices was carried out.

TOTAL OHS TRAININGS (person x hours)



HEALTH AND SAFETY PRACTICES



- As part of digitalization work, trials of electronic permits were completed at the Izmit Refinery, and preparatory work for technical specifications got underway. The procurement process is planned to be completed in 2022 and put into practice within a planned schedule.
- Digitalization of documentation continues within the scope of collecting and analyzing more effective data.
- Within the scope of safety culture efforts, individual and team development activities were carried out in order to raise awareness among employees.

The findings of the audit conducted by the Ministry of Labor, the BSI 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.

Tüpraş responds to emergencies with high capacity modern equipment and competent personnel. National and international relevant standards are taken as a basis in training for the modernization of emergency protection and response systems, continuous improvement, and increasing the competence of the teams.

High-level urgency, fire, search and rescue, hydrocarbon cloud/toxic gas emission and environmental spill drills are carried out at all refineries in order to minimize the risks that may occur in emergency situations and to respond with methods that will reach the target. During the pandemic process, necessary measures were taken and the implementation of emergency drills continued. Disaster Drills, in which large-impact disaster scenarios are applied at least once a year, were also completed at all refineries.

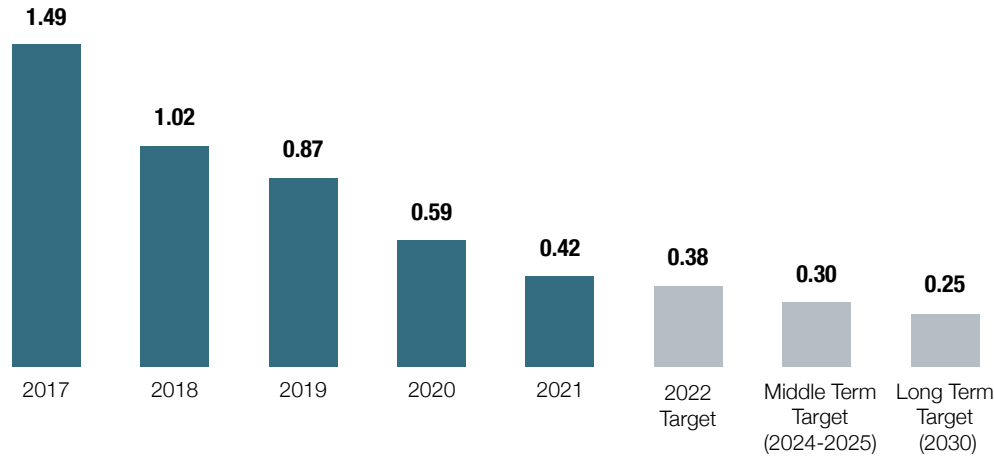
Competent teams equipped with specialized equipment and materials are available to tackle marine and railway-related spills, and we work together with authorized intervention solution partners. Neighboring facilities, together with public institutions and organizations, participated in these drills as stakeholders with their teams and equipment. Tüpraş continuously improves and develops its emergency response processes and preparations through internal and external audits, by following up and applying the latest technological advances and international good practices.

Tüpraş shares its gains, experience and best practices in the fields of OHS, process safety and emergency response in congresses and symposiums with its reliable and leading corporate identity in the energy industry. In 2021, six examples of good practice in the field of process safety were presented in national and international congresses, such as the CCPS, as a presentation or poster.

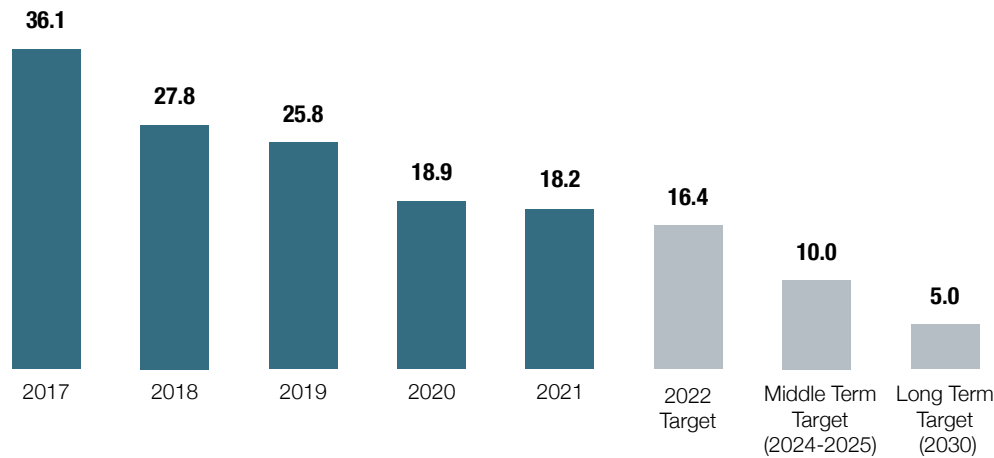
16 indicators

16 Process Safety preliminary and after-basic performance indicators are monitored on a monthly basis.

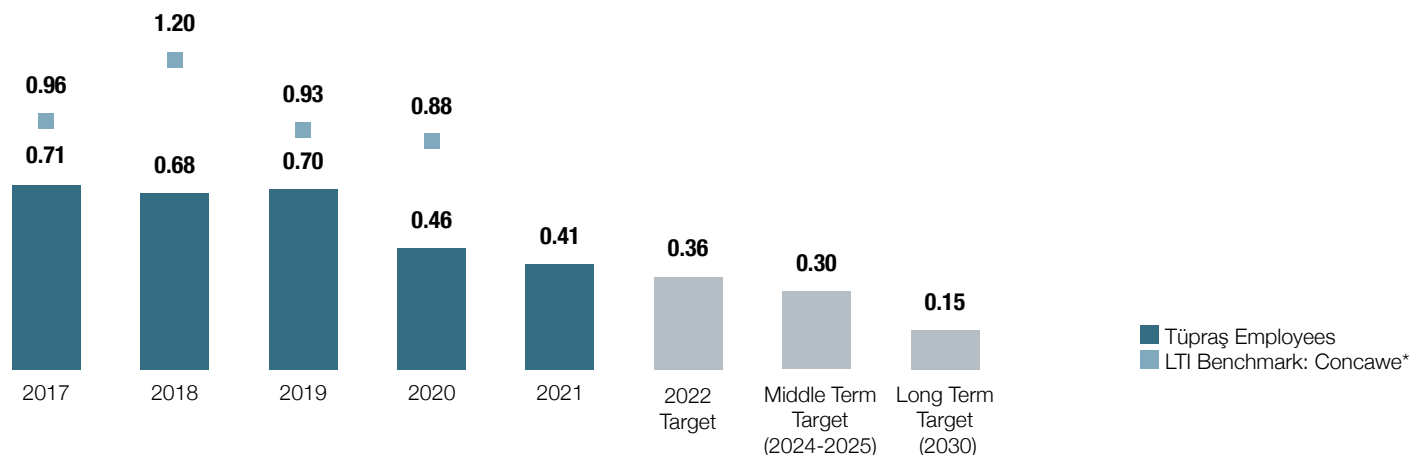
Process Safety Accident Frequency



LTI Severity - OSHA (LTI Lost Working Day* 1 million /working day)



LTI Frequency - OSHA (LTI Number of Accident* 1 million / working day)



*40 companies operating oil refineries in the European Economic Area. Data for 2021 are not available as of the publication date of this report.

QUALITY MANAGEMENT SYSTEMS



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.

Integrated Management System internal audits at the Headquarters and refineries were carried out remotely and in a process-oriented manner during 2021. During the audits, process maps on the M-Files Process Maps program were reviewed and the findings related to the missing processes were reported, and the necessary Corrective and Remedial Actions were initiated.

Integrated Management System external audits were carried out online via remote connection at the Kırıkkale Refinery between 7-11 June 2021, at the İzmir Refinery on 14-17 June and at the Head Office on 28-30 June. After the audits, new certification was obtained from ISO 9001:2015, ISO 14001:2015 and ISO 45001:2018 standards which will remain valid until October 5, 2024.

The ISO 27001 external audit was carried out between 22-24 November 2021 and the validity of the document was extended until 14 December 2022.

In 2021, Tüpraş's İzmit, İzmir, Kırıkkale and Batman Refinery Laboratories successfully passed the TS EN IEC/ISO 17025 audit, the internationally recognized quality management system standard for laboratory accreditation.

CE certification external audits of EN 12591 (Coating Class) and EN 15322 (Lay-burner) bitumen were carried out at the İzmit Refinery on 18 January 2021 and at the Kırıkkale Refinery on 19 January 2021, extending the continuity of the certificates for 1 year.

INTEGRATED MANAGEMENT SYSTEM INTERNAL AUDITS AT THE HEADQUARTERS AND REFINERIES WERE CARRIED OUT REMOTELY AND IN A PROCESS-ORIENTED MANNER DURING 2021.



The Polymer modified bitumen EN 14023 inspection was carried out in the Izmit Refinery in April, extending the continuity of CE certification.

The ISO 10002 Customer Satisfaction Management System certification audit was carried out between 25-27 December 2021 with ISO 10002:2018 certification extended for one more year.

EFQM New Model Experience

Tüpraş embarked on the “Journey to Excellence” process in 2006 by signing the “National Quality Movement Goodwill Declaration” in cooperation with KalDer.

The EFQM model was updated in 2020 by focusing on the transformation and taking account of global trends, the United Nations Sustainable Development Goals and the concept of the ecosystem, as well as improvements implemented and the level of maturity achieved after the external evaluation at the end of 2019. With the new version of the EFQM Model, Tüpraş expanded the culture of continuous improvement and the approaches included in the model, and proceeded to make its superior performance sustainable in the changing global circumstances. Work continued with the new version in 2021 as well.

Scan the QR codes to access the management system documentation:



ISO 9001
Quality Management System



OHSAS 18001
Occupational Health and Safety Management System



ISO 14001
Environmental Management System



ISO 50001
Energy Management System

ENVIRONMENTAL MANAGEMENT



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 transformation 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.

TÜPRAŞ CONTINUES TO CARRY OUT R&D ACTIVITIES AIMED AT MINIMIZING THE ENVIRONMENTAL IMPACT OF THE REFINERY PROCESSES AND DEVELOPING ALTERNATIVE FUEL TECHNOLOGIES.

Activities Within the Scope of Emission and Life Cycle

The Life Cycle Analysis of four units at the İzmit Refinery was completed within the scope of Sustainable Refining.

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 European Union legislation. Within the scope of the legal obligation, emission and air quality measurements were carried out in all refineries in 2021 by institutions accredited and authorized by the Ministry of the Environment, Urbanization and Climate Change. Compliance with national legislation has been confirmed by these reports. 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.



In line with the Sustainable Development Goals, Sustainability and Life Cycle Analysis (YDA) studies continued to manage the environmental impacts arising from operations and planned investments under a holistic approach.

The activities carried out in 2021 in this context are summarized below:

- Two 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 process of the innovative catalyst developed within the scope of the “CO₂-to-fuels” R&D project for the production of methanol and dimethyl ether (DME) from carbon dioxide, which was carried out in 2020, has been modelled with the approach of meeting eco-efficiency criteria and life cycle thinking on a commercial scale and integrating it into the existing hydrogen units in 2021. The auxiliary facilities and the amount of catalysts and products which will be needed in the field application were determined and the net carbon emissions were calculated.

ENVIRONMENTAL MANAGEMENT

- 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.
- The Draft Regulation on the Control of Industrial Air Pollution (in accordance with the EU 2010/75 EED and 2015/2193 MCPD Legislation) was published by the Ministry of the Environment, Urbanization and Climate Change, and a detailed opinion and assessment regarding the draft was submitted to the Ministry.
- With the contribution of the process, environmental and energy teams at the İzmit Refinery, models have been created for the Life Cycle Analysis (LCA) of the existing four units, with their analysis carried out for the specified time period. With the LCA carried out, points requiring improvement in environmental terms have been identified, thus contributing to studies supporting the sustainable refining perspective.
- A working group, in which the environmental impacts of İzmit Refinery processes are determined under the LCA approach, was established and started its activities. With the studies to be carried out, the existing environmental impacts and categories will be determined and any points that requiring improvement will be identified.

Activities within the Scope of Waste Management

Thanks to the industrial symbiosis and the recovery activities carried out, the waste recovery rate increased to 85% in 2021 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, and Tüpraş will submit an application for the Qualified when the Ministry publishes the Qualified Certificate criteria. Waste Management processes were established at the new Headquarters Building in 2021 and personnel training was provided.

New industrial symbioses were established in 2021 and catalyst wastes, hydrocarbon wastes, plant wastes, refractory wastes, and used activated carbons were brought into the circular economy. Composting of food waste was initiated on a pilot scale. Tüpraş successfully achieved its target waste recovery rate of 85%. Waste generation and recovery figures are planned to be verified by independent accredited companies.

Koç Holding, a member of the Business Plastics Initiative (IPG), has committed to phasing out single-use plastics by 2023. The initiative to reduce single-use plastics, started at Tüpraş in 2021, will continue in 2022.

Recycling of alumina-containing 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.

In 2021, 1,563 tonnes of used catalyst containing precious metals such as Co, Mo, Ni, W, and 103 tonnes of precious metal containing catalyst such as Pt and Re were referred to

85%

The waste recovery rate increased to 85% in 2021.

recycling instead of disposal by landfill method and hazardous waste export permit was obtained in accordance with the requirements.

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

Tüpraş prepared its Biodiversity Guide, with the biodiversity roadmap prepared within the framework of the United Nations Convention on Biological Diversity. The flora and fauna inventories evaluated in the EIA studies at all Tüpraş refineries were reviewed, and it was confirmed that the activities have been carried out in accordance with the obligations in the IUCN (International Union for Conservation of Nature's Red List of Threatened Species) and Bern (Berne Convention on the Conservation of European Wildlife and Natural Habitats), CITES (Convention on International Trade) in the Endangered Species of Wild Fauna and Flora) contracts.

Tüpraş joined forces with various non-governmental organizations in 2021 and worked on projects to be developed jointly. One of these projects, the Turkish Foundation for Combating Erosion, Afforestation and Protecting Natural Assets (TEMA), will initiate work on combating erosion at the Izmir Refinery in 2022.

The DTO Fethiye vessel has been cleaning waste in the Bay of Fethiye in cooperation with the TÜPRAŞ-DenizTemiz Association (TURMEPA) for the last 5 years.

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 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. At the COP26 conference, the most recent being held in Glasgow in 2021, Tüpraş shared its experiences with international participants on relevant platforms.

Tüpraş contributes to all relevant components of the PMR (Partnership of Market Readiness) Project conducted by the Ministry of Environment, Urbanization and Climate Change. The 1st and 2nd phases of the project have been completed. In the 2nd phase of the project, Tüpraş provided support to the development of the legal and institutional infrastructure, the determination of upper limits for emissions, the creation of allocation plans and the ETS (Emission Trading System) registration system, the development of the emission trading system simulation application and work on its components.

The greenhouse gas reductions of a number of projects selected from the energy efficiency projects carried out in refineries since 2018 have been certified within the scope of ISO 14064-2.

The energy efficiency projects commissioned in 2021 have reduced CO₂ emissions by 106,700 tonnes.

ENVIRONMENTAL MANAGEMENT



While evaluating investment projects, Tüpraş also considers internal carbon pricing as a parameter in its feasibility studies. By employing the shadow price approach, it ensures that investment projects are evaluated with and without carbon pricing. The carbon price is revised periodically, taking into account the projections of carbon prices, international carbon prices and country expectations compiled by research firms.

There were a number of national and international important developments regarding climate change during 2021. The Paris Agreement was ratified by the Turkish Grand National Assembly and entered the statute books in 2021.

Within the scope of the EU Green Deal, Turkey's Green Memorandum Action Plan was published in 2021 and the EU Commission's "Fit For 55" package of laws was published during the same year. Tüpraş closely monitors all of these developments. In particular, the "Carbon Border Adjustment Mechanism" (CBAM), which is considered to have a commercial impact on sectors in the first instance, is being examined in detail.

Tüpraş also contributes to the efforts to combat climate change implemented by the Turkish Industrialists' and Businessmen's Association (TÜSİAD) and also contributes to the efforts implemented by the European Green Deal Task Force within TÜSİAD. In addition, Tüpraş also closely monitors developments within the scope of the Task Force on Climate-Related Financial Declaration (TCFD), formed by the Financial Stability Board (FSB) established by the G-20.

Activities Carried Out within the Scope of R&D Studies

A total of 14 projects with a focus on environmental 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 treatment, waste recycling, fine hydrocarbon recycling and energy efficiency and waste heat recovery. 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 Horizon 2020 program, with two receiving support through TUBITAK programs and three being carried out with the Company's own resources.

Some of these projects include implementation directly at the refinery sites:

- The MOF4AIR (Metal Organic Frameworks for carbon dioxide Adsorption processes in power production and energy Intensive industries) project will involve the testing of carbon capture technology for the first time at one of our refinery sites.
- The AquaSPICE (Advancing Sustainability of Process Industries through Digital and Circular Water Use Innovations) project will establish and test of the pilot system for the recovery of two wastewater tanks in the İzmit Refinery, which can only be treated with periodic and manual intervention through innovative treatment technology and sensor integration.
- The EPC-EqTech (an innovative turnkey solution to process spent caustic created in the Oil&Gas industry at low-cost and that meets wastewater regulations) project will involve the first-hand testing of an innovative electrochemical technology for the treatment of waste caustic at the Kırıkkale refinery.

22% decrease

The ratio of water consumption to crude oil at Tüpraş refineries was reduced by 22% in 2021.

In line with the goal of digitalization in waste water systems, the “Pollution Monitoring and Analysis in Membranes” project activities were completed and commissioned in 2021 at the İzmit and İzmir refineries, thus paving the way for an increase in the volume of waste water recovered (approximately 50 m³/h) and a reduction in raw water consumption (400,000 m³/year).

With the Real-Time Monitoring and Optimization Project of Heat Exchanger Networks, a control system has been developed to increase the amount of heat exchange in the heat exchanger networks, thus reducing the furnace load and reducing fuel consumption and carbon emissions.

The Project of Using Refinery Waste Oxide Based Materials as Raw Materials in the Refractory Sector presented an important opportunity for industrial symbiosis. The project ensured that approximately 1,000 tons of oxide-based material waste can be reused annually, thus contributing to a sustainable environment and circular economy.

Activities Conducted within the Scope of Water Management and Waste Water Recovery

In 2021, water consumption per crude oil decreased by 22% year on year

The ratio of water consumption to crude oil in Tüpraş refineries was reduced by 22% in 2021 compared to the previous year, in order to reduce the consumption of natural resources due to raw water draw, sustainable use of natural resources, protection of the structure of biological diversity and providing economic benefits.

In order to systematically monitor and roll out good practices for water saving between refineries, SuAgile teamwork activities were also carried out in 2021.

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 were carried out in order to reduce natural resource consumption in refineries.

The quality of water treated and discharged in the Waste Water Treatment Unit is constantly monitored and controlled according to national/international legislation.

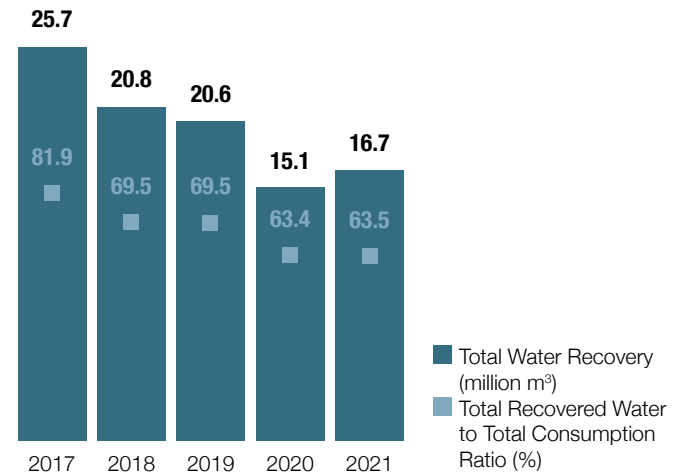
Within the scope of the “Determination of Water Risks” study, a risk-based assessment was carried out with the internationally recognized WRI Aqueduct method for the basins where the İzmit and Batman Refineries are located, the results obtained were evaluated together with the reports prepared on the subject at the national level. A basin-based risk assessment was completed for all refineries in 2020 and 2021.

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.

Achievements

The “İzmir Refinery Waste Water Recovery Practices and Reduction in Natural Resource Consumption” actions reached the finals in the “Water Management” category of the Tüpraş Sustainable Business Awards 2021 Competition.

WASTE WATER RECOVERY



ENERGY EFFICIENCY



The Energy Intensity

As a result of the energy saving projects and modernization work carried out in the refineries, Tüpraş's Energy Intensity value, which had stood at 99.1, was realized at 93.5 in 2021.

Benefits of Energy Efficiency Studies

A total of 65 energy efficiency projects were carried out in 2021 within the scope of energy efficiency activities at Tüpraş's refineries, yielding a total of TL 125 million in financial gains. While six of these projects were commissioned within the scope of planned projects, 59 of these projects were "Quick Win" projects which were designed after identifying points of inefficiency in the refinery sites, and were commissioned without investment. These projects, which provide increased energy efficiency, paved the way for 460,024 Gcal in annual energy savings and a reduction of 106,708 tonnes in annual CO₂ emissions. While the Quick Win projects reduced annual emissions by a total of 89,549 tonnes, the planned projects are estimated to reduce annual emissions by 17,159 tonnes. In addition, the Solar Power Plant project was commissioned at the Batman Refinery in June 2021, generating a total of 1,738 MW of electricity in 2021. This was Tüpraş's first renewable energy project to be commissioned at the refinery.

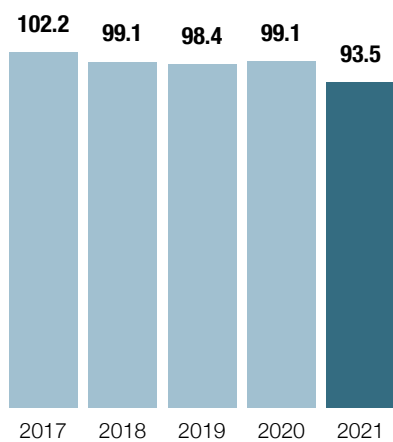
Highlights from 2021 energy efficiency projects;

- **Batman Refinery Solar Power Plant:** The Batman Refinery Solar Power Plant was commissioned in June 2021 with the energization of the entire system. It is aimed that the power plant will meet a significant part of the refinery's electricity need during daylight hours, sometimes close to 100%. An investment of USD 1.36 million was made for the project, which is one of the building blocks of Tüpraş in the field of renewable energy. According to the 4-month production performance, a production of 3,422 MW/year is predicted. The financial equivalent of this value is calculated as USD 0.3 million.
- **İzmit Refinery Cooling Tower Fan Wing Replacement:** A total of 14 fans were replaced with new and lightweight wing materials in 4 cooling towers located at the İzmit Refinery, saving electricity consumption. In addition to the replacement of the old ones with new wings with a different aerodynamic structure and higher efficiency, the diameter of the part where the wings are attached has been reduced. With the new wings installed, the same air flow has been achieved with less energy. While the 1-year energy saving of the project is 4,333 Gcal, its financial impact is calculated as TL 0.8 million.

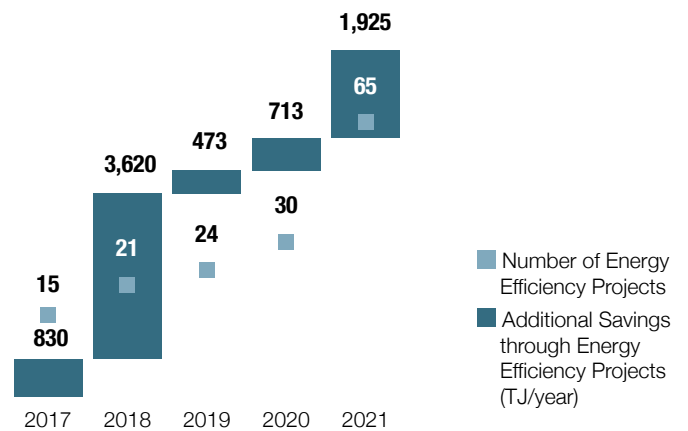
A TOTAL OF 65 ENERGY EFFICIENCY PROJECTS WERE CARRIED OUT IN 2021 WITHIN THE SCOPE OF ENERGY EFFICIENCY ACTIVITIES AT TÜPRAŞ'S REFINERIES, YIELDING ADDITIONAL SAVINGS OF 1,925 TJ/YEAR.



ENERGY INTENSITY INDEX (%)



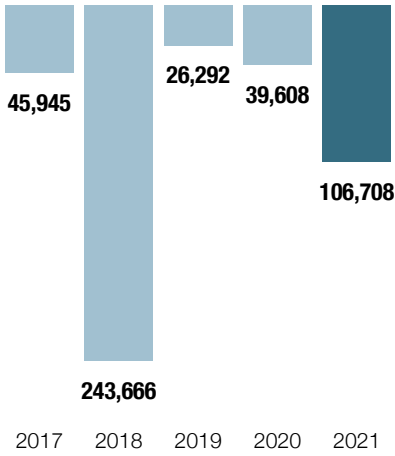
ADDITIONAL SAVINGS THROUGH ENERGY EFFICIENCY PROJECTS (TJ/year)



ENERGY EFFICIENCY



REDUCTION IN GHG EMISSIONS THROUGH ENERGY EFFICIENCY PROJECTS (ton CO₂e)



ENERGY AND CO₂ GAINS IN 2021 THROUGH 2021 ENERGY EFFICIENCY PROJECTS

	Number of Projects	Energy Gcal/year	CO ₂ tonnes	TL million
İzmit	30	227,563	52,795	62
İzmir	20	174,200	40,397	48
Kırıkkale	13	57,795	13,408	14
Batman	2	465	108	1
Total	65	460,024	106,708	125

106.7

Thanks to the energy efficiency projects, 106.7 thousand tons of CO₂e has been reduced in GHG emissions.



- **İzmir Refinery U-9400 Naphtha Splitter Column Revision**

Project: With the project, the trays of the T-9401 Naphtha Splitter column in the U-9400 Unit were replaced and high-performance trays were used. In this way, the amount of MP stage steam used in the reboiler heat exchanger was reduced by 4-5 tons/h, while improving product decomposition rates. As a result of the improvements made, the annual energy saving was calculated as 34,108 Gcal. The financial impact of the project is equivalent to TL 8.3 million.

- **Switching the E-1215 Steam Generator in the Kırıkkale Refinery Plant-1200 Vacuum Unit to LP Mode:** There are 4 steam generators in the Plant-1200 Vacuum Distillation Unit. By design, one of the steam generators E-1215 B is able to produce steam only in LP mode, and the other 3 steam generators are able to produce in both LP and MP steam mode. After the evaluations, the E-1215 steam generator was switched from MP steam mode to LP steam mode and as

a result, it was observed that the total steam production in the unit increased in net and this increase reduced the boiler load by about 5 tons/hour. The annual financial impact of the project, which has an average energy saving of 1.5 Gcal per hour, has been calculated as TL 3 million.

Awards received within the scope of energy efficiency

- Energy Saving Studies of the Kırıkkale Refinery: Energy Efficiency in Industry Project Competition The second prize in the Projects on Improving Energy Efficiency in Industry Category-3
- İzmit Refinery “Operational Energy Efficiency Studies”: Energy Efficiency in Industry Project Competition Third prize in Category-3 for Projects on Improving Energy Efficiency in Industry

PERFORMANCE INDICATORS

Operational Performance	2017	2018	2019	2020	2021
Processed Crude Oil (thousand tons)	28,502	24,540	27,238	22,583	24,418
Refining Production (thousand tons)	28,883	25,695	28,112	23,389	25,086
Total Sales (thousand tons)	31,493	29,830	29,197	24,503	27,586
Domestic Sales (thousand tons)	25,689	25,638	22,391	19,831	21,707
International Sales (thousand tons)	5,804	4,191	6,807	4,356	5,250
Transit Sales (thousand tons)				316	629
Import of Products (thousand tons)	4,388	6,252	2,827	2,927	2,792
Total White Product Ratio (%)	76.3	77.4	79.0	81.5	81.4
Capacity Utilization Rate of Crude Oil (%)	101.4	87.3	90.8	75.3	81.4
Capacity Utilization Rate Including Semi Products (%)	108.1	95.9	97.8	81.8	87.7

Economic and Administrative Performance	2017	2018	2019	2020	2021
Net Sales (TL million)	53,948	88,552	89,601	63,244	150,971
Operating Profit (TL million)	4,857	5,736	2,230	-619	465
Profit Before Tax (TL million)	4,474	3,724	-311	-3,795	2,161
Profit After Tax (TL million)*	3,812	3,713	526	-2,494	3,319
EBITDA (TL million)	5,882	8,908	4,039	545	13,688
Net Debt (Cash) (TL million)	6,249	11,967	8,424	9,420	11,217
Return on Equity (RoE) (%)	41.3	36.8	4.6	-16.4	18.9
Debt Leverage Ratio (%)	1.1	1.3	2.1	17.3	0.8
Net Working Capital (USD million)	2,966	7,029	-1,501	-598	-5,436
Investment Expenditures (Unconsolidated, USD million)	184	138	157	113	112
Investment Expenditures (Consolidated, USD million)	301	165	236	153	152
Earnings per Share (TL)	15.22	14.83	2.10	-9.96	13.25
Gross Dividend per Share (TL)	13.60	15.15	-	-	-
Net Dividend per Share (TL)	11.56	12.88	-	-	-
Taxes and Other Liabilities (TL million)	42,430	31,590	31,262	35,673	15,550
Pension Fund Liabilities (TL million)	89.0	103.9	122.0	136.6	163.3
Donations and Sponsorships (TL million)	30.0	40.1	3.6	22.7	3.0
Corporate Governance Rating Note	9.47	9.48	9.50	9.58	9.62
Fitch Ratings Long-term Foreign Currency Rating Note	BBB (stable)	BB+ (negative)	BB- (stable)	B+ (negative)	B+ (negative)**
Moody's Ratings Long-term Rating Note	Ba1 (positive)	Ba2 (negative)	B1 (negative)	B2 (negative)	B2 (negative)
JCR-ER Long-term Foreign Currency and Local Currency Rating Note					BB (stable)
Customer Satisfaction (%)	88.2	88.8	88.0	87.0	86.0
Supplier Satisfaction (%)	86.9	88.1	86.5	84.7	83.0
Contractor Satisfaction (%)	78.1	80.6	79.2	83.7	76.0
R&D Expenditures (TL million)	33.7	37.8	43.5	43.4	47.5

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

** As of the date of the report

Environmental Performance	2017	2018	2019	2020	2021
Direct Energy Consumption (TJ)	104,749	91,752	96,528	86,613	87,139
Natural Gas	47,306	45,342	51,039	43,842	45,946
Fuel Oil	8,581	3,481	2,292	3,433	1,705
Fuel Gas	46,164	40,562	41,028	37,808	38,282
Coke	2,698	2,367	2,169	1,530	1,206
Indirect Energy Consumption - Electricity (TJ)	315	172	32	-179	-95
Total Energy Consumption (TJ)	105,064	91,924	96,560	86,434	87,044
Change in Energy Consumption (%)	2.85	-12.51	5.04	-10.49	0.71
Energy Consumption Per Crude Oil (GJ/Ton)	3.69	3.75	3.55	3.83	3.56
Energy Intensity Index Value %	102.22	99.10	98.44	99.10	93.50
Number of Energy Efficiency Projects	15	21	24	30	65
Energy Efficiency Savings (TJ)	830	3,620	473	713	1,925
Energy Efficiency Savings (USD million)	4.9	36.0	3.8	4.3	13.2
Greenhouse Gas Emissions Reductions through Energy Efficiency Projects (tons CO ₂ e)	45,945	243,666	26,292	39,608	106,708
Total Grey Water Consumption (million m ³)	15.7	18.2	18.0	18.6	15.6
Total Water Consumption (million m ³)	31.4	29.9	29.6	23.8	26.3
Surface Water Sources	14.4	17.2	17.2	17.8	14.9
Public water	1.2	1.1	0.8	0.7	0.7
Treated Wastewater from Körfez Municipality	15.7	11.7	11.6	5.2	10.7
Change in Grey Water Consumption to Total Water Consumption (%)	0.55	0.74	0.66	0.82	0.64
Water Consumption per Product (m ³ /ton)	0.54	0.71	0.64	0.80	0.62
Total Recovered Water (million m ³)	25.7	20.8	20.6	15.1	16.7
Total Recovered Water to Total Consumption Ratio (%)	81.9	69.5	69.6	63.4	63.5
Total Recovered Water to Total Water Consumption Ratio (%)	14.9	14.3	15.5	11.0	11.3
Total Waste Water Discharge (million m ³)	31,392	32,646	34,433	20,372	25,019
Total Amount of Solid Waste (tons)	17,811	23,617	22,144	17,224	13,048
Hazardous Wastes (tons)	13,581	9,029	12,290	3,148	11,971
Non-Hazardous Wastes (tons)					
Solid Wastes According to Disposal Method	22,618	28,934	23,947	11,978	21,253
Recycling (tons)	8,774	3,712	10,486	8,394	3,766
Solid Waste Recovery (%) (tons)	72.1	88.6	69.5	58.8	84.9
Savings from Waste Recovery and Industrial Symbiosis (TL million)					25.3
Saplings Planted in Afforestation Works (pieces)	400	920	200	46	500
Amount of CO ₂ Emission Eliminated by Afforestation Works (ton CO ₂ e)	165	380	83	19	206
Total Spending on Environmental Investments and Operating Expenses (TL million)	390	150	268	238	388
Environmental Training (people x hours)	16,012	10,391	14,127	7,020	12,897
Tüpraş Employees	4,010	4,168	4,200	2,502	9,676
Contractors' Employees	11,971	6,223	9,927	4,518	2,971
Community	31	0	0	0	250
Scope 1 Greenhouse Gas Emissions (tCO ₂ e/year)	7,249,964	6,720,186	6,172,574	5,724,407	5875393*
Scope 2 Greenhouse Gas Emissions (tCO ₂ e/year)	79,386	38,044	32,905 *	24,518	48368*
Total (Scope 1&2)	7,329,350	6,758,230	6,205,479	5,748,925	5,923,761
GHG Density (TCO ₂ e/Crude Oil Processed)	257	275	228	255	243

*ISO14064 Data validation process in progress.

PERFORMANCE INDICATORS

Health and Safety Performance	2017	2018	2019	2020	2021
LTI Frequency Rate - OSHA (LTI Frequency Rate= LTI number of accidents x 1 million/working day)	0.71	0.68	0.70	0.46	0.41
Tüpraş Employees	0.46	0.69	0.70	0.60	0.23
Contractors' Employees	0.94	0.68	0.70	0.36	0.54
LTI Severity Rate - OSHA (LTI Severity Rate = LTI work days lost x 1 million/working day)	36.1	27.8	25.8	18.9	18.2
Tüpraş Employees	13.5	20.2	17.9	21.5	10.1
Contractors' Employees	54.0	33.7	31.3	17.0	23.6
Total Recordable Incident Rate – OSHA (TRIR= number of incidents x 1 million/working day)	3.3	4.3	4.0	3.7	3.4
Tüpraş Employees	4.3	3.3	4.6	4.8	4.2
Contractors' Employees	2.6	5.1	3.5	2.9	2.9
Restricted Work Case – OSHA (RWC= number of incidents x 1 million/working day)	2.44	2.58	1.73	0.88	1.18
Tüpraş Employees	3.8	2.2	2.5	1.3	2.0
Contractors' Employees	1.5	3.6	1.2	0.5	0.6
Occupational Illness (OI = number of incidents x 1 million/working day)	0	0	0	0	0
Tüpraş Employees	0	0	0	0	0
Contractors' Employees	0	0	0	0	0
Fatality Rate (FR = number of fatalities x 1 million/working day)	0.19	0.04	0.00	0.05	0.00
Tüpraş Employees	0	0.09	0	0.12	0
Contractors' Employees	0.34	0	0	0	0
Road Traffic Accident Frequency (RTAf = number accidents x 1 million /km)					2.58
Total Amount of OHS Training (people x hours)	141,729	165,038	201,813	194,671	292,712
Tüpraş Employees	83,381	87,805	108,026	125,855	108,672
Contractors' Employees	58,348	77,233	93,787	68,816	184,040
Near Miss - Unsafe Act (UA) &Unsafe Condition (UC) Reporting	4,634	9,710	9,475	11,504	17,699
Management Site Tours	2,412	2,674	2,854	1,393	2,041
PTW Site Inspections	2,361	2,582	3,166	1,344	5,119
Energy Isolation Inspections	2,046	2,200	2,549	1,134	2,665
3 rd Party Audits	1	2	7	8	15
Level 1&2 Process Incident Rate (number of incidents x 1 million/working day)	1.49	1.02	0.87	0.59	0.42
Equipment - Tool Compliance Performance %	95%	97%	96%	96%	93%
HSE Action Closure Performance%	85%	89%	86%	84%	80%
Overdue Safety Critical Equipments	1,181	853	1,393	1,060	751
Fatalities as a Result of Work-Related Incidents	4	1	0	1	0
Tüpraş Employees	0	1	0	1	0
Contractors' Employees	4	0	0	0	0
Process Safety Accident Frequency	1.49	1.02	0.87	0.59	0.42
Ditaş* - LTI Frequency Rate - OSHA (LTI Frequency Rate= LTI number of accidents x 1 million/working day)		3.12	2.68	1.04	1.95
Ditaş* - LTI Severity Rate - OSHA (LTI Severity Rate = LTI work days lost x 1 million/working day)		31.8	23.2	24.0	116.1
Körfez Ulaştırma** - LTI Frequency Rate - OSHA (LTI Frequency Rate= LTI number of accidents x 200,000/working day)		0.0	0.8	0.8	0.0
Körfez Ulaştırma** - LTI Severity Rate - OSHA (LTI Severity Rate = LTI work days lost x 200,000/working day)		0.0	12.4	11.2	0.0

Supply Performance	2017	2018	2019	2020	2021
Indirect Product and Service Procurement					
Supply Operations (TL million)	1,692	1,911	2,017	2,024	1,776
Domestic	1,217	1,164	1,608	1,791	1,210
Custom manufacturing	4	13	14	10	22
International	471	734	395	224	544
Local Purchase Rate (%)	72.16	61.60	80.43	88.90	69.36
Number of Indirect Product and Service Suppliers	2,120	2,164	2,060	1,920	1,664
Number of Local Suppliers	1,712	1,783	1,691	1,708	1,566
Total Number of Suppliers Audited	495	767	841	738	616
Number of Suppliers Audited According to Environmental Audit Criteria	107	65	102	46	80
Direct Raw Material and Product Procurement					
Number of Critical Suppliers	47	52	43	44	43
Number of Direct (Tier1) Suppliers	59	68	56	56	53
Number of Critical and Direct (Tier1) Suppliers	47	52	43	44	43
Amount of Payment Made to Critical and Direct (Tier1) Suppliers (TL billion)	50.8	76.0	83.5	57.6	123.6
Number of Critical and Indirect (non-Tier1) Suppliers	-	-	-	1	2

Social Performance	2017	2018	2019	2020	2021
Total Amount of Training (people x hours)	233,034	384,405	238,168	93,244	142,703
Female	35,601	34,968	40,919	19,017	21,122
Male	197,434	349,437	197,249	74,227	121,581
Monthly-Waged	103,864	103,165	125,107	54,171	71,247
Hourly-Waged	129,170	281,241	113,061	39,073	71,455
Total Amount of Training (average hours of training per employee)	45	70	44	17	28
Female	79	70	80	36	43
Male	42	71	40	15	26
Monthly-Waged	91	82	98	42	58
Hourly-Waged	32	67	27	10	18
Ethical Principles and Code of Conduct Training Hour (person x hour)					549
Employee Engagement (%)	61.0	57.2	35.8	61.0	35.0
Total Number of Trainees	1,063	1,020	724	430	206
Minimum Starting Salary to Minimum Wage Ratio					
Monthly-Waged	2.2	2.2	1.9	1.9	1.9
Hourly-Waged	3.3	3.2	3.0	3.0	2.8

PERFORMANCE INDICATORS

Employee Demographics	2017	2018	2019	2020	2021
Total Number of Employees	5,185	5,458	5,442	5,354	5,165
Female	453	500	510	515	492
Male	4,732	4,958	4,932	4,839	4,673
Contractor Employees	584	630	650	630	565
Female	184	198	213	214	176
Male	400	432	437	416	389
Employees by Contract Type					
Employees with a Fixed Term Employment Contract	5,182	5,454	5,437	5,352	5,165
Female	453	498	508	514	492
Male	4,729	4,956	4,929	4,838	4,673
Employees with a Temporary Employment Contract	3	4	5	2	0
Female	0	2	2	1	0
Male	3	2	3	1	0
Employees by Category					
Hourly-Waged	4,042	4,199	4,158	4,077	3,936
Female	136	142	146	142	130
Male	3,906	4,057	4,012	3,935	3,806
Monthly-Waged	1,143	1,259	1,284	1,277	1,229
Female	317	358	364	373	362
Male	826	901	920	904	867
Employees by Employment Type					
Full time	5,185	5,455	5,438	5,354	5,165
Female	453	498	508	515	492
Male	4,732	4,957	4,930	4,839	4,673
Part time	0	3	4	0	0
Female	0	2	2	0	0
Male	0	1	2	0	0
Employees by Age Groups					
under 30	1,633	1,784	1,632	1,288	567
30-50	3,036	3,201	3,400	3,686	4,288
over 50	516	473	410	380	310

Employee Demographics	2017	2018	2019	2020	2021
Senior Executives	30	32	31	28	29
Female	1	1	0	0	1
Male	29	31	31	28	28
Mid-Level Managers	178	185	193	218	209
Female	29	36	38	43	40
Male	149	149	155	175	169
New Hirings	533	587	268	90	78
Female	62	86	62	36	25
Male	471	501	206	54	53
Employees Leaving	327	314	284	175	93
Female	21	39	52	32	27
Male	306	275	232	143	66
Employees under Collective Agreement	4,042	4,199	4,158	4,077	3,936
Number of Employees on Parental Leave	20	22	30	32	29
Number of Employees Returning to Work After Parental Leave	26	19	19	22	29
Total Number of Ethnic Minority Employees	0	0	0	0	0
Total Number of Disabled Employees	133	143	142	135	137
Female	19	22	24	23	23
Male	114	121	118	112	114
Average Seniority					
Female	8.0	7.5	7.4	7.8	8.5
Male	9.6	9.0	9.3	9.8	10.4
Number of Part Time Employees	-	3	4	-	-
Female	-	2	2	-	-
Male	-	1	2	-	-
Turnover Rate					
Number of Employees in STEM Positions (R&D)	53	60	61	64	62
Female	32	35	37	39	39
Male	21	25	24	25	23
Number of employees in income generating positions *					3,067
Female	-	-	-	-	300
Male	-	-	-	-	2,767

* 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

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 2021, Tüpraş continued to develop and execute different social responsibility projects with the voluntary participation of its employees.

Education

The “Our Energy for the Future; I Code, I Model, I Produce” Project

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 psychomotor behavior. With this training, children have the power to understand, interpret and guide the technological world.

Regarding the UN Sustainable Development Goals (SDGs) as an important guide in producing creative solutions for global problems, Tüpraş developed the “Our Energy is for the Future: I Code, Model, Produce” social responsibility project with the goal of contributing to Goal 4 “Quality Education” in cooperation with the Ministry of National Education, General Directorate of Basic Education.

TÜPRAŞ CREATES ADDED VALUE BY TRANSFERRING ITS POWER, LEADERSHIP AND ENERGY IN THE INDUSTRY TO PROJECTS THAT SUPPORT SOCIAL DEVELOPMENT.



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.

Under the project, robotic coding, 3D modeling and production skills classrooms were set up for grade 7 and 8 students at 41 secondary education schools in the provinces of Batman, Kırıkkale, İzmir and İzmit at year-end 2021. The measurement and assessment process of the project is conducted under the consultancy of Boğaziçi University Faculty of Education.

In order to support online education of students through COVID-19 days, “Virtual Museum Visit” and “Applied Project Development Activity” were carried out as part of April 23rd National Sovereignty and Children’s Day celebrations for students attending the schools covered in the project in cooperation with Arter Museum of Modern Art, which was broadcast on MEB EBA TV (national educational TV network) and Tüpraş YouTube channel.

The online event reached 130,000 students.

“Our Energy is for Students” project

Tüpraş has been rolling out the “Our Energy is for Students” project in primary and secondary schools in cooperation with the Ministry of National Education. The project aims to encourage school pupils in the 8th grade to become the scientists of the future by instilling 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.

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 the Faculty of Education at Boğaziçi University for the evaluation of the project results.

In 2018-2020 academic period, 3 thousand students at six schools in Kocaeli were reached with 287 experiments. Work is underway to bring the project to larger audiences.

SOCIAL RESPONSIBILITY



“Our Energy Never Ends for Equality” Scholarship Fund provided by TEV (the Turkish Education Foundation)

To date, 79 girl students in total benefited from the “Our Energy Never Ends for Equality” scholarship fund Tüpraş set up with the Turkish Education Foundation (TEV) in 2016 with the aim of providing equal opportunities in education to girl students.

The Koç University Anatolian Scholarship Students Program

Tüpraş continues to support the Anatolian Scholarship Students Program, which was launched by Koç University in 2011 with the aim of providing equal opportunities in education for successful young people and those in need. A total number of 21 students have received scholarship support to date with the participation of two scholarship students, who were included in the scope of the program this year.

Gender Equality

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 social investment 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.

Generation Equality and Feminist Technologies Online Internship Program

Koç Holding is one of the Action Coalition Leaders on Innovation and Technology of the Generation Equality Forum which is established by UN Women and intended to guide the gender equality initiatives for five years. With the aim of contributing to Koç Holding’s pledges in relation to gender equality in technology and innovation, Tüpraş designed the “Tüpraş Internship Program, Feminist Technologies for Generation Equality” program.

The program is designed to instill an awareness of inclusion and equality among university students from the perspective of gender equality. 200 student interns and 15 Nextremers participated in the online internship program.

The students received “I am Aware of Equality – Gender Equality” training with the Mother Child Education Foundation (AÇEV), “Innovative Thinking and Idea Generation” training with Tüpraş Innovation Department and “UN Sustainable Development Goals and Sustainability” training with Tüpraş Corporate Communications Department. Incited to produce technologies that will make life easier for women field employees using innovative thinking and technology through the training programs, the university students prepared 20 innovative projects.



“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.

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 the collaboration one step further, and became the jersey sponsor of Fenerbahçe Sports Club in 2021-2022 season for rowing, boxing, table tennis, swimming and athletics which are Olympic branches.

Drawing strength from its collaboration with the UN Women’s HeForShe Movement and Fenerbahçe Sports Club, Tüpraş supports the “16 Days of Activism Against Gender-Based Violence” to prevent cyber violence against women and girls. On 8 March 2021 International Women’s Day, Tüpraş, in cooperation with UN Women and Fenerbahçe Sports Club, carried out the online event titled “Generation Equality: Empowering Women and Girls in and through Sport”.

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.

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.

Young Musicians on World Stages

The “Young Musicians on World Stages” scholarship project was launched with the target of imparting 50 years of experience and vision of our worldwide renowned pianists Güher and Süher Pekinel to young generations. Under the project sponsored by Tüpraş, 34 extraordinary young talents were offered educational scholarship between 2013 and 2021. In 2021, Can Çakmur, one of the gifted scholarship holders under the project, was named the Young Artist of the Year at the International Classical Music Awards.

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, 10 publications were introduced to readers: “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”, and “Anatolia in the Byzantine Period”.

Istanbul Theater Festival

Istanbul Theater Festival is being organized by İKSV for 16 years with the sponsorship of Koç Holding Energy Group, namely Aygaz, Opet and Tüpraş. The 25th Istanbul Theater Festival met with the theater aficionados between 22 October-20 November 2021, during which 30 physical and 10 online plays were staged. While the physical performances of the festival reached approximately 8,000 people, online performance was attended by over 7,000 people in 2021.

Environment

DTO FETHİYE 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 500 thousand liters of waste water from 1,400 boats and thus helped keep 4 million liters of seawater clean during 2021 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. Competing in the Turkish Physically Handicapped Wheelchair Basketball 2nd League, the Batman Disability Sports Club upgraded to the Wheelchair Basketball 1st League in the 2019-2020 season. Having 49 athletes under its roof, the club carries out its activities with 24 competitive athletes. The club has been providing the means to do sports to hundreds of handicapped youngsters for 15 years.

Batman Tüpraşspor Football Club bringing young people into sport

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 103 players, 74 of whom are licensed and 29 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 devoted their time, knowledge and experience to support social projects during the COVID-19 pandemic.

International Coastal Cleanup Event

Tüpraş Volunteers extended support to TURMEPA (the Turkish Marine Environment Protection Association) İstanbul Event within the scope of the International Coastal Cleanup Day. With its İstanbul leg conducted along Caddebostan coast, volunteers collected waste in an amount equivalent to 23.5 kg of raw materials and 420 kW energy saving during the event. The waste collected was delivered to İstanbul Metropolitan Municipality teams.

Tüpraş Refinery Search and Rescue (RSR) Teams

In the three-week training program conducted at the Sakarya AFAD Search and Rescue Squad Directorate's Drill Center, light search and rescue training was offered at basic level for new members and as a refresher course for existing members of the Refinery Search and Rescue (RSR) team formed of volunteer employees from the İzmit Refinery.

Support for Forest Fires

Assistance has been provided to locations where it was needed because of the forest fires that took place in different areas of Turkey in 2021. Tüpraş also extended support by also joining Koç Holding's 500,000 saplings drive within the scope of the mobilization initiated by the TEMA Foundation (the Turkish Foundation for Combating Soil Erosion).

Support for Stray Animals

Tüpraş signed protocols with the Körfez Municipality in Kocaeli and Aliğa 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.

CORPORATE GOVERNANCE

- 171 LEGAL DISCLOSURES
- 173 INFORMATION ABOUT CORPORATE GOVERNANCE
- 186 STRUCTURE OF BOARD OF DIRECTORS
- 187 TÜPRAŞ ORGANIZATIONAL STRUCTURE
- 188 STATEMENT OF COMPLIANCE WITH SUSTAINABILITY PRINCIPLES
- 190 RISK MANAGEMENT AND ACTIVITIES OF THE RISK MANAGEMENT COMMITTEE
- 204 INDEPENDENT AUDITOR'S EARLY RISK DETECTION SYSTEM AND COMMITTEE REPORT
- 205 EVALUATION OF OPERATING PRINCIPLES AND EFFECTIVENESS OF BOARD COMMITTEES
- 210 AUDIT COMMITTEE REPORT (RELATED TO FINANCIAL STATEMENTS)
- 211 STATEMENT OF RESPONSIBILITY (RELATED TO APPROVAL OF FINANCIAL STATEMENTS)
- 212 AUDIT COMMITTEE REPORT (RELATED TO ANNUAL REPORT)
- 213 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 250,419,200, and is fully paid-up free from any collusion.

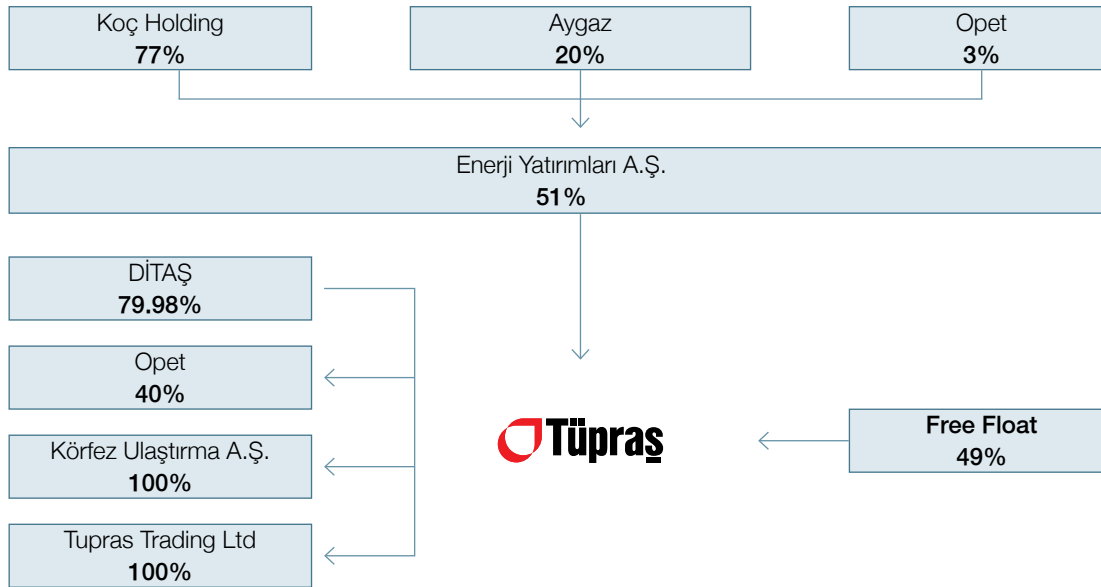
Shareholders attending Ordinary and Extraordinary General Assembly meetings exercise their voting rights pro rata the nominal value of total shares they hold.

GROUP	SHAREHOLDER	SHARE AMOUNT (TL)	TYPE	NUMBER OF SHARES
A	Enerji Yatırımları A.Ş.	127,713,792.22	Registered	12,771,379,222
A	Others	122,705,407.77	Registered	12,270,540,777
C	Privatization Administration	0.01	Registered	1
Total		250,419,200.00		25,041,920,000

Shareholder Structure

The Company is registered with the Capital Markets Board ("CMB") of Turkey and its shares are quoted on Borsa İstanbul A.Ş. ("BİST") since 1991. The Company's shares quoted on the BİST constitute 49% 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.

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.

LEGAL DISCLOSURES

Information about significant changes in Tüpraş's ownership of financial assets held in 2021

No changes that reach or fall below the limits set by the Turkish Commercial Code occurred in 2021 in the ownership of financial assets that Tüpraş directly participates in.

Extraordinary General Assembly Meeting held during the year, if any

None.

Organizational changes within the year

None. The current organizational structure of Tüpraş is on page 187 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 4 March 2022 reads as follows: "It has been concluded that in all the transactions Türkiye Petrol Rafinerileri A.Ş. conducted in 2021 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 were no lawsuits initiated or concluded in 2020 against the Company significant enough to have a material impact on its financial situation or operations.

- initiated or concluded in 2021 against the Company significant enough to have a material impact on its financial situation or operations.

Lawsuits initiated and/or concluded against the Company in relation to environmental, social and governance matters

There were no lawsuits initiated or concluded against our Company in relation to environmental, social and governance matters.

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 in 2021:

- Article 4: The Company's Headquarters address was changed.
- Article 6: The validity period of the registered capital ceiling was extended to the 5-year period allowed by the legislation.
- Article 14: Due to the change of the Company's Headquarters, a change was made that allowed the General Assembly meetings to be held in different cities.

INFORMATION ABOUT CORPORATE GOVERNANCE

CORPORATE GOVERNANCE PRINCIPLES COMPLIANCE REPORT

SECTION I: DECLARATION 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 importance to achieving alignment with the Corporate Governance Principles set out by the CMB; while full compliance was achieved with the compulsory principles stipulated in the Corporate Governance Communiqué no. II-17.1 (the Communiqué) in force in 2021, 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. 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 9.58 (95.78%) assigned to Tüpraş on a scale of 10 as the result of the assessment made on 2 October 2020 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 9.62 (96.24%) on 1 October 2021. The breakdown of the corporate governance rating in terms of main headings is presented below:

Heading	2020 Rating	2021 Rating
Shareholders	95.53	95.53
Public Disclosure and Transparency	97.24	97.24
Stakeholders	99.51	99.51
Board of Directors	93.32	94.63
Average	95.78	96.24

The Corporate Governance Rating Report can be found on the Company website at www.tupras.com.tr. The improved rating in the reported dated 01 October 2021 resulted from:

- the Tüpraş Board of Directors Diversity Policy approved by early 2021, which adopts the target of ensuring that the ratio of women members on the board of directors be 25% within 5 years,
- the revision of the Remuneration Policy to expand its scope and its presentation for the information of the general assembly of shareholders.

In 2021, 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 2021, 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; resumé of board member nominees,

INFORMATION ABOUT CORPORATE GOVERNANCE

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. 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. In addition, Tüpraş Board of Directors Diversity Policy was approved at the beginning of 2021, and the target of having 25% female members in the board of directors within 5 years was adopted. In order to ensure more effective management of the Company's compliance risks and to better respond to our national and international stakeholders' expectations regarding compliance, the Company approved the Human Rights, Donation and Sponsorship, Anti-Bribery and Anti-Corruption, Supply Chain Compliance, Competition Law Compliance, Sanctions and Export Controls, Community Investment, Gifts and Entertainment, Information, Compliance Policies and the Code of Ethics, and published the same on the Public Disclosure Platform and the company website during the reporting period. Consistent with the long-standing practices of the Tüpraş Board of Directors, the working principles of the Board of Directors have been prepared within the framework specified in the Corporate Governance Principles and approved by the Board of Directors. The activities of the committee members carried out by the Board of Directors in 2021 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 studies will be carried out by taking into account the developments and practices in the regulations 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 1 January 2021 to 31 December 1 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 the highest 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 150 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 2021, 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 prevailing pandemic circumstances.
- Regarding principle n. 1.4.2, the privilege enjoyed by the Privatization Administration 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.
- Regarding principle n. 4.4.1, no physical meetings were held during 2021 due to the COVID-19 pandemic; the Board of Directors members were regularly informed about the Company's performance and developments. However, all of the decisions were adopted through circulation method.
- 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.

2021 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 308-323), and the related documents are also accessible on our Company's corporate governance page on the Public Disclosure Platform (KAP).

SECTION II- SHAREHOLDERS

2.1 Relations with Shareholders

All relations between Tüpraş and shareholders are handled under the responsibility of the "Investor Relations Department" which collaborates with all related units. The Investor Relations Department is charged with informing shareholders and potential investors about the Company's activities, financial position and strategies, save for trade secrets and confidential information, by obtaining other units' inputs as and when necessary and in a manner that will not lead to information asymmetry. The Department also manages the bi-directional communication between shareholders and Company executives. The Investor Relations Department is responsible for ensuring that General Assembly Meetings are convened in accordance with the regulations in force, the Articles of Association and internal guidelines; for the preparation of the Annual Report and other documents that will be useful for shareholders at the General

INFORMATION ABOUT CORPORATE GOVERNANCE

Assembly Meetings; regulatory public disclosure obligations such as material event disclosures from amongst the activities stipulated by the Corporate Governance Principles, and the Financial Planning and Reporting Division is responsible for handling various regulatory obligations such as financial reporting.

Investor Relations Department presents a report to the Corporate Governance Committee at least once a year - to be submitted to the Board of Directors - about its activities. The report regarding 2021 activities was assessed by the Corporate Governance Committee and presented to the Board of Directors on 28 February 2022.

Investor Relations Contacts:

CFO: Doğan Korkmaz

Investor Relations Manager: Levent Bayar

Investor Relations Coordinator: Aslı Kondu

Investor Relations Coordinator: Sezgi Ayhan

Corporate Governance Coordinator: Fettane Sayın

2.2. Shareholders' Right to Obtain Information

In the exercise of shareholder rights, the legislation, the Articles of Association and other internal guidelines are complied with, necessary actions are taken for ensuring the exercise of these rights, and all shareholders are treated equally.

The Company does not discriminate among shareholders with respect to the exercise of the right to obtain and review information. Each shareholder has the right to obtain and review information.

Appointing a private auditor is not an individual right specified in the Tüpraş Articles of Association. However, as per the 438th Article of the Turkish Code of Commerce, every shareholder may request the General Assembly to clarify certain cases through private audit in case this is necessary for using shareholders' rights, even if the right to information or review is used before, and even if it is not on the agenda. Shareholders have not communicated such requests to the Company so far. Moreover, the Company's activities are periodically audited by the Independent Auditor approved by the General Assembly.

2.3. General Assembly Meetings

General Assembly Meetings are organized to provide sufficient information to shareholders and ensure their attendance, as per Turkish Commercial Code, Capital Markets Law, General Assembly Internal Directive and Corporate Governance Principles. Before the General Assembly Meeting, an information sheet about agenda items is prepared and publicly disclosed; compliance with all legal processes and legislation is ensured in all disclosures.

The Ordinary General Assembly Meetings are held at the end of every fiscal period, as soon as possible, within a maximum period of three months. The Company held its Ordinary General Assembly Meeting for the year 2021 on 31 March 2021. Shareholders representing 68% of all shares attended the meeting. The necessary means are made available to enable shareholders attending the meeting to pose their questions during the General Assembly Meeting. Apart from the items on the agenda, no other additional proposals were made.

Supervised by a Government Inspector authorized by the Ministry of Customs and Trade, General Assembly Meeting sessions are open to public. Pursuant to the provision contained in our Articles of Association, meetings can be observed by stakeholders, members of the media and electronic participants.

The agenda items of the General Assembly Meeting are written in a clear and unequivocal way and allows for the discussion of each proposal under a separate section. At the latest General Assembly Meeting, shareholders made no demands concerning the agenda. During the General Assembly Meeting, the agenda items are conveyed to shareholders in an impartial, detailed, clear and comprehensible fashion, shareholders are given the chance to express their opinions and pose questions under equal terms.

In order to make explanations about specific topics included in the agenda, at least one Board of Directors member, the independent external auditor, at least one of the authorized individuals having responsibility for the preparation of financial statements, and at least one officer knowledgeable about the topic attend the General Assembly Meeting. During the General Assembly Meeting held on 31 March 2021, all questions directed by our shareholders have been answered during the meeting. No questions in writing were addressed to the Investor Relations Unit by reason of being left unanswered during the General Assembly Meeting.

Information is provided to the General Assembly about the transactions, if any, carried out by shareholders having management control, Board members, directors with administrative responsibility, and their spouses and relatives by blood or marriage unto the second degree based on the authorization obtained from the General Assembly for engaging in activities falling under the Company's scope under Articles 395 and 396 of the Turkish Commercial Code. During the reporting period, no transactions, which were of a materiality to lead to a conflict of interest between the said individuals and the publicly-held company or its subsidiaries within the scope of principle n. 1.3.6 of the Corporate Governance Communiqué, took place.

2.4. Voting Rights and Minority Rights

The voting procedure is announced to the shareholders at the beginning of the General Assembly Meeting. The Company avoids practices that would make it difficult to exercise voting rights. No upper limits have been introduced for the voting rights of any shareholders and each shareholder is given the opportunity to exercise his/her voting right in the easiest and most convenient manner.

Shareholders present in Ordinary and Extraordinary General Assembly Meetings exercise their rights to vote in proportion to the nominal value of their total shares.

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.

Our Articles of Association do not contain any provisions prescribing or complicating the representation of minority in the management, nor determining minority as less than one twentieth of the capital.

As per the Turkish Commercial Code and CMB regulations, the Company shows maximum care to ensure the exercise of minority rights. Shareholders representing minority rights constitute the Management with the majority shareholders, through their attendance at the General Assembly Meeting. No criticism or complaint about this issue was received by our Company in 2021.

2.5. Dividend Rights

The Profit Distribution Policy of our Company was set within the framework of the Capital Markets Regulations and the provisions of our Articles of Association at the General Assembly held on 31 March 2014. There is no privilege in dividend distribution for Group A and Group C shareholders representing the capital.

Profit Distribution Policy and the Annual Profit Distribution Proposal are included to the Annual Report and submitted to the approval of the shareholders at the General Assembly.

INFORMATION ABOUT CORPORATE GOVERNANCE

2.6. Transfer of Shares

The principles regarding the Transfer of Shares are specified in the 7th Article of our Articles of Association. The Articles of Association does not include any practices or provision that would impede or restrict shareholders who hold publicly traded Group A shares in transferring their shares.

Registered Group C shares can be transferred with the powers vested by Law n.4046 to the Turkish Prime Ministry Privatization Authority, to another government-owned corporation in Turkey vested with the same powers in principle. This transfer will not be subject to the approval of the Board of Directors

SECTION III: PUBLIC DISCLOSURE AND TRANSPARENCY

3.1. Corporate Website and Its Content

The Company's corporate website is accessible at the address www.tupras.com.tr. The company website is prepared in two languages: Turkish and English. As detailed in the Company's Information Policy, there are various documents and information that need to be available on the website as per the Corporate Governance Principles and other applicable legislation. Changes in the said information and in the legislation are simultaneously captured in the website.

3.2. Annual Report

The Company's Annual Report is drawn up so as to cover all the information set out in the Corporate Governance Principle n. 2.3 and its sub-paragraphs, in sufficient detail to give the public complete and accurate information about the Company's operations, and in accordance with the considerations stipulated in the applicable legislation.

SECTION IV: STAKEHOLDERS

4.1. Informing Stakeholders

The Company's Corporate Governance Practices and Code of Ethics guarantee stakeholders' rights stipulated by the legislation and mutual covenants. The Company's stakeholders are regularly kept informed about the matters that concern them.

With the General Assembly Meetings open for all stakeholders, and the detailed information made available on our website, as well as the inclusive Annual Reports, press announcements, and our practices within the scope of our Disclosure Policy based on transparency; the aim is to provide information not just for our shareholders but for all stakeholders.

The Company employees can access the circulars and announcements on the Intranet, while certain important announcements and the Company's operating and financial results concurrently and in parallel with the publicly disclosed data are conveyed to all employees by electronic mail. Employees at Tüpraş and the Company's Senior Executives come together and review the developments and targets during the year, and exchange opinions. During 2021, regular information and opinion exchange meetings were held online due to the pandemic.

Stakeholders can report unlawful or unethical acts to the Internal Audit Department using the Stakeholder Communication Management available on the Internet and the Intranet for their conveyance to the Ethics Committee.

4.2. Stakeholders Participation to the Management

Models that will support the stakeholders and, in particular, Company employees to participate to the Company management are developed in a manner that will not hinder company activities. Summary of the activities carried out are explained below.

To reward employees' actions and efforts supporting the organization's values and goals, "Tüpraş Recognition and Award" system "Refined Suggestions System (RSS)" is implemented.

Developed by the employees, the RSS is a suggestion system that facilitates conveyance of all employees' ideas for improvement and development, reveals and implements employees' good ideas, promotes continuous development, and makes employees feel "valued". Every idea satisfying the suggestion criteria is assessed in an agile manner on the basis of an inclusive implementation that also involves

the suggestion owner, and suggestions found to be appropriate are put into life. With its digital and user-friendly interface, it is used as a support tool for process improvements in our organization in topics including Occupational health and Safety, Security and Environmental Awareness, Efficiency, Going Lean, Quality, Saving and so on. The goal is to maximize the benefit derived from saving initiatives, implementing suggestions that will generate high material returns, and maximize suggestions by involving all employees in the system.

In addition, the “Tüpraş Employee Experience Improvement Awards” platform launched in 2021 is another recognition and rewarding tool to support lean team works and employee experience improvement efforts, to broaden and reward them.

At the Company, there are broadly-participated Employee Experience Improvement teams formed with the involvement of employees and under the management's ownership. The aim with these teams is to be able to improve working life experiences and render them sustainable to make Tüpraş the most preferred employer. Furthermore, Employee Engagement Survey and Employee Experience Improvement questionnaires are administered to get an insight into employee experiences, to compile their suggestions and to measure their engagement and satisfaction. Feedbacks from questionnaires are taken into consideration in the Company's activities and employee experience initiatives, and continuous improvements are carried on. The improvement targets are also included in the performance scorecards (OKR - Objectives and Key Results) of the Company's senior management and related employee experience improvement teams.

Behavior-based safety tours, in which Tüpraş executives also participate, are held at Tüpraş as part of the “Visible Leadership” practice. In safety tours, “visible leadership” is demonstrated with the active participation of the management, where positive safety behavior receives appreciation and is encouraged, risks in the behavior of people and working conditions are identified and corrected, communication and dialogue are strengthened to ensure a safe working environment, awareness is developed, and an environment in which employees can share their opinions and observations on safety is created.

Another practice for involving employees in decisions is the right to speak granted to two representatives from the labor union in disciplinary committee decisions concerning employees working on hourly basis, pursuant to the collective agreement.

The basic activities of Customer Relations Management and other marketing functions are handled under the “Tüpraş Customer Relations Policy”, with the primary goals of enhancing customer satisfaction, improving customer relations and fulfilling customer demands and expectations optimally and in the fastest manner possible.

In addition to the Customer Relations Policy, under the ISO 10002 Customer Satisfaction and Complaint Handling certification included in the Tüpraş Quality Management process, all touchpoints with customers undergo continuous improvements, all customer complaints are entered into record, and necessary actions are taken.

Additionally, Tüpraş Solution Center (444 123 0) is operational for providing easy reach and a higher level of contact and service to existing and potential customers through all communication channels.

For managing a sustainable supply chain implementation, the Supply Chain Compliance Policy, Tüpraş Supplier Portal and Tüpraş Code of Ethics of Suppliers are in place. The Tüpraş Supplier Portal is used as source of information, application, news, measurement and reporting to ensure an easy, fast, and efficient communication environment between suppliers and Tüpraş. Suppliers forward their applications via the supplier portal by filling in the Tüpraş Supplier Evaluation Questionnaire and the Tüpraş Health Safety and Environment Questionnaire. Supplier performance is monitored through the SAP system; qualifications set out in the Tüpraş Code of Ethics for Suppliers and Supply Chain Compliance Policy are taken into consideration, as well as workplace visit and technical criteria assessments.

Furthermore, “Tüpraş Supplier Satisfaction Survey” and “Tüpraş Contractor Satisfaction Survey” are executed every year in order to constantly maintain the sustainability of the supply chain management at the highest level, to detect changing and developing demands and to strengthen the relations with the suppliers even further.

Improvement targets for customer satisfaction, supplier satisfaction and employee satisfaction are all incorporated in the Company's management's targets.

INFORMATION ABOUT CORPORATE GOVERNANCE

4.3. Human Resources Policy

The motto “Our Most Important Asset is our People” is the essence of the Human Resources Policy and practices at Tüpraş, as it is in all the other Koç Group companies. Accordingly, being a company possessing creative, dynamic, knowledgeable, highly-motivated, efficient and productive human resource, Tüpraş aims to further strengthen its team by the day by continuing to attract the successful professionals in the sector and to remain as the preferred employer in the sector being Turkey’s largest industrial company. The criteria related to human resources are described in writing and are in compliance with the criteria listed in the subparagraphs of Article 3.3 of the Communiqué. The Human Rights Policy approved by the Board of Directors is made available for the information of stakeholders on the Public Disclosure Platform and the Company’s webpage.

The Company’s HR practices are detailed in the Human Resources section of the Annual Report.

4.4. Code of Ethics and Social Responsibility

Code of Ethics covers the Company’s fundamental principles for conduct. The Company employees are obliged to abide by the Code of Ethics and the Koç Group’s Shared Values when fulfilling their duties. In order to ensure more effective management of the Company’s compliance risks and to better respond to national and international stakeholders’ expectations regarding compliance, the Code of Ethical Conduct and Implementation Principles, which was approved by the General Assembly on 1 April 2011, was revised and updated under the name “Code of Ethics” by the Board of Directors on 4 November 2021.

There is the Ethics Committee at the Company for addressing nonconformity to ethical principles. The Ethics Committee is formed of the General Manager, an Assistant General Manager, HR Director, Corporate Communications Manager and the Chief Legal Officer.

Within the scope of the compliance policies and ethical principles in effect, employees are informed about whistleblowing methods and are encouraged to report any acts and irregularities deviating from the Tüpraş Code of Ethics. Ethics Training is given to employees as a compulsory training.

Any stakeholder or employee, who witnesses, becomes aware of or suspects any act contradictory to the Tüpraş Code of Ethics, irregularity or misconduct can notify the same to his/her line manager or report the same to Tüpraş Chief Legal and Compliance Officer, Risk Management and Audit Department or HR Division. Alternatively, a whistleblower can report such noncompliance via (i) the Stakeholder Communication Management system at the address <https://piy.tupras.com.tr/BildirimKayit.aspx>, (ii) Tüpraş Customer Notification Management at the address <https://www.tupras.com.tr/musteri-sitesi/musteri-bildirim-yonetimi> or (iii) to Koç Holding Ethics Line at the address “koc.com.tr/ihbarbildirim”

Tüpraş encourages individuals to report their concerns and supports them. The Ethics Line protects the privacy, and if requested, the anonymity of whistleblowers. It is crucial that a whistleblower should feel comfortable and safe and should not worry about any adverse effects on his/her professional life as long as he/she acts honestly and in good faith. Therefore, the employment contract of a whistleblower cannot be terminated with or without justification, he/she cannot be suspended, dismissed, forced to take paid or unpaid leave, or relocated, or a similar action cannot be taken. Tüpraş will not tolerate any retaliation to a whistleblower under any circumstance. Tüpraş protects the whistleblowers even if the factuality of the incident cannot be proven by an investigation, so long as the notification is made in good faith, on reasonable grounds and without an intent to victimize or create disadvantages to others or gain a personal advantage.

Under the Anti-Bribery and Anti-Corruption Policy, regular risk assessments and controls are carried out to minimize the risk of bribery and corruption. Bribery and corruption risks are assessed and taken under control through controls for establishing the status with respect to third parties, gifts/entertainment and donations, determination of the rules to be observed in relations with public officials, and continuous training and monitoring activities.

At the start of employment, employees are required to sign various undertakings including the Tüpraş Code of Ethics, Anti-Bribery and Anti-Corruption documents which provide for the employees' commitment to be bound by the policies. Anti-bribery and anti-corruption training are annually given to employees at Tüpraş; training content is revised if/when necessary, and completion of the training programs is monitored.

In 2021, the Ethics Committee met when a violation of ethical rules occurred, and sanctions deemed appropriate were imposed. Furthermore, there are no administrative or judicial sanctions or fines imposed by the public authorities against the Company or the members of the governing body on account of any practice associated with corruption.

SECTION V: BOARD OF DIRECTORS

5.1. Structure and Formation 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 positions of the Chairman of the Board of Directors and the General Manager are held by different individuals. Due to the significant contribution of Board members' experience in business and industry to the Board of Directors, there are no restrictions regarding outside positions held by the Board members. Prior to the General Assembly meetings, positions held outside the Company by a Board member are submitted for the information of the shareholders together with the résumé of such member.

At our Company, the duties of the Nomination Committee are assumed by the Corporate Governance Committee. The number of independent member candidates for 2021 presented to the Corporate Governance Committee was four, all of whom submitted their declarations of independence to the Corporate Governance Committee. Declarations of candidature and resumé of independent Board members have been evaluated in the Corporate Governance Committee decision dated 19 January 2021 - 17 February 2021, and the Board of Directors decision of the same date. Save for the compliance of Mr. Tufan Erginbilgiç, independent Board member candidate, with the criteria for being deemed a resident of Turkey for the purposes of Income Tax Law in the Corporate Governance Principles, it has been established that all candidates satisfy the criteria set out in the Corporate Governance Principles, and to nominate them all for independent Board membership.

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 Chairman, a Vice Chairman and four independent members. During 2021 operating period, no events took place that would prejudice the independence of independent Board members. As of 2021, two women members are serving on the Board of Directors.

The table below provides brief information about the members of the Board of Directors, who are all non-executive in accordance with the definition stipulated in the CMB's Corporate Governance Principles and who were elected at the Company's General Assembly held on 31 March 2021 to serve a one-year term of office until the General Assembly meeting where 2021 activities will be discussed, while their resumé are available on the website and in the Annual Report.

INFORMATION ABOUT CORPORATE GOVERNANCE

Members of the Board of Directors

Name/Surname	Position	Outside Positions Held	Independent/ Non-Independent	Committees and Duties Therein
Ömer M. Koç	Chairman	Member on the Boards of Directors of Koç Holding Companies	Non-Independent	Member of Executive Committee
Ali Y. Koç	Vice Chairman	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
Salim Arda Ermut	Member (PA Representative)	Board Member and CEO of Türkiye Varlık Fonu A.Ş.	Non-Independent	
Muharrem Hilmi Kayhan	Independent Member	Vice Chairman and Member of the Board of Directors of Söktas A.Ş.	Independent	Chairman of Corporate Governance Committee, Chairman of Audit Committee
Ayşe Canan Ediboğlu	Independent Member	Independent Board Member at ING Bank	Independent	Chairman of Risk Management Committee
Kamil Ömer Bozer	Independent Member	Member on the Boards of Directors at; Coca-Cola İçecek, Adel Kalemçilik Ticaret ve Sanayi A.Ş., Kamil Yazıcı Yönetim ve Danışma A.Ş., Anadolu Isuzu, Boyner Grup, Anadolu Etap, Kamil Yazıcı Yönetim ve Danışma A.Ş., Söktas A.Ş. and Arçelik A.Ş.	Independent	Member of the Audit Committee
Tufan Erginbilgiç	Independent Member	Global Infrastructure Partners, Member on the Boards of Directors at CNH Industrial and Member of the Strategic Advisory Board of the University of Surrey	Independent	

5.2. Operating Principles of the Board of Directors

The Board of Directors convenes as and when necessitated by the Company's business affairs. The Board of Directors must convene upon demand by the Chairman or two of its members. The meetings can be held in the Company's headquarters or any other location as determined by a majority of the Board members. In addition to its regular meetings, the Board of Directors can be convened by an absolute majority of its members to pass decisions on specific matters deemed necessary; the Board may also pass decisions without actually convening, as per Article 390/4 of the Turkish Commercial Code. The Company complies with the provisions of the Turkish Commercial Code and CMB regulations in meeting procedures, meeting quorum, decision quorum, voting procedures, duties and powers of the Board of Directors.

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.

No physical meetings were held during 2021 due to the COVID-19 pandemic; the Board of Directors members were regularly informed about the Company's performance and developments. All decisions were adopted through circulation method. In 2021, a total of 28 decisions were passed. All independent members were present at the time the decisions were made. 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 2021, no such opposition or no opposing opinions were put forth. None of the related party transactions or material transactions that were put to the vote of independent Board members were laid down for the approval of the General Assembly on account of having been rejected at the Board of Directors.

The Board of Directors governs and represents the Board of Directors based on a rational and prudent risk management understanding and looking out for first and foremost the Company's long-term interests, by optimally maintaining the Company's risk, growth and return balance on the basis. The Board of Directors defines the Company's strategic goals, determines the human and financial resources needed, and oversees the management's performance. While the Board of Directors monitors the Company's financial performance in comparison with the budget in the physical meetings held three times a year, it also follows up the developments regarding strategic issues, and develops new strategies and makes investment decisions by taking the Company management's recommendations. During the year-end performance evaluation process, the extent at which the objectives related to the realization of the Company's strategies is measured, as well as financial and operational indicators, and they are used as input for the performance and rewarding system.

The Company has a Directors' and Officers' liability insurance (in excess of 25% of the Company's capital) for indemnification of losses against the liabilities that the directors and the members of the Board of Directors can be personally held responsible within the scope of their duties.

The Company's "Remuneration Policy for the Members of the Board of Directors and Executive Management", which covers all kinds of rights, benefits and compensation provided to the Board of Directors members and senior executives, the criteria employed for determining them and remuneration principles are posted on the Company website and included in the annual report. There are no material transactions that might lead to a conflict of interest, such as lending money, extending credit, furnishing guarantee in favor of the Board members or executives by the Company. 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.

INFORMATION ABOUT CORPORATE GOVERNANCE

5.3. Number, Organization and Independence of Board Committees

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 31 March 2021, 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 8 April 2021.

During 2021, 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 2021 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.

5.4. Risk Management and Internal Control Mechanism

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.

5.5. Company's Strategic Targets

The Board of Directors manages and maintains the risk-return trade-off of Tüpraş, safeguarding its sustainable profitability and long-term interests to proceed towards strategic targets. It ensures that the Company's strategic targets are set with the support of the Executive Committee and other sub-working groups. The Board of Directors, which is responsible for setting, implementing and supervising the Company's strategic targets, shall carry out the following activities.

During 2021, the Company's Strategic Transition Plan was approved, which is intended to transform Tüpraş into the leading carbon-neutral energy company possessing a well-balanced and diversified clean energy portfolio. The Plan was made available for the information of all stakeholders through the Public Disclosure Platform.

Annual targets, defined in line with all of these factors by the Board of Directors and assigned to the Company management are deployed across all levels in the organization. The Board of Directors, and the committees, with respect to matters in their domains, are informed about the actualization status of the assigned goals and developments at certain intervals.

While Tüpraş Board of Directors oversees the Company's quarterly financial performance in comparison with the Company's budgeting, the Board also receives information about the sector-specific and strategic developments, and may make investment decisions paying regard also to the suggestions of the administrative body.

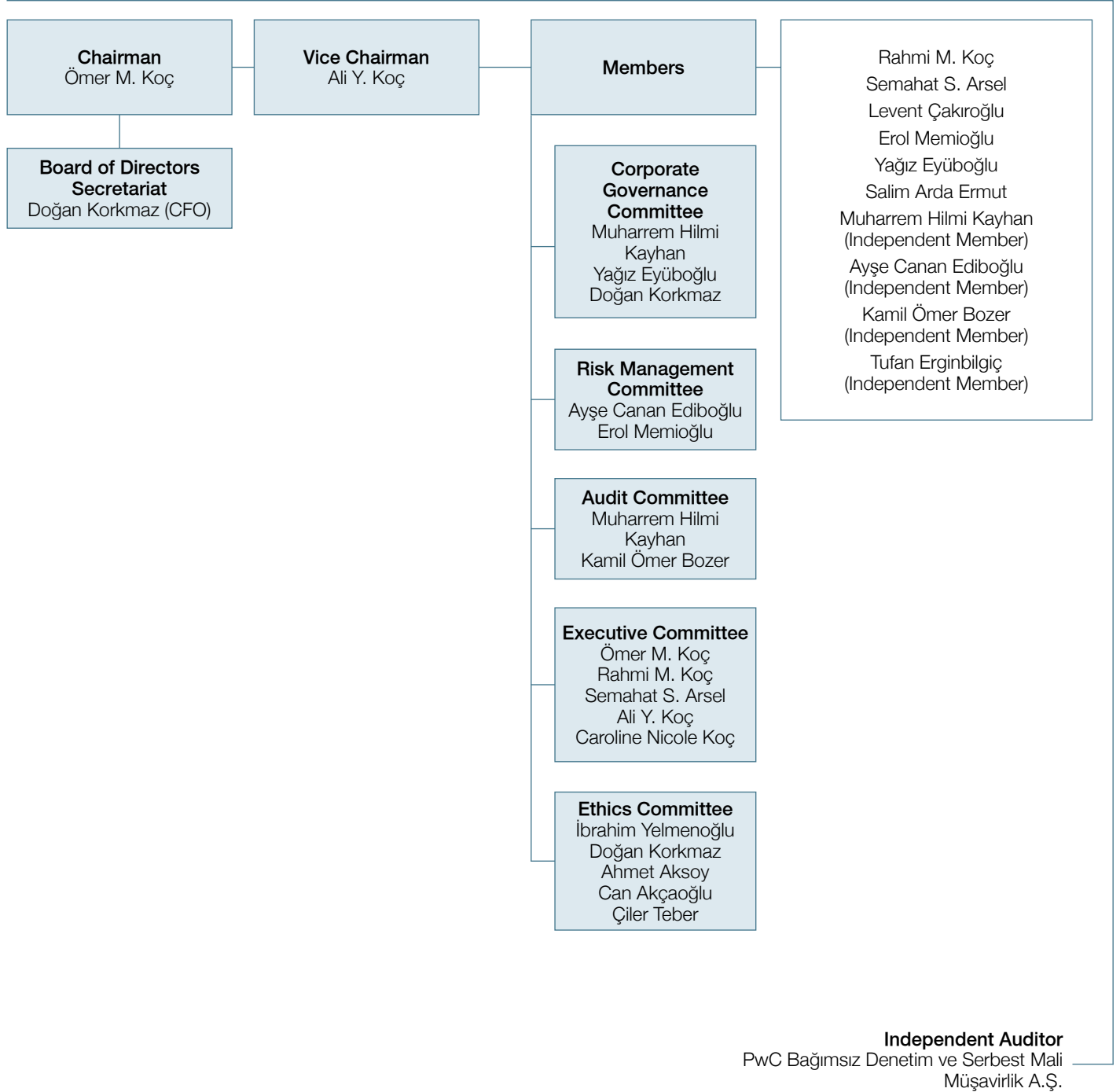
5.6. Financial Rights

"Remuneration Policy for the Members of the Board of Directors and Senior Executives", which covered all kinds of rights, benefits and remunerations provided to the Board of Directors members and senior executives, the criteria employed in their determination, and remuneration principles were first approved at the Ordinary General Assembly Meeting convened on 04 April 2012. Publicly disclosed via our Company's website and annual report, and most recently approved by our shareholders at the Ordinary General Assembly Meeting convened on 31 March 2021, the said policy will also be included in the agenda of the Ordinary General Assembly Meeting to be convened on 30 March 2022 where 2021 activities will be discussed, and will be presented to shareholders for their opinions.

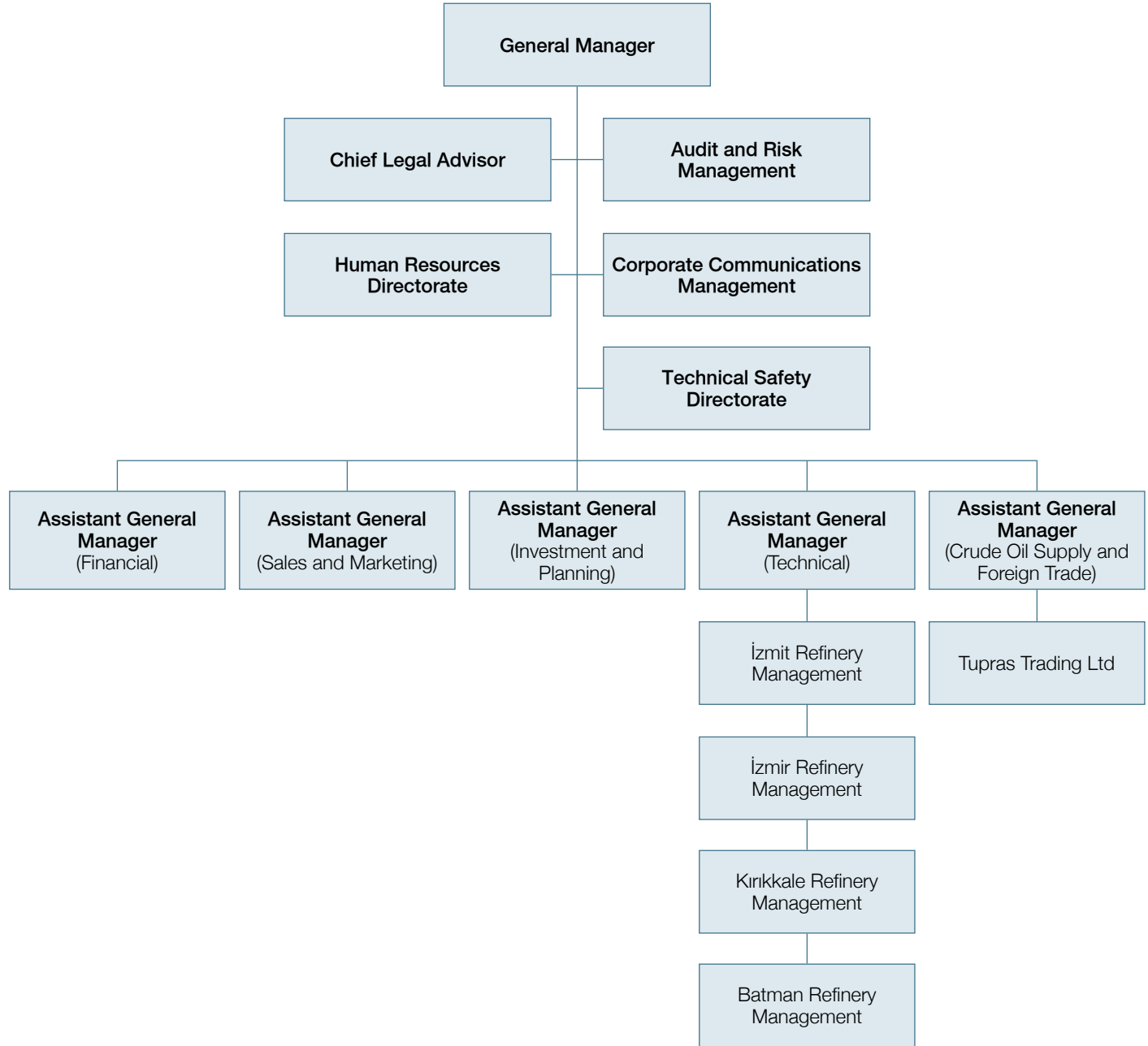
Board of Directors members that will assume duties in the committees to be set up by the Board of Directors at the Company may be paid year-end premiums to be determined by the Board of Directors based on the Corporate Governance Committee's opinion, based on their contributions, meeting attendances, and functions. In the remuneration of the independent members of the Board of Directors, stock options or payment plans depending on the Company's performance are not used.

In line with the common practice, the payments made to the Board of Directors Members and Executive Management are publicly disclosed cumulatively in the footnotes of our financial statements. There are no transactions that might lead to conflicts of interest such as the Company's lending money or extending loans to our Board of Directors Members or executives, or furnishing guarantee in their favor.

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 possible 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.

Tüpraş has prepared its “Sustainability Strategy” as well as its Environmental Social Governance (ESG) policies within the same scope, and these have been enforced upon being approved by the Board of Directors. Within the scope of Tüpraş “Sustainability Strategy”, studies are continuing to carry out a new materiality analysis in 2022 in order to determine the priority issues in terms of the Company's success and stakeholder expectations.

- Key Performance Indicators for ESG were determined, and verifiable and verified ones are disclosed in the Company's Annual Report and Sustainability Report in comparison to previous years. However, there are no local or international comparative verifiable sectoral data with respect to disclosed indicators shared with the public.
- Scope 1 and Scope 2 greenhouse gas emissions, which are among the environmental indicators, 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. The company also has these data verified by independent third parties on a voluntary basis within the scope of ISO 14064-1.
- 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.
- There is not a legally established carbon pricing mechanism in our country. In the international arena, the Company is not included in the carbon pricing system. However, the Company applies internal carbon pricing on project-basis and evaluates how projects are affected by the carbon price.

The table containing information on the sections in the annual report with regard to compliance with the principles in the CMB's Sustainability Principles is given on pages 324-329.

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.

Tüpraş is on Borsa Istanbul Corporate Governance Index since 2007 and its score evaluated by independent rating institutions for 2021 was 9.62.

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 2021, 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.

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 promises 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 since 2016 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. Frequency and conditions of the meetings is determined by the Head of the 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 was established in March 2019 by the approval of Tüpraş Senior Management as a result of the increase in significance of preventing cyber threats and risks brought by developing technologies and the need to manage these technologies by a separate and dedicated team. As of 2021, 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.

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 published in 2021, 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.

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.

F. TÜPRAŞ RISK INVENTORY

As a result of risk assessments, Tüpraş categorized its risks under 7 main topics:

- 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

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.

16 Process Safety leading and lagging Key Performance Indicators (KPIs) are being monitored on a monthly basis in accordance with international standards and practices (e.g. API754, CCPS, etc.). The aim is to take measures before accidents occur and to learn from accidents so as to preclude their recurrence.

RISK MANAGEMENT AND ACTIVITIES OF THE RISK MANAGEMENT COMMITTEE

Tüpraş refineries implement the management-led and owned Process Safety Management System consisting of 14 main headings that target Operational Discipline and Business Management Excellence with CCPS and OSHA references. As per Tüpraş safety requirements, the Process Safety Management System addresses all aspects together including maintenance and control activities, business management procedures, change management, process danger analysis, training and competencies, contractor management etc. that might lead to process safety accidents.

Operational risks are controlled on the basis of HAZOP activities, which are reviewed every 2 years and renewed every 4 years. It is targeted to decrease the occurrence frequency of major accidents to the level of 1×10^{-6} . In view of the processes and potential threats evolving and emerging in the world, in our country and in our refineries, cyber security and start-up risk assessment studies were also integrated in the processes.

In process hazard analyses conducted with the change management system, the impacts of the newly added equipment, facilities and processes upon existing systems are managed by evaluating their hazards.

Commenced in 2020 with the aim of raising employees' awareness of process safety and for building on competencies, internal training programs addressing also major accident scenarios continued in classroom environment and online in 2021. Along with digitalization initiatives, projects are being carried out in relation to management of process safety risks and continuous online monitoring of barriers' effectiveness and actions (digitalization of alarm management, barrier monitoring-Safepool, SU/SD procedures, process safety field audits etc.).

The following steps were taken in 2021 with the aim of improving overall OHS data, establishing a safer working area, and improving the health and awareness of employees:

- Contractor management system (Single Common Health and Safety Unit) was broadened across all refineries and Kırıkkale Refinery moved on the next phase.
- Within the scope of control of work for Lean Work Authorization Standard purposes:
 - Work authorization processes were simplified, and a more effective and controlled system was developed,
 - Employee involvement and effective additional audits were secured through authority and responsibility sharing,
 - Forms and certificates were simplified,
 - Infrastructure was provided for necessary adjustments for alignment with international good practices.
- As part of digitalization efforts, electronic work authorization trials were finalized at İzmit Refinery, and technical specifications started to be developed. During 2022, it is intended to finalize the purchasing and put it into implementation within a timeline.
- Document digitalization is in progress for collecting and analyzing more efficient data.
- Individual and team building studies were carried out as part of safety culture initiatives to increase awareness of employees. Findings from the audits conducted by the Ministry of Labor, BSI and Koç Holding were evaluated, and majority of them were covered within a short period of time. Additional risk assessments were undertaken for lengthy actions, and detected perils were taken under control until the completion of the main action.

Health Risk Assessments (HRA) continue at all refineries at Tüpraş. As part of the HRA studies, all site-specific (units, workshops, laboratories, warehouses, etc.) chemical, physical, biological, ergonomic and psychological factors are examined thoroughly. 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.

OHS topics are also taken into consideration and assessed for new projects and operations or changes planned. New sources of danger that may act upon employees are identified, measures that need to be taken are incorporated in the program and monitored early from the design and installation phase.

Tüpraş responds to emergency situations with high capacity modern equipment and expert personnel. Related national and international standards are used as basis for modernization of emergency protection and response systems, their continuous improvement, and trainings to build on the competencies of teams.

Comprehensive emergency, fire, search and rescue, hydrocarbon vapor/toxic gas dispersion, environmental spillage drills are being carried out at all refineries with the aim of minimizing the potential risks that may result from an emergency, and responding with target-oriented methods.

Disaster drills, whereby high impact disaster scenarios are implemented at least once every year were completed at all refineries. In order to deal with marine and railway spillages, teams that are equipped with the necessary response equipment, materials and competent personnel remain on standby, and collaboration is established with authorized response solution partners. The neighboring facilities, along with public institutions and organizations, take part with their teams and equipment as stakeholders in these drills.

Tüpraş constantly improves and upgrades its emergency response processes and preparations through internal and external audits, and by continually following up and implementing latest advancements in technology and international good practices.

1.b – 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.

While fulfilling its responsibilities within the scope of environmental obligations, the company implements projects which reduce and continuously improve its environmental impacts in the production processes. R&D activities are underway to reduce the environmental impact of refining processes and to develop alternative fuel technologies. In the design of the projects, technology and process selections are carried out in accordance with EU standards, taking into account all environmental impacts.

GHG emissions resulting from production are calculated, and verified by independent organizations, under the Communiqué on GHG Emissions Monitoring and Reporting and also ISO 14064-1. Data verified within the scope of the Communiqué are submitted to the Ministry of Environment and Urbanization. All national legislative requirements are met.

RISK MANAGEMENT AND ACTIVITIES OF THE RISK MANAGEMENT COMMITTEE

Flue gas emissions are constantly monitored by legal authorities and Tüpraş through analyzers. Data transmission realization values are constantly monitored by the relevant teams in the refineries. Early warning systems have been established for these indicators, which are systematically monitored in the field.

In our refineries, water is recovered and reused by focusing on water efficiency and wastewater recovery projects. Waste water discharges are monitored instantly by the Ministry of Environment, Urbanization and Climate Change, and Tüpraş officials closely monitor compliance with the limits. The ratio of water consumption to crude oil in Tüpraş's refineries declined by 22% in 2021 when compared to the previous year, in order to reduce the volume of raw water consumed and therefore consumption of natural resources, while promoting sustainable use of natural resources, protecting the structure of biological diversity and generating economic benefit. Within the scope of the "Identification of Water Risks" study, risk-based assessments were carried out using the WRI Aqueduct method for all refineries in 2020 and 2021, and basin-based risk assessments were completed.

Continuing its activities with a sense of responsibility towards the environment and society, Tüpraş has implemented measures which will be among the best practices on an international scale, thanks to the reduction in the amount of waste at the source, recovery at the source and established industrial symbiosis. All Tüpraş refineries hold the Basic Level Zero Waste Certificate.

When it comes to the biodiversity risks, the flora and fauna inventories evaluated in the EIA studies at all Tüpraş refineries were reviewed and it was confirmed that activities were continuing in accordance with the obligations in the IUCN (International Union for Conservation of Nature's Red List of Threatened Species), Bern (Berne Convention on the Conservation of European Wildlife and Natural Habitats) and CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora) contracts.

Tüpraş, which closely follows the national and international agenda on climate change risk, supports efforts to combat climate change by participating in working groups, meetings and seminars organized by relevant institutions and non-governmental organizations both in the country and abroad. While evaluating investment projects, Tüpraş also considers internal carbon pricing as a parameter in its feasibility studies.

With the EU Green Deal, international developments and environmental sustainability coming to the forefront, "Life Cycle Thinking and Analysis" studies are carried out at Tüpraş. Thus, their use is being expanded both in managing the environmental impact of existing processes and in determining the points which need improvement, reporting improvements and for setting goals. These studies are aimed at being used as an indicator of sustainability for investments and new technologies.

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.

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. Within the frame of hedging policies for impairment of inventory value, inventory amount which is subject to price risk is being reduced, the remaining amount begins to be hedged through various derivative instruments at the beginning of the year, and hedge levels are increased through ongoing transactions.

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 minimum hedge ratio into account calculated by comparing prices for the following 4 quarters and historical average profit margins for those quarters. Thus, the amount of hedging transactions to be realized is determined as 0% to 50% based on budgeted production by sales volume considering crack margins with past and future maturities.

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.

In addition to this, 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.

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.

RISK MANAGEMENT AND ACTIVITIES OF THE RISK MANAGEMENT COMMITTEE

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 in Production and Sales Processes Risks

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.

Samples for each batch of products purchased are subjected to various tests in laboratories both within and outside the institution, and the purchase of any products which fail to meet the criteria in any of these tests is stopped.

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.

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. 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.

Risk assessment work will continue to be 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 will continue to be 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 ISO27001 Information Security Management System (ISMS) compliance studies for the year 2021.

RISK MANAGEMENT AND ACTIVITIES OF THE RISK MANAGEMENT COMMITTEE

The Cybersecurity Committee on Operational Technologies convened twice in 2021. In order to ensure that the decisions taken by the committee were applied comprehensively in the refineries, and to properly pass on feedback, sub-committees were established in the refineries and actions and the practices were monitored. Within the scope of committee work, 52 decision articles were implemented and 24 decision articles were completed in 2021. Work continues as planned for the remaining 28 decision articles. Of the 14 critical-level risks notified to EMRA in 2021, the impact of seven of the risks has been reduced through the risk reduction activities carried out, and activities to reduce the remaining seven risks continue as planned.

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 2021, 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.

Project and Investment Risks

The Company pursues international quality and safety standards in short-term construction projects in order to ensure operation sustainability. Framework agreements are concluded with construction firms satisfying the required standards, and necessary projects are realized quickly. Hence, effective measures are adopted to reduce risks of delay, operational loss and quality and safety issues which may be encountered in the engineering, supply and construction processes.

In order to select the right projects which will deliver sustainable profitability in the medium- and long- term, ideas are subjected to a development process prior to the investment decision, and are supported and developed with 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, investments are taken in the right projects which are aligned with the Company’s strategies, ensuring effective risk management against possible losses.

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.

Risks related to Human Resources

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.

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.

Company employees determine their goals by taking into account the Objective Key Results (OKR) systematic, Company strategies and Top Management goals. After the setting of goals, frequent contact is established with the manager during the year and the goals are reviewed dynamically.

In line with changes in the sector, the Future Fit project was initiated to ensure preparedness for the risks of the future and to provide change in advance. Within the scope of the project, a transformation program will be prepared by determining the working styles, organizational structures, digitalization needs and skills needed by employees in both existing business areas and planned new business areas.

The internal training system has been operated successfully, ensuring the effectively transfer of knowledge and skills from Tüpraş's technical departments to our employees.

The E-Tech Academy, a comprehensive and online training platform which meets international standards, has been commissioned for technical departments. The advantages of this platform are summarized below:

- a) Progress tracking and measurement has become easier.
- b)The concept of training independent of place and time has been implemented.
- c) A digital infrastructure compatible with the conditions of the pandemic has been established.

The behavioral and professional development needs of our employees are evaluated within the scope of the Development Dialogue. The "Introduction to Refining" program, the online training program where our newly recruited colleagues may find all the training they need for their technical and professional development, was redesigned with an agile approach, made easily accessible, digitized and brought into use.

In cooperation with the Academy Directorate and Information Technologies Directorate, the following programs were launched in 2021:

- a) Analytical Tüpraş Training and Project Program; for those specializing in data analytics.
- b) Tüpraş RPA (Robotic Process Automation) Coaches Program: for those specializing in the field of robotic process automation.

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.

RISK MANAGEMENT AND ACTIVITIES OF THE RISK MANAGEMENT COMMITTEE

- 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.
- 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.

Security Risks

A risk assessment was carried out by the Tüpraş Security Directorate within the scope of the SecuRisk Project in 2021, with a review of the performance and key risk indicators of security systems. Key risk monitoring is carried out to measuring the effectiveness of the security system in preventing potential risks, and by monitoring key risk indicators.

Risks arising from electronic security systems, physical security systems, human factors and lack of control in refineries are reviewed annually with the aim of providing deterrence with a proactive approach, to test the functionality of the security system against threats, to ensure optimal use of existing resources, to minimize the security risk to be determined and to map the existing risk.

Security drills and security tours and inspections are carried out in all refineries, simulating various security scenarios.

Various projects are also being carried out in regard to technological attacks which may threaten the security of the refinery processes. In addition, various checks are put in place on access to business areas to manage the risk of Pandemic.

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.

The Company considers that potential short- and medium-term risks could include various sanctions imposed against the countries, OPEC decisions, resource (energy, water, etc.) consumption restrictions in connection with sustainability, sensitivity against fossil fuels (ESG, Green Deal, the Paris Agreement), sustainability perception by investors and in financing, changes to regulatory framework (GHG Emissions limits and carbon tax, intra-city diesel vehicle restrictions, etc.) and the acceleration of climate-driven developments in the aftermath of the pandemic.

The Company considers long-term risks to include the rise in consumption of environment-friendly (waste-based, renewable and sustainable) products, developments related to alternative fuels (hydrogen, synthetic fuels, electricity, etc.), increased efficiency of internal combustion engines, increased manufacturing of electrically powered vehicles and increased electrification, lower emission limits and higher carbon costs, support for decarbonization and stricter regulations, and renewable energy resources and storage.

Tüpraş presses ahead with its investments in order to achieve compliance with the specifications introduced by international standards and to produce more environment-friendly fuel oil.

As 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.

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 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.

In this sense, the Tüpraş Sustainability Agile Project Team, which was established in 2020 with the aim of monitoring global and sector trends more closely, promoting awareness within the organization and cooperation among units, identifying priority steps by understanding stakeholder expectations in the fields of environmental-social-governance, and taking action swiftly, is also actively working in 2021. In parallel with the work carried out, efforts are underway to establish a Sustainability Committee and sub-working groups affiliated to the committee. At the same time, national and international legal regulations are closely monitored and an active role is taken in national legislative processes.

6- COMPLIANCE AND LEGAL RISKS

The possibility of rights to be lower than expected and liabilities to be higher than expected as a consequence of risks created by a regulation change that has a negative impact on activities, misinterpretation of regulations and insufficient or incorrect documentation.

Changes in the legislation are being followed to keep track of legal risks and relevant departments are informed.

In 2021, within the framework of the Competition Law compliance program, pre-assessments of new applications, projects and contracts were performed, action plans and strategies were developed about the measures that can be taken in order to eliminate potential risks. Moreover, Competition Law training was given.

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. 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 training on the legislation on the protection of personal data and the compliance program.

RISK MANAGEMENT AND ACTIVITIES OF THE RISK MANAGEMENT COMMITTEE

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.

In order to uphold the continued existence of our Company and its business continuity, to safeguard our reputation and to manage compliance risks, the Code of Ethics and existing policies have been updated and new compliance policies have been implemented in the required areas. Within the scope of the “Compliance Program” carried out jointly with Koç Holding, 12 newly created policies which were updated with the approval of the Board of Directors in 2021 were announced on the Public Disclosure Platform and entered effect. All employees have been provided with information concerning the policies and have been informed regarding the need for full compliance with the policies.

All employees, Tüpraş subsidiaries and third parties doing business on behalf of Tüpraş are liable to read and understand this policy and act in accordance therewith. It should be noted that this policy is implemented to cover all Company employees and managers, regardless of their position in the Company hierarchy.

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. In the event that any of the third parties registered in the system 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.

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 plans to provide training to all Company employees on ethical principles and compliance in 2022. In addition to the training to be 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.

In 2021, the Ethics Line was made available under the leadership of Koç Holding, and stakeholders could report through this channel, retaining the option of remaining anonymous. The notifications in question 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.

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.

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 reports on an organizational basis to the Company's General Manager, also reports to the Audit Committee at the level of the Board of Directors. The Audit Committee is formed of the Independent Members of the Board of Directors. Muharrem Hilmi Kayhan is the head of the Committee and Kamil Ömer Bozer is the member. The Audit Committee meets at least 4 times a year, and more frequently as and when necessary. During 2021, the Committee held 7 meetings. The Audit Committee is periodically informed about the audits conducted.

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 2021 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.

Ediz Günsel, SMMM
Partner

Istanbul, 16 February 2022

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. 2021/16 dated 8 April 2021, the Board of Directors resolved to:

- Structure the Audit Committee with 2 members and appoint Mr. Muharrem Hilmi Kayhan as the Committee Chairman, 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 Chairman, 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 Chairman, and Mr. Erol Memioğlu as a member,
- Structure the Executive Committee with 6 members, and appoint Mr. Ömer Mehmet Koç as the Committee Chairman, 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 Chairman, 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 2021, 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 seven meetings in 2021.

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 chairman 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.

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

EVALUATION OF OPERATING PRINCIPLES AND EFFECTIVENESS OF BOARD COMMITTEES

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://tprstaticfilessa.blob.core.windows.net/assets/uploads/kurumsalyonetim/Audit-Committee.pdf>

During 2021, 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 eight meetings in 2021.

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/kurumsalyonetim/Corporate-Governance.pdf>

During 2021, 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,
- 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,

EVALUATION OF OPERATING PRINCIPLES AND EFFECTIVENESS OF BOARD COMMITTEES

- 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,
- 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://tprstaticfilessa.blob.core.windows.net/assets/uploads/kurumsalyonetim/Risk-Management-Committee.pdf>

During 2021, 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.
- Evaluated the actions taken by the Company in response to COVID-19.

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.

https://tprstaticfilessa.blob.core.windows.net/assets/uploads/kurumsalyonetim/Tupras_executive_committee.pdf

During 2021, 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.

Ethics Committee

Code of Ethics and Business Conduct cover the Company's fundamental principles of conduct. For the purpose of alignment with the Global Compact criteria, of which Koç Holding is a signatory, as well as changes in regulatory, social and economic circumstances, Tüpraş Code of Ethics and Business Conduct was approved by the General Assembly in April 2011. In the performance of their duties, the Company personnel must abide by the "Tüpraş Business Conduct Principles" and "Koç Group's Shared Values". Realizing that work procedures, standards, laws and regulations might not be able to provide guidance for all kinds of attitudes and behaviors, the Code of Ethics and Business Conduct built upon the Company values is implemented.

In 2021, there were no administrative or judicial sanctions or fines imposed by public authorities against the Company and/or members of the governing body on account of any practice associated with corruption.

AUDIT COMMITTEE REPORT (RELATED TO FINANCIAL STATEMENTS)

TÜRKİYE PETROL RAFİNERİLERİ A.Ş. AUDIT COMMITTEE REPORT RELATED TO FINANCIAL STATEMENTS

Decision Date: 16.02.2022

Decision No: 2022/2

Subject: Consolidated Financial Statements dated 31.12.2021

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 2021 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]

Muharrem Hilmi Kayhan
Chairman of the Audit Committee

[Signature]

Kamil Ömer Bozer
Member of the 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: 16.02.2022

Resolution No: 2022/6

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 01.01.2021 - 31.12.2021 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.

Regards,

[Signature]

Muharrem Hilmi Kayhan
Chairman 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: 08.03.2022

Decision No: 2022/4

Subject: Annual Report dated 31.12.2021

To the Board of Directors of Tüpraş

We have convened to review and give our opinion on the 2021 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
Chairman of Audit Committee

[Signature]

Kamil Ömer Bozer
Chairman 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: 08.03.2022

Resolution No: 2022/12

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 2021 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
Chairman 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.

1 January - 31 December 2021

Consolidated Financial Statements

(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 2021, 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 2021, 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. Key audit matters

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
<i>Fair value of lands recognised using the revaluation method</i> 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 31 December 2021, the Group has performed a revaluation study of lands to reflect the changes in market conditions. As of 31 December 2021, as a result of the valuations made by an independent real estate appraisal firm, the total fair value of lands as of 31 December 2021 amounts to TRY12,194,383 thousand, representing a fair value increase of TRY 3.853.192 thousand in 2021 is recognized under equity. 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. 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.	The audit procedures we performed on the accounting for lands under revaluation method are as follows: The capability, competency and objectivity of the independent property valuation institution appointed by the Group is assessed in accordance with SIA 500. The completeness of the lands subject to revaluation is checked by comparing accounting records to valuation reports. The deeds and ownership ratios of lands were tested through the sampling method. 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. The following audit procedures were performed based on the sampling method with the support of the auditor's expert: - 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. 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. 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.

Key Audit Matters	How the key audit matter was addressed in the audit
<i>The effects of strategic transformation plan on assets</i> As the details are explained in Note 2.6, the strategic transformation plan was accepted by the Company's Board of Directors on 24 November 2021. Within the scope of the relevant strategic transformation plan, it is aimed to operate in the fields of sustainable refining, biofuels, zero carbon electricity and green hydrogen in the long term and long-term business plans have been updated within this framework. As a result of the new investments have been planned and the strategic actions have been determined, the Group has evaluated its effects on machinery, plant and equipment, and deferred tax assets, which are among the significant financial statement items. As of 31 December 2021, the machinery, plant and equipment amount recognized in the consolidated financial statements of the Group is TRY13,895,052 thousand, which represents 13% of its total assets. Due to the revised long-term business plans, the Group Management has reviewed the economic life of the machines, facilities and devices that are currently in use and performed the impairment tests on the machinery, plant and equipment in accordance with TAS 16, "Property, Plant and Equipment" standard. Accounting policies and details regarding Group's machinery, plant and equipment are explained in Note 2.3 and Note 10 of the consolidated financial statements. As of 31 December 2021 the Group's consolidated financial statements include deferred tax assets from investment incentives amounting to TRY6,264,162 thousand. The recoverability deferred tax assets from investment incentives have been re-evaluated by reviewing the business model that are based on significant management estimates for future periods, including taxable profit assumptions that are updated within the framework of the strategic transformation plan. 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.	In our audit we performed the following audit procedures: - We discussed the future plans and explanations of the Group and appraised them within the framework of macroeconomic data. - We compared cash flow estimations prepared for the relevant cash generating unit with previous financial performance results and assessed if these estimations are reasonable. - We compared the sales tonnage and price estimations used in the model against prior periods' actuals and 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. - With the assistance of our valuations experts, we compared the significant estimations, such as long-term growth and discounted cash flow rates which are used in calculation of value in use amount, with market data and assessed whether they are appropriate. - We checked the structure and mathematical accuracy of the discounted cash flow calculation model. - We checked management's analyses regarding how sensitive weighted average cost of capital rate (discount rate) is to market conditions.

INDEPENDENT AUDITOR'S REPORT

Key Audit Matters	How the key audit matter was addressed in the audit
The effects of strategic transformation plan on assets were identified as key audit matter since; significant management estimations and assumptions such as sales tonnage, price and exchange rates estimations, long-term growth and discounted cash flow rates were used in impairment tests of machinery, plant and equipment and recoverability of deferred tax assets from investment incentives; these estimations and assumptions may be affected by developments in the industry and economy; and impairments in machinery, plant and equipment and effects of strategic transformation plan may significantly affect the Group's consolidated financial statements.	- We evaluated of whether the useful lives determined for the relevant assets within the framework of the strategic transformation plan are reasonable. - We evaluated the business model, important management estimations and investment incentive practices, including our tax specialists, that determine whether investment incentives can be used for the future. - We reviewed the explanations in the consolidated financial statement notes regarding the strategic transformation plan and evaluated the sufficiency of this information in terms of TFRS. No significant findings resulted from our work.

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.

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.

INDEPENDENT AUDITOR’S REPORT

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 2021 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 16 February 2022.

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

Ediz Günsel, SMMM
Partner

Istanbul, 16 February 2022

TABLE OF CONTENTS

	PAGE
CONSOLIDATED STATEMENTS OF FINANCIAL POSITION	222
CONSOLIDATED STATEMENTS OF PROFIT OR LOSS AND OTHER COMPREHENSIVE INCOME	224
CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY	226
CONSOLIDATED STATEMENTS OF CASH FLOWS	228
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS	229-295
NOTE 1 ORGANIZATION AND NATURE OF OPERATIONS OF THE GROUP	229
NOTE 2 BASIS OF PRESENTATION OF CONSOLIDATED FINANCIAL STATEMENTS	231
NOTE 3 BUSINESS COMBINATIONS	247
NOTE 4 CASH AND CASH EQUIVALENTS	247
NOTE 5 FINANCIAL LIABILITIES	248
NOTE 6 TRADE RECEIVABLES AND PAYABLES	253
NOTE 7 OTHER RECEIVABLES AND PAYABLES	254
NOTE 8 INVENTORIES	254
NOTE 9 INVESTMENTS ACCOUNTED FOR USING THE EQUITY METHOD	255
NOTE 10 PROPERTY, PLANT AND EQUIPMENT	257
NOTE 11 INTANGIBLE ASSETS	259
NOTE 12 PREPAID EXPENSES	260
NOTE 13 OTHER ASSETS AND LIABILITIES	261
NOTE 14 PROVISIONS	262
NOTE 15 LIABILITIES FOR EMPLOYEE BENEFITS	266
NOTE 16 OTHER PAYABLES	266
NOTE 17 DERIVATIVE INSTRUMENTS	267
NOTE 18 COMMITMENTS AND CONTINGENT ASSETS AND LIABILITIES	269
NOTE 19 EQUITY	271
NOTE 20 REVENUE AND COST OF SALES	272
NOTE 21 GENERAL ADMINISTRATIVE EXPENSES, MARKETING EXPENSES AND RESEARCH AND DEVELOPMENT EXPENSES	273
NOTE 22 OTHER OPERATING INCOME/(EXPENSES)	275
NOTE 23 INCOME/(EXPENSE) FROM INVESTMENT ACTIVITIES	276
NOTE 24 FINANCIAL INCOME/(EXPENSES)	276
NOTE 25 TAX ASSETS AND LIABILITIES	276
NOTE 26 EARNINGS PER SHARE	279
NOTE 27 RELATED PARTY TRANSACTIONS	279
NOTE 28 FINANCIAL INSTRUMENTS AND FINANCIAL RISK MANAGEMENT	283
NOTE 29 GOVERNMENT GRANTS	295
NOTE 30 SUBSEQUENT EVENTS	295

Türkiye Petrol Rafinerileri A.Ş.**Consolidated Statements of Financial Position
As at 31 December 2021**

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

		Audited	Audited
	Notes	31 December 2021	31 December 2020
ASSETS			
Current Assets		65,428,752	30,663,146
Cash and cash equivalents	4	20,400,235	19,825,292
Trade receivables	6	13,516,823	1,735,549
Due from related parties	6, 27	1,668,264	324,555
Trade receivables from third parties		11,848,559	1,410,994
Other receivables	7	20,541	18,690
Other receivables from third parties		20,541	18,690
Derivative instruments	17	3,817,972	380,129
Inventories	8	23,755,862	7,700,630
Prepaid expenses	12	186,381	233,614
Other current assets	13	3,730,938	769,242
Non-Current Assets		37,106,249	30,505,376
Financial investments		5,389	3,696
Investments accounted for using the equity method	9	2,150,156	1,326,490
Property, plant and equipment	10	26,288,463	21,875,889
Right of use asset		182,156	199,005
Intangible assets	11	66,801	62,369
Other intangible assets		66,801	62,369
Derivative instruments	17	44,213	87,883
Prepaid expenses	12	94,639	134,786
Deferred tax assets	25	6,377,848	5,002,427
Other non-current assets	13	1,896,584	1,812,831
Total assets		102,535,001	61,168,522

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 2021

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

		Audited	Audited
	Notes	31 December 2021	31 December 2020
LIABILITIES			
Current liabilities		64,001,571	28,340,528
Short-term financial liabilities	5	563,221	2,097,808
Current portion of long term financial liabilities	5	10,835,745	6,403,937
Trade payables	6	43,704,239	14,137,468
Due to related parties	6, 27	165,021	218,486
Trade payables, third parties		43,539,218	13,918,982
Liabilities for employee benefits	15	134,471	151,927
Other payables	16	90,127	64,113
Due to related parties	16, 27	43,328	30,763
Other payables to third parties		46,799	33,350
Derivative instruments	17	3,302,177	762,828
Deferred income		32,315	129,254
Current income tax liabilities	25	38,393	2,459
Short-term provisions	14	200,116	142,088
Short-term provisions for employee benefits		19,387	24,572
Other provisions		180,729	117,516
Other current liabilities	13	5,100,767	4,448,646
Non-current liabilities		20,705,913	21,155,469
Long-term financial liabilities	5	20,218,575	20,743,323
Long-term provisions	14	447,560	356,405
Long-term provisions for employee benefits		447,560	356,405
Deferred income		9,987	9,504
Derivative Instruments	17	29,117	45,490
Other non-current liabilities		674	747
Total liabilities		84,707,484	49,495,997
Equity			
Share capital	19	250,419	250,419
Adjustment to share capital	19	1,344,243	1,344,243
Accumulated other comprehensive income/(expense) not to be reclassified to profit or loss		11,033,759	7,487,238
Gains/losses on revaluation and remeasurement		10,944,761	7,439,187
Gain on revaluation of properties		10,957,223	7,447,028
Actuarial gain/(loss) arising from defined benefit plans		(12,462)	(7,841)
Share of other comprehensive income of investments accounted for using equity method that will not be reclassified to profit or loss		88,998	48,051
Accumulated other comprehensive income/(expense) to be reclassified to profit or loss		(2,678,176)	(1,923,330)
Currency translation differences		297,679	(9,822)
Hedging gains/(losses)		(3,575,726)	(2,243,649)
Cash flow hedge gains/(losses)		(3,575,726)	(2,243,649)
Share of other comprehensive income of investments accounted for using equity method that will be reclassified to profit or loss		599,871	330,141
Restricted reserves	19	503,343	503,343
Retained earnings		3,784,488	6,277,999
Net income		3,319,134	(2,493,511)
Total equity attributable to equity holders of the parent		17,557,210	11,446,401
Non-controlling interests		270,307	226,124
Total equity and liabilities		102,535,001	61,168,522

These consolidated financial statements as of and for the year ended 31 December 2021 has been approved for issue by the Board of Directors ("BOD") on 16 February 2022. These consolidated financial statements will be finalised following their approval in the General Assembly.

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 2021

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

		Audited 1 January - 31 December 2021	Audited 1 January - 31 December 2020
	Notes		
Revenue	20	150,971,584	63,243,815
Cost of sales	20	(135,520,941)	(61,479,585)
Gross profit (loss)		15,450,643	1,764,230
General administrative expenses	21	(1,793,787)	(1,344,225)
Marketing expenses	21	(1,409,076)	(633,052)
Research and development expenses	21	(38,966)	(34,972)
Other operating income	22	1,222,382	616,900
Other operating expenses	22	(12,966,605)	(987,908)
Operating profit (loss)		464,591	(619,027)
Income from investment activities	23	107,950	1,805
Income (loss) from investments accounted by equity method	9	592,989	(29,615)
Operating profit before financial income (expense)		1,165,530	(646,837)
Financial income	24	12,559,211	3,213,676
Financial expense	24	(11,563,562)	(6,362,233)
Profit (loss) before tax from continued operations		2,161,179	(3,795,394)
Tax income (expense)		1,274,996	1,372,469
Taxes on income		(62,734)	(13,310)
Deferred tax income (expense)	25	1,337,730	1,385,779
Net income (loss) from continued operations		3,436,175	(2,422,925)
Other comprehensive income:			
Items not to be reclassified to profit or loss		3,546,483	1,050,095
Revaluation gain (loss) on property	10	3,853,192	1,134,711
Actuarial gain (loss) arising from defined benefit plans		(5,779)	(818)
Share of other comprehensive income accounted for investment using equity method that will be not reclassified to profit or loss		40,947	29,806
Actuarial gain (loss) arising from defined benefit plans accounted for investment using equity method	9	(447)	(406)
Revaluation gain (loss) on property of investments accounted with using equity method	9	41,394	30,212
Tax effect of other comprehensive income (loss) not to be reclassified to profit or loss		(341,877)	(113,604)
Deferred tax income (expense)		(331,296)	(113,604)
Current income tax income (expense)		(10,581)	-

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 2021

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

		Audited 1 January - 31 December 2021	Audited 1 January - 31 December 2020
	Notes		
Items to be reclassified to profit or loss		(807,646)	(85,579)
Currency translation differences		307,501	(13,014)
Share of other comprehensive income accounted for investment using equity method that will be reclassified to profit or loss		269,730	83,522
Actuarial gain (loss) of revaluation or classification of investments using equity method	9	176,688	43,261
Gain (loss) from translation of foreign currency of investments using equity method		93,042	40,261
Income (expense) relating to avoidance of risk of cash flow	9	(1,753,865)	(118,837)
Income (loss) of avoidance of risk cash flow		(1,753,865)	(118,837)
Tax effect of other comprehensive income (loss) to be reclassified to profit or loss		368,988	(37,250)
Deferred tax income (expense)	25	368,988	(37,250)
Other comprehensive income (expense)		2,738,837	964,516
Total comprehensive income (expense)		6,175,012	(1,458,409)
Distribution of income for the period:			
Non-controlling interests		117,041	70,586
Attributable to equity holders of the parent		3,319,134	(2,493,511)
Distribution of total comprehensive income			
Non-controlling interests		64,203	58,025
Attributable to equity holders of the parent		6,110,809	(1,516,434)
Earnings (loss) per share from continued operations			
Earnings per share with nominal value Kr1 each (Kr)	26	13.25	(9.96)

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 2021

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

				Accumulated other comprehensive income/(expense) not to be reclassified to profit or loss	
				Gains/(losses) on valuation and remeasurement	
	Share capital	Adjustment to share capital	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
Audited					
1 January 2020	250,419	1,344,243	6,425,788	(6,897)	18,245
Transfers	-	-	-	-	-
Dividends paid	-	-	-	-	-
- Net profit for the period	-	-	-	-	-
- Other comprehensive income	-	-	1,021,240	(944)	29,806
Total comprehensive income	-	-	1,021,240	(944)	29,806
31 December 2020	250,419	1,344,243	7,447,028	(7,841)	48,051
Audited					
1 January 2021	250,419	1,344,243	7,447,028	(7,841)	48,051
Transfers	-	-	-	-	-
Dividends paid	-	-	-	-	-
- Net profit for the period	-	-	-	-	-
- Other comprehensive income	-	-	3,510,195	(4,621)	40,947
Total comprehensive income	-	-	3,510,195	(4,621)	40,947
31 December 2021	250,419	1,344,243	10,957,223	(12,462)	88,998

The accompanying notes form an integral part of these consolidated financial statements.

Accumulated other comprehensive income/(expense) that will be reclassified to profit or loss						Total retained earnings			
Currency translation differences	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	
	Cash flow hedge gains/(losses)								
3,192	(2,100,116)	246,619	503,343	5,752,162	525,837	12,962,835	173,705	13,136,540	
-	-	-	-	525,837	(525,837)	-	-	-	
-	-	-	-	-	-	-	(5,606)	(5,606)	
-	-	-	-	-	(2,493,511)	(2,493,511)	70,586	(2,422,925)	
(13,014)	(143,533)	83,522	-	-	-	977,077	(12,561)	964,516	
(13,014)	(143,533)	83,522	-	-	(2,493,511)	(1,516,434)	58,025	(1,458,409)	
(9,822)	(2,243,649)	330,141	503,343	6,277,999	(2,493,511)	11,446,401	226,124	11,672,525	
(9,822)	(2,243,649)	330,141	503,343	6,277,999	(2,493,511)	11,446,401	226,124	11,672,525	
-	-	-	-	(2,493,511)	2,493,511	-	-	-	
-	-	-	-	-	-	-	(20,020)	(20,020)	
-	-	-	-	-	3,319,134	3,319,134	117,041	3,436,175	
307,501	(1,332,077)	269,730	-	-	-	2,791,675	(52,838)	2,738,837	
307,501	(1,332,077)	269,730	-	-	3,319,134	6,110,809	64,203	6,175,012	
297,679	(3,575,726)	599,871	503,343	3,784,488	3,319,134	17,557,210	270,307	17,827,517	

Türkiye Petrol Rafinerileri A.Ş.

Consolidated Statement of Cash Flow For the Year Ended 31 December 2021

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

		Audited	Audited
	Notes	1 January - 31 December 2021	1 January - 31 December 2020
Cash flows from operating activities		593,625	2,114,010
Profit/(loss) for the period		3,436,175	(2,422,925)
Adjustment for reconciliation of profit/(loss) for the period		(517,072)	1,920,295
Adjustment for depreciation and amortisation expense	10, 11	787,470	742,238
Adjustment for provisions	14	295,924	157,500
Adjustment for interest (income) and expense	24	586,243	1,174,768
Adjustment for unrealized foreign currency translation differences		(10,617,898)	(2,634,829)
Adjustment for fair value (gain) or loss		2,104,974	392,344
Adjustment for undistributed profit accounted by equity method	9	(592,989)	29,615
Adjustment for tax expenses(income)	25	(1,274,996)	(1,372,469)
Adjustment for (gain)/loss on sales of property, plant and equipment	23	(107,950)	(1,805)
Adjustment for other items related with cash flow of investment or financial activities	24	7,939,717	3,444,698
Other adjustments for reconciliation of profit/(loss)		362,433	(11,765)
Changes in working capital		(2,167,429)	2,728,593
Adjustment for decrease/(increase) in trade receivables		(11,819,424)	3,056,261
Adjustment for decrease/(increase) in other receivables related with operations		(3,007,354)	1,449,379
Adjustment for decrease/(increase) in derivative assets		(3,394,173)	(65,279)
Adjustment for decrease/(increase) in inventories		(16,055,232)	1,767,951
Adjustment for increase/(decrease) in trade payables		29,569,424	(3,707,698)
Adjustment for increase/(decrease) in other payables related with operations		16,354	(469,142)
Adjustment for decrease/(increase) in derivative liabilities		2,522,976	697,121
Cash flows from operating activities		751,674	2,225,963
Tax returns/(payments)		(12,038)	(13,256)
Other cash inflow/(outflow)		(146,011)	(98,697)
Cash flows from investing activities		(1,076,856)	(942,404)
Cash inflows from the sales of property, plant and equipment and intangible assets		169,910	24,188
Cash outflows from the purchase of property, plant and equipment and intangible assets		(1,325,073)	(1,082,896)
Dividends received	9	80,000	120,000
Cash outflows from the purchase of shares in other businesses or funds		(1,693)	(3,696)
Cash flows from financing activities		(11,501,460)	4,958,947
Cash inflows from financial liabilities	5	13,910,108	41,075,708
Cash outflows from financial liabilities	5	(20,905,942)	(34,590,312)
Cash inflows from derivative instruments		896,087	539,254
Cash outflows from derivative instruments		(4,910,714)	(880,836)
Cash outflows from payments of rent agreements	5	(32,045)	(62,208)
Dividends paid	19	(20,020)	(5,606)
Interest paid		(2,482,361)	(1,630,755)
Interest received		2,043,427	513,702
Net increase/(decrease) in cash and cash equivalents before the effect of foreign currency translation differences		(11,984,691)	6,130,553
Impact of foreign currency translation differences on cash and cash equivalents		10,617,543	2,634,829
Net increase/(decrease) in cash and cash equivalents		(1,367,148)	8,765,382
Cash and cash equivalents at the beginning of the period		17,506,177	8,740,795
Cash and cash equivalents at the end of the period	4	16,139,029	17,506,177

The accompanying notes form an integral part of these consolidated financial statements.

**Notes to the Consolidated Financial Statements
For the Year Ended 31 December 2021**

(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.

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 at 31 December 2021, the shares quoted on the BIST are 49% of the total shares. As of 31 December 2021, the principal shareholders and their respective shareholdings in the Company are as follow (Note 19):

	(%)
Enerji Yatırımları A.Ş.	51.00
Publicly held	49.00
	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 2021

(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
Körfez Ulaştırma A.Ş. ("Körfez")	Turkey	Air carriage and transportation
Tupras Trading Ltd. ("Tupras Trading")	England	Crude oil and petroleum products trade
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 2021 is 5,923 (31 December 2020 - 6,129).

The address of the registered office of the Company is as follows:

Türkiye Petrol Rafinerileri A.Ş.
Gülbahar Mahallesi
Büyükdere Caddesi No:101A
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 June 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 on TMS Taxonomy" published by the POA on 15 April 2019 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 under the historical cost convention except for derivative instruments that are carried at fair value. 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.

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.

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 2021 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 2021. 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 at 31 December 2021:

- **Amendments to TFRS 7, TFRS 4 and TFRS 16 Interest Rate Benchmark Reform Phase 2;** effective from annual periods beginning on or after 1 January 2021. The Phase 2 amendments address issues that arise from the implementation of the reforms, including the replacement of one benchmark with an alternative one. The Phase 2 amendments provide additional temporary reliefs from applying specific TAS 39 and TFRS 9 hedge accounting requirements to hedging relationships directly affected by IBOR reform.
- **Amendments to TFRS 4 Insurance Contracts - deferral of TFRS 9;** effective from annual periods beginning on or after 1 January 2023. These amendments defer the date of application of TFRS 17 by two years to 1 January 2023 and change the fixed date of the temporary exemption in TFRS 4 from applying TFRS 9, Financial instrument until 1 January 2023. The effect of this amendment on the financial position and performance of the Group is being assessed.

The mentioned amendments does not have a significant impact on the financial position and performance of the Group.

**Notes to the Consolidated Financial Statements
For the Year Ended 31 December 2021**

(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)

b) Standards, amendments and interpretations that are issued but not effective as at 31 December 2021:

- **Amendment to TFRS 16, 'Leases' - Covid-19 related rent concessions Extension of the Practical expedient;** as of March 2021, this amendment extended till June 2022 and effective from 1 April 2021. As a result of the coronavirus (COVID-19) pandemic, rent concessions have been granted to lessees. Such concessions might take a variety of forms, including payment holidays and deferral of lease payments. On 28 May 2020, the TASB published an amendment to TFRS 16 that provides an optional practical expedient for lessees from assessing whether a rent concession related to COVID-19 is a lease modification. 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.
- **TFRS 17, 'Insurance contracts';** 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.
- **Amendments to TAS 1, 'Presentation of financial statements' on classification of liabilities;** effective date deferred until accounting periods starting not earlier than 1 January 2022. These narrow-scope amendments to TAS 1, 'Presentation of financial statements', clarify that liabilities are classified as either current or non-current, depending on the rights that exist at the end of the reporting period. Classification is unaffected by the expectations of the entity or events after the reporting date (for example, the receipt of a waiver or a breach of covenant). The amendment also clarifies what TAS 1 means when it refers to the 'settlement' of a liability.
- **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.
 - **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'.

- **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;** 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.

The mentioned amendments does not have a significant impact on the financial position and performance of the Group.

Notes to the Consolidated Financial Statements For the Year Ended 31 December 2021

(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)

2.1.3 Financial statements of joint ventures operating in foreign countries

Financial statements of 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 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.

2.1.4. Principles of consolidation

a) The consolidated financial statements for the year ended 31 December 2021 have been prepared in accordance with principles stated on the consolidated financial statements for the year ended 31 December 2020 and include financial statements of Tüpraş, and its Subsidiaries.

b) At 31 December 2021, there are no changes in voting rights or proportion of effective interest on subsidiaries and joint ventures that are subject to consolidation from the information stated on consolidated financial statements for the year ended 31 December 2020.

	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 (%)
Subsidiary				
Ditaş	79.98	79.98	79.98	79.98
Üsküdar	79.98	79.98	79.98	79.98
Damla	79.98	79.98	79.98	79.98
Beykoz	79.98	79.98	79.98	79.98
Kadıköy	79.98	79.98	79.98	79.98
Sarıyer	79.98	79.98	79.98	79.98
Kartal	79.98	79.98	79.98	79.98
Maltepe	79.98	79.98	79.98	79.98
Salacak	79.98	79.98	79.98	79.98
Karşıyaka	79.98	79.98	79.98	79.98
Bakırköy	79.98	79.98	79.98	79.98
Karaköy	79.98	79.98	79.98	79.98
Çengelköy	79.98	79.98	79.98	79.98
Pendik	79.98	79.98	79.98	79.98
Tuzla	79.98	79.98	79.98	79.98
Göztepe	79.98	79.98	79.98	79.98
Körfez	100.00	100.00	100.00	100.00
Tupras Trading	100.00	100.00	100.00	100.00

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements For the Year Ended 31 December 2021

(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 statement of financial position and statement of comprehensive income of the subsidiaries are consolidated on a line-by-line basis and the carrying value of the investment held by the Company is eliminated against the related equity. Intercompany transactions and balances between the Company and its subsidiary are eliminated on consolidation. The cost of and the dividends arising from, shares held by the Company in its subsidiary are eliminated from equity and income for the year, respectively.

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 2021 and 31 December 2020:

	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 (%)
Joint ventures accounted by equity method				
Opet	50.00	40.00	50.00	40.00
Opet International Limited ^(*)	50.00	40.00	50.00	40.00
Opet Trade B.V. ^(*)	50.00	40.00	50.00	40.00
Opet Trade Singapore (In liquidation) ^(*) ^(*)	50.00	40.00	50.00	40.00
Opet Market ve Akaryakıt İstasyon İşletmeciliği A.Ş. ^(*)	50.00	40.00	50.00	40.00
THY Opet Havacılık Yakıtları A.Ş. ^(*)	25.00	20.00	25.00	20.00
Opet Fuchs Madeni Yağ San. ve Tic. A.Ş. ^(*)	25.00	20.00	25.00	20.00
Op Ay Akaryakıt Ticaret Ltd. Şti. ^(*)	25.00	20.00	25.00	20.00
Akdeniz Akaryakıt Depolama Nakliyat ve Tic. A.Ş. ^(*)	16.65	13.32	16.65	13.32
Opet Aygaz Gayrimenkul A.Ş. ^(*)	25.00	20.00	25.00	20.00

^(*) Related companies are consolidated or accounted by equity method in Opet's financial statements.

^(*) Ceased its activities since 15 July 2015.

d) The non-controlling shareholders' share of the net assets and results for the period for the subsidiaries are classified separately in the consolidated statement of financial position and statements of comprehensive income as non-controlling interest.

2. Basis of presentation of consolidated financial statements (Continued)**2.2. Changes in accounting policies****2.2.1 Comparative information**

In order to allow for the determination of the financial situation and performance trends, the Group's consolidated financial statements have been presented comparatively with the previous year.

The Group presented the consolidated statement of financial position as of 31 December 2021 comparatively with the consolidated statement of financial position as of 31 December 2020. Also the consolidated statement of profit or loss and other comprehensive income, consolidated statement of cash flows and consolidated statement of changes in equity for the year ended 31 December 2021 are presented comparatively with the consolidated financial statements for the year ended 31 December 2020.

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.

2.3. Summary of significant accounting policies

The significant accounting policies followed in the preparation of the consolidated financial statements are summarized below:

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 Licence Regulation (Note 4). 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 credit risk model, since there is no credit risk expected, they are carried at cost in the consolidated balance sheet.

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 6).

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.

**Notes to the Consolidated Financial Statements
For the Year Ended 31 December 2021**

(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)

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).

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.

2. Basis of presentation of consolidated financial statements (Continued)**2.3. Summary of significant accounting policies (Continued)*****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.

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 8).

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

**Notes to the Consolidated Financial Statements
For the Year Ended 31 December 2021**

(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)****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 10).

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

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 recognised 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 related income and expense accounts, 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 11).

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.

2. Basis of presentation of consolidated financial statements (Continued)**2.3. Summary of significant accounting policies (Continued)****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.

Borrowing costs

Borrowings are recognised initially at the proceeds received, net of transaction costs incurred. In subsequent periods, borrowings are stated at amortised cost using the effective yield method; any difference between proceeds (net of transaction costs) and the redemption value is recognised 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

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.

**Notes to the Consolidated Financial Statements
For the Year Ended 31 December 2021**

(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 lessee (Continued)

- 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.

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.

2. Basis of presentation of consolidated financial statements (Continued)

2.3. Summary of significant accounting policies (Continued)

The Group - as a lessee (Continued)

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)

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 recognised for all taxable temporary differences, where deferred tax assets resulting from deductible temporary differences are recognised to the extent that it is probable that future taxable profit will be available against which the deductible temporary difference can be utilised.

**Notes to the Consolidated Financial Statements
For the Year Ended 31 December 2021**

(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)

Deferred taxes (Continued)

Government incentives enabling reduced corporate tax payments are considered within the scope TAS-12 "Income Taxes" and 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.

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" effective before 1 January 2013, the actuarial gains/losses were recognised in the statement of income whereas the amendment, effective as of 1 January 2013, requires 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.

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 14).

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.

**Notes to the Consolidated Financial Statements
For the Year Ended 31 December 2021**

(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)****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.

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).

**Notes to the Consolidated Financial Statements
For the Year Ended 31 December 2021**

(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)

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

According to TFRS 11, "Joint Arrangements" standard, accounting for joint ventures in the consolidated financial statements by the equity method is mandatory. The amendment has been implemented retrospectively by the Group. Opet Petrolcülük A.Ş. is accounted by the equity method and petroleum distribution division is excluded from segment reporting scope. Since only refining segment remained within the consolidation scope, segment reporting is not presented effective 1 January 2013.

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.

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.

**Notes to the Consolidated Financial Statements
For the Year Ended 31 December 2021**

(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)**

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.

Government incentives enabling reduced corporate tax payments are considered within the scope TAS-12 "Income Taxes".

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.

Revised TFRS 3 "Business Combinations" effective as at 1 January 2011 has been applied to business combinations occurring after 1 January 2011. The main difference of revised TFRS 3 is to account for transaction costs of a purchase in comprehensive income statement. There has been no business combination in 2018 which requires the application of revised TFRS 3.

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.

2.4. Changes in accounting policies, accounting estimates and errors

Significant changes in accounting policies based on new application of TAS/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.

**Notes to the Consolidated Financial Statements
For the Year Ended 31 December 2021**

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

2. Basis of presentation of consolidated financial statements (Continued)

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 USD387,878 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.

As the details are explained in Note 2.6, the Company Management reviewed the useful lives of the machinery, plant and equipment used and subjected its assets to impairment tests. within the framework of the strategic transformation plan and has determined that there is no need for any significant changes.

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 10).

2.6. Significant accounting evaluations, assumptions and estimates

The strategic transformation plan was accepted by the Company's Board of Directors on 24 November 2021. Within the scope of the relevant strategic transformation plan, there are strategic actions to be taken by the Group in the short and long term. The Group has reviewed its forecasts and assumptions and revised its long-term business plan, taking into account the new investments it has planned within the framework of strategic actions and the financial performance it aims to achieve. While preparing its consolidated financial statements as of 31 December 2021, the Group evaluated the possible effects of the change in long-term business plans on the consolidated financial statements, reviewed the useful lives of the machinery, plant and equipment used and subjected its assets to impairment tests. No material impact has been identified.

Notes to the Consolidated Financial Statements For the Year Ended 31 December 2021

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

3. Business combinations

No business combinations occurred during the period 31 December 2021.

4. Cash and cash equivalents

	31 December 2021	31 December 2020
Cash at banks		
Demand deposits	466,143	141,440
Time deposits	15,672,886	17,354,252
Demand deposits (blocked)	1,527,549	10,485
Revenue share (blocked)	2,720,305	2,204,004
Time deposit interest accruals	13,352	115,111
Total	20,400,235	19,825,292

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 2021 and 2020 (Note 13). In addition, demand blocked deposits amounting to TRY1,527,549 thousand are available for derivative transactions carried out in foreign exchanges. (31 December 2020 -TRY10,485).

Time deposits and other cash and cash equivalents

As at 31 December 2021 and 31 December 2020, the maturity and the currency information of the time deposits, is as follows:

31 December 2021

	Effective rate of interest (%)	Less than 1 month	1 - 3 months	Total
TRY	28.53	6,255,080	46,909	6,301,989
USD	1.16	8,687,202	673,878	9,361,080
EUR	0.03	7,742	-	7,742
GBP	0.05	2,075	-	2,075
Time deposit		14,952,099	720,787	15,672,886

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements For the Year Ended 31 December 2021

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

4. Cash and cash equivalents (Continued)

31 December 2020

	Effective rate of interest (%)	Less than 1 month	1 - 3 months	Total
TRY	17.78	13,287,465	3,393,695	16,681,160
USD	3.66	124,297	516,405	640,702
EUR	1.16	30,268	-	30,268
GBP	0.20	2,122	-	2,122
Time deposit		13,444,152	3,910,100	17,354,252

Cash and cash equivalents included in the consolidated statements of cash flows for the periods ended 31 December 2021 and 31 December 2020 are as follows:

	31 December 2021	31 December 2020
Cash and cash equivalents	20,400,235	19,825,292
Less: Blocked deposits (Revenue share)	(2,720,305)	(2,204,004)
Less: Blocked deposits (Revenue share)	(1,527,549)	-
Less: Time deposit interest accruals	(13,352)	(115,111)
Cash and cash equivalents	16,139,029	17,506,177

5. Financial liabilities

	31 December 2021	31 December 2020
Short-term borrowings:		
Short-term bank borrowings	563,221	2,084,018
Interest accruals of bank borrowings	-	13,790
Total	563,221	2,097,808

Short-term portion of long-term borrowings:

Short-term portion of long-term bank borrowings	9,918,217	5,423,700
Bonds issued	500,000	650,000
Interest accruals of bank borrowings	251,163	227,494
Interest accruals of bonds issued	131,944	72,909
Lease liabilities	34,421	29,834
Total	10,835,745	6,403,937

Notes to the Consolidated Financial Statements For the Year Ended 31 December 2021

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

5. Financial liabilities (Continued)

	31 December 2021	31 December 2020
Long-term borrowings:		
Bonds issued	10,720,300	5,638,350
Long-term bank borrowings	9,269,544	14,882,553
Interest accruals of bank borrowings	-	23,364
Lease liabilities	228,731	199,056
Total	20,218,575	20,743,323
Total borrowings	31,617,541	29,245,068

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 21 January 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.

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 2021 the outstanding amount of the loans is USD385 million (31 December 2020 - USD576 million).

Tüpraş has issued a bond on 8 February 2019 with a nominal value of TRY400 million, with a maturity of 728 days, coupon payment every 3 months and repayment of principal and coupon at maturity, with 75 bps additional yields on 3MTRLIBOR reference rate. The bond was paid and redeemed on 5 February 2021.

Tüpraş has issued a bond on 25 January 2019 with a nominal value of TRY250 million, with a maturity of 728 days, coupon payment every 3 months and repayment of principal and coupon at maturity, with 75 bps additional yields on 3MTRLIBOR reference rate. The bond was paid and redeemed on 22 January 2021.

Tüpraş has fulfilled its financial commitments arising from its borrowings as of 31 December 2021.

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements For the Year Ended 31 December 2021

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

5. Financial liabilities (Continued)

Foreign currency balances and effective interest rates for the short and long-term financial liabilities as at 31 December 2021 and 31 December 2020 are as follows:

	31 December 2021		
	Effective interest rate (%)	Original currency	Thousand TRY
Short-term borrowings:			
TRY bank borrowings ^(*)	-	30,060,564	30,061
USD bank borrowing	2.77	40,000,000	533,160
Total short-term financial liabilities			563,221
Short-term portion of long-term borrowings:			
TRY borrowings	12.63	6,384,319,000	6,384,319
TRY bonds issued	18.49	500,000,000	500,000
USD bank borrowings	2.28	265,128,551	3,533,898
TRY lease liabilities	18.75	23,635,846	23,636
EUR lease liabilities	2.98	354,087	5,342
GBP lease liabilities	4.16	302,963	5,443
			10,452,638
Interest accruals			383,107
Total short-term portion of long-term borrowings			10,835,745
Long-term borrowings:			
TRY borrowings	17.16	4,140,927,053	4,140,927
TRY bonds issued	18.35	1,390,000,000	1,390,000
USD borrowings	2.47	384,771,311	5,128,617
USD bonds issued	4.50	700,000,000	9,330,300
TRY lease liabilities	21.08	123,799,862	123,799
EUR lease liabilities	3.23	6,585,668	99,356
GBP lease liabilities	4.20	310,352	5,576
Total long-term borrowings			20,218,575

^(*) Banks provide interest-free loans to the Group for the payment of SCT, Customs and Social Security debts amounting to TRY30,061 thousand as of 31 December 2021 (31 December 2020 - TRY17,839 thousand).

Notes to the Consolidated Financial Statements For the Year Ended 31 December 2021

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

5. Financial liabilities (Continued)

	31 December 2020		
	Effective interest rate (%)	Original currency	Thousand TRY
Short-term borrowings:			
TRY bank borrowings ⁽¹⁾	8.79	1,217,838,682	1,217,839
USD bank borrowing	0.65	118,000,000	866,179
			2,084,018
Interest accruals			13,790
Total short-term financial liabilities			2,097,808
Short-term portion of long-term borrowings:			
TRY borrowings	9.89	2,715,300,000	2,715,300
TRY bonds issued	16.57	650,000,000	650,000
USD bank borrowings	2.34	293,917,846	2,157,504
EUR bank borrowings	2.11	61,157,000	550,896
TRY lease liabilities	18.32	22,677,599	22,678
EUR lease liabilities	3.27	473,363	4,264
GBP lease liabilities	4.16	290,824	2,892
			6,103,534
Interest accruals			300,403
Total short-term portion of long-term borrowings			6,403,937
Long-term borrowings:			
TRY borrowings	12.31	7,899,098,000	7,899,098
TRY bonds issued	18.07	500,000,000	500,000
USD borrowings	2.34	951,359,581	6,983,455
USD bonds issued	4.50	700,000,000	5,138,350
TRY lease liabilities	20.92	130,433,740	130,434
EUR lease liabilities	3.23	6,941,129	62,524
GBP lease liabilities	4.20	613,248	6,098
			20,719,959
Interest accruals			23,364
Total long-term borrowings			20,743,323

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements For the Year Ended 31 December 2021

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

5. Financial liabilities (Continued)

As at 31 December 2021 and 31 December 2020, the redemption schedule of long-term bank borrowings is as follows:

	31 December 2021	31 December 2020
1-2 years	9,067,558	12,424,887
2-3 years	10,385,532	2,247,467
3-4 years	203,188	5,714,105
4-5 years	35,866	100,516
Over 5 years	526,431	256,348
Total	20,218,575	20,743,323

The movement of borrowings as of 31 December 2021 and 2020 is as follows:

	2021	2020
1 January	29,245,068	19,075,794
New financial borrowings	13,910,108	41,075,708
Principal payments	(20,905,942)	(34,590,312)
Increase due to lease liabilities	20,420	32,770
Decrease due to payment of lease liabilities	(32,045)	(62,208)
Changes in interest accruals	45,550	122,860
Changes in foreign exchange rates	9,334,382	3,590,456
31 December	31,617,541	29,245,068

The interest sensitivity breakdown regarding the remaining time of borrowing to repricing is as follows:

	31 December 2021	31 December 2020
1-90 days	10,955,949	10,287,907
91-365 days	4,851,737	4,208,994
1-5 years	15,282,668	14,574,067
Over 5 years	527,187	174,100
Total	31,617,541	29,245,068

**Notes to the Consolidated Financial Statements
For the Year Ended 31 December 2021**

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

6. Trade receivables and payables

Short-term trade receivables:

	31 December 2021	31 December 2020
Trade receivables	11,896,404	1,421,103
Due from related parties (Note 27)	1,668,264	324,555
Doubtful trade receivables	5,528	5,264
Other trade receivables	29	7
Less: Unearned credit finance income	(47,874)	(10,116)
Less: Provision for doubtful receivables	(5,528)	(5,264)
Total short-term trade receivables (net)	13,516,823	1,735,549

Tüpraş discounts the domestic receivables by using domestic government bonds and foreign receivables by using monthly libor rates.

As at 31 December 2021, Tüpraş has offsetted TRY642,051 thousand (31 December 2020 - TRY2,976,335 thousand) from trade receivables that are collected from factoring companies as part of the irrevocable factoring and TRY353,725 thousand (31 December 2020 - TRY1,127,270 thousand) deducted supplier financing transaction from trade receivables.

Movement of the provision for doubtful receivables for the years ended 31 December 2021 and 2020 is as follows:

	2021	2020
1 January	5,264	5,243
Charge for the period	392	280
Payments during the period	(128)	(259)
31 December	5,528	5,264

Short-term trade payables:

	31 December 2021	31 December 2020
Trade payables	43,547,471	13,924,582
Due to related parties (Note 27)	165,021	218,486
Less: Unrealised credit finance charges		
trade payables	(8,253)	(5,600)
Total short-term trade receivables (net)	43,704,239	14,137,468

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 2021

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

7. Other receivables and payables

Other short-term receivables:

	31 December 2021	31 December 2020
Receivable from personnel	15,880	14,284
Deposits and guarantees given	4,556	3,404
Other doubtful receivables	2,612	1,389
Receivable from insurance recoveries	105	1,002
Less: Provision for other doubtful receivables	(2,612)	(1,389)
Total	20,541	18,690

8. Inventories

	31 December 2021	31 December 2020
Raw materials and supplies	2,859,390	969,551
Work-in-progress	4,416,821	1,706,414
Finished goods	5,844,006	2,468,321
Trade goods	156,062	75,071
Goods in transit	10,376,546	2,414,477
Other inventories	103,037	66,796
Total	23,755,862	7,700,630

Movement of the provision for inventories for the years ended 31 December 2021 and 2020 is as follows:

	2021	2020
1 January	-	-
Charge for the period	-	1,034,554
Provisions no longer required	-	(1,034,554)
31 December	-	-

The sudden drop in crude oil prices with the pandemic in 2020 caused stock sales prices to remain below costs; however, due to the realizations in the following year and the increase in value as a result of the reflection of the increasing crude oil prices on the product prices, the provision for inventory impairment has been canceled as of 31 December 2020.

Notes to the Consolidated Financial Statements For the Year Ended 31 December 2021

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

9. Investments accounted for using the equity method

	31 December 2021		31 December 2020	
	Participation share (%)	Amount	Participation share (%)	Amount
OPET Petrolcülük A.Ş.	40.00	2,150,156	40.00	1,326,490
		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.

The movement in the investments accounted for using the equity method during the period ended 31 December 2021 and 2020 is as follows:

	2021	2020
1 January	1,326,490	1,362,777
Investments accounted for using the equity method;		
Shares in current year profit	592,989	(29,615)
Dividend payment	(80,000)	(120,000)
Gain on revaluation of property	41,394	30,212
Actuarial gain/(loss) arising from defined benefit plans	(447)	(406)
Gain/(loss) on revaluation and remeasurement	176,688	43,261
Currency translation differences	93,042	40,261
31 December	2,150,156	1,326,490

Consolidated summary financial statements of investments accounted for using the equity method (before Group's effective interest) are as follows:

	31 December 2021	31 December 2020
Current assets	10,019,411	5,059,935
Non-current assets	4,632,856	3,701,575
Total assets	14,652,267	8,761,510
Short term liabilities	5,805,510	2,829,607
Long term liabilities	3,944,050	3,088,361
Equity	4,902,707	2,843,542
Total liabilities	14,652,267	8,761,510

**Notes to the Consolidated Financial Statements
For the Year Ended 31 December 2021**

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

9. Investments accounted for using the equity method (Continued)

	1 January - 31 December 2021	1 January - 31 December 2020
Sales (net)	56,007,462	38,623,156
Gross profit	3,441,883	1,788,120
Operating profit	2,104,478	805,434
Net (loss)/income for the period	1,482,472	(74,038)

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 2021, fair value of Opet is above 86% 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	22.4%

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 2021.

As a result of the tests performed by using the assumptions above, no impairment on goodwill has been identified as at 31 December 2021. 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 TRY 22,550 were withdrawn. The Competition Authority has applied to the court of appeal for the annulment of the annulment decision of the first instance court, and the trial is still ongoing. The related amount is recorded as income by Opet in the current period, and included in the income statement under "income from investments accounted under equity method" line.

**Notes to the Consolidated Financial Statements
For the Year Ended 31 December 2021**

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

10. Property, Plant and Equipment

The movements of property, plant and equipment and related accumulated amortisation for the period ended 31 December 2021 and 2020 is as follows:

	1 January 2021	Gain on Revaluation of property	Currency translation differences	Additions	Transfers	Disposals	31 December 2021
Cost:							
Lands	8,341,191	3,853,192	-	-	-	-	12,194,383
Land improvements	3,903,485	-	-	154,719	-	(819)	4,057,385
Buildings	903,443	-	-	121,292	-	(1,639)	1,023,096
Machinery and equipment	13,273,886	-	3,957	617,619	1,536	(1,946)	13,895,052
Motor vehicles	2,093,006	-	-	245,530	-	(87,536)	2,251,000
Furniture and fixtures	166,378	-	-	49,106	-	(5,493)	209,991
Construction in progress	1,050,655	-	-	83,695	-	-	1,134,350
Special costs	3,730	-	-	60,115	-	-	63,845
Other tangible assets	2,835	-	-	11,228	-	-	14,063
	29,738,609	3,853,192	3,957	1,343,304	1,536	(97,433)	34,843,165
Accumulated depreciation:							
Land improvements	(1,745,480)	-	-	(158,172)	-	772	(1,902,880)
Buildings	(244,257)	-	-	(19,566)	-	1,357	(262,466)
Machinery and equipment	(5,435,214)	-	(489)	(428,240)	(333)	1,380	(5,862,896)
Motor vehicles	(339,551)	-	-	(83,935)	-	28,931	(394,555)
Furniture and fixtures	(95,267)	-	-	(25,901)	-	3,042	(118,126)
Special costs	(672)	-	-	(10,557)	-	-	(11,229)
Other tangible assets	(2,279)	-	-	(271)	-	-	(2,550)
	(7,862,720)	-	(489)	(726,642)	(333)	35,482	(8,554,702)
Net book value	21,875,889						26,288,463

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements For the Year Ended 31 December 2021

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

10. Property, Plant and Equipment (Continued)

	1 January 2020	Gain on revaluation of property	Currency translation differences	Additions	Transfers	Disposals	31 December 2020
Cost:							
Lands	7,206,553	1,134,711	-	-	-	(73)	8,341,191
Land improvements	3,793,487	-	-	130,462	1,201	(21,665)	3,903,485
Buildings	839,908	-	-	65,266	-	(1,731)	903,443
Machinery and equipment	12,936,688	-	-	352,349	(1,201)	(13,950)	13,273,886
Motor vehicles	1,993,137	-	-	132,209	-	(32,340)	2,093,006
Furniture and fixtures	135,217	-	-	35,137	-	(3,976)	166,378
Construction in progress	651,346	-	-	399,309	-	-	1,050,655
Special costs	4,131	-	-	-	-	(401)	3,730
Other tangible assets	2,794	-	-	42	-	(1)	2,835
	27,563,261	1,134,711	-	1,114,774	-	(74,137)	29,738,609
Accumulated depreciation:							
Land improvements	(1,612,017)	-	-	(155,119)	-	21,656	(1,745,480)
Buildings	(227,940)	-	-	(17,876)	-	1,559	(244,257)
Machinery and equipment	(5,025,154)	-	-	(421,395)	-	11,335	(5,435,214)
Motor vehicles	(281,918)	-	-	(71,143)	-	13,510	(339,551)
Furniture and fixtures	(78,701)	-	-	(19,921)	-	3,355	(95,267)
Special costs	(818)	-	-	(215)	-	361	(672)
Other tangible assets	(1,998)	-	-	(282)	-	1	(2,279)
	(7,228,546)	-	-	(685,951)	-	51,777	(7,862,720)
Net book value	20,334,715						21,875,889

Total depreciation expense amounting to TRY726,642 thousand (31 December 2020 - TRY685,951 thousand) related to tangible fixed assets in the comprehensive consolidated income statement for the period ended as of 31 December 2021 has been allocated to cost of goods sold amounting to TRY569,171 thousand (31 December 2020 - TRY550,394 thousand), to marketing, amounting to TRY92,887 thousand (31 December 2020 - TRY90,369 thousand), to general administration expenses amounting to TRY50,004 thousand (31 December 2020 - TRY32,062 thousand), to research and development expenses amounting to TRY14,580 thousand (31 December 2020 - TRY13,123).

The depreciation expense related to right-of-use assets in the consolidated statement of comprehensive income for the period ended as of 31 December 2021 at TRY37,269 thousand (31 December 2020 - TRY34,466 thousand), is classified to general administrative expenses amounting to TRY25,372 thousand (31 December 2020 - TRY25,026 thousand), to marketing, amounting to TRY6,691 thousand (31 December 2020 TRY5,490), and to cost of goods sold amounting to TRY5,206 thousand (31 December 2020 - TRY3,950).

Notes to the Consolidated Financial Statements For the Year Ended 31 December 2021

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

10. Property, Plant and Equipment (Continued)

As of 31 December 2021, there are no mortgage on property, plant and equipment (31 December 2020: None). The Group has revaluated all of the lands to their fair values which assets' cost value is amounting to TRY66,782 thousand in accordance with TAS 16, Property, Plant and Equipment as of 31 December 2021 and included the revaluation increase amounting to TRY12,127,601 thousand in consolidated financial statements (31 December 2020: TRY8,274,409 thousand).

The revaluation assessment of lands of Tüpraş has been carried by namely Açık Kurumsal Gayrimenkul Değerleme ve Danışmanlık A.Ş. which is accredited by the CMB; the valuation of lands of OPET and its subsidiaries, which is consolidated according to equity method, is carried by TSKB Gayrimenkul Değerleme A.Ş. which is accredited by the CMB.

Fair value level as of reporting date				
	31 December 2021	Level 1	Level 2	Level 3
Lands	12,194,383	-	12,194,383	-

Fair value level as of reporting date				
	31 December 2020	Level 1	Level 2	Level 3
Lands	8,341,191	-	8,341,191	-

11. Intangible assets

Other intangible assets:

The movements of intangible assets and related accumulated amortisation for the period ended 31 December 2021 and 2020 are as follows:

	1 January 2021	Additions	Transfers	Disposals	31 December 2021
Cost:					
Rights and software	109,460	18,259	-	(54)	127,665
Development expenses	115,194	10,944	(1,536)	-	124,602
	224,654	29,203	(1,536)	(54)	252,267
Accumulated amortisation:					
Rights and software	(79,919)	(12,842)	-	45	(92,716)
Development expenses	(82,366)	(10,717)	333	-	(92,750)
	(162,285)	(23,559)	333	45	(185,466)
Net book value	62,369				66,801

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements For the Year Ended 31 December 2021

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

11. Intangible assets (Continued)

Other intangible assets: (Continued)

	1 January 2020	Additions	Transfers	Disposals	31 December 2020
Cost:					
Rights and software	99,713	9,773	-	(26)	109,460
Development expenses	92,498	22,696	-	-	115,194
	192,211	32,469	-	(26)	224,654
Accumulated amortisation:					
Rights and software	(67,510)	(12,412)	-	3	(79,919)
Development expenses	(72,957)	(9,409)	-	-	(82,366)
	(140,467)	(21,821)	-	3	(162,285)
Net book value	51,744				62,369

Total amortisation expenses amounting to TRY23,559 thousand (31 December 2020: TRY21,821 thousand) in the consolidated statement of comprehensive income for the period ended 31 December 2021 have been allocated to the general administration expenses amounting to TRY23,495 thousand (31 December 2020: TRY21,816 thousand) and the cost of sales amounting to TRY64 thousand (31 December 2020: TRY5 thousand).

12. Prepaid expenses

Short term prepaid expenses

	31 December 2021	31 December 2020
Insurance and other expenses	154,876	132,483
Advances given	31,505	101,131
Total	186,381	233,614

Long term prepaid expenses:

	31 December 2021	31 December 2020
Advances given to third parties for property, plant and equipment	79,670	130,621
Prepaid other expenses	9,326	2,039
Advances given to related parties for property, plant and equipment (Note 27)	5,643	2,126
Total	94,639	134,786

Notes to the Consolidated Financial Statements For the Year Ended 31 December 2021

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

13. Other assets and liabilities

	31 December 2021	31 December 2020
Deferred VAT	2,686,223	41,516
Deferred Value Added Tax ("VAT")	533,242	382,032
Deferred Special Consumption Tax ("SCT")	239,502	123,601
Taxes and funds to be offsetted	99,073	74,547
Income accruals	81,537	16,793
Spare parts and material stocks	60,131	89,655
Income accruals from commodity hedge ⁽¹⁾	-	22,746
Other current assets	31,230	18,352
Total	3,730,938	769,242

⁽¹⁾ As of 31 December 2020, income accruals of derivatives transactions consist of swap transactions for inventory of Tüpraş which are exposed to commodity price risk and zero cost corridor transaction expense accruals. The income accruals recognition made as of 31 December 2020 is recognized under cost of goods sold and collected as of 8 January 2021.

Other non-current assets:

	31 December 2021	31 December 2020
Spare parts and material stocks	1,877,979	1,763,686
Other	18,605	49,145
Total	1,896,584	1,812,831

Other short-term liabilities:

	31 December 2021	31 December 2020
Revenue share	2,730,078	2,210,451
SCT payable	794,803	1,090,914
Deferred Value Added Tax ("VAT")	533,243	382,032
Expense accruals from commodity hedge ⁽¹⁾	528,339	247,432
Deferred Special Consumption Tax ("SCT")	239,502	123,601
Other taxes and liabilities	116,201	79,550
VAT payable	65,872	269,314
Other	92,729	45,352
Total	5,100,767	4,448,646

⁽¹⁾ As of 31 December 2021, expense accruals consist of commodity derivatives transactions for inventory of Tüpraş which are exposed to commodity price risk. The expense accruals recognition made as of 31 December 2021 is recognized under cost of goods sold and collected as of 7 January 2021.

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements For the Year Ended 31 December 2021

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

13. Other assets and liabilities (Continued)

Other short-term liabilities: (Continued)

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 TRY2,730,078 thousand accumulated as at 31 December 2021 (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". TRY2,720,305 thousand is (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 4).

14. Provisions

Provision for employee benefits:

Short-term provision for employee benefits:

	31 December 2021	31 December 2020
Seniority incentive bonus provision	12,829	11,505
Personnel bonus accruals	6,558	13,067
Total	19,387	24,572

Notes to the Consolidated Financial Statements For the Year Ended 31 December 2021

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

14. Provisions (Continued)

Provision for employee benefits: (Continued)

Long-term employee benefits:

	31 December 2021	31 December 2020
Provision for employment termination benefits	364,287	271,661
Provision for unused vacation	68,208	72,866
Seniority incentive bonus provision	15,065	11,878
Total	447,560	356,405

Seniority incentive bonus provision:

The Group has an employee benefit plan called "Seniority Incentive Bonus", which is paid to the employees with a certain level of seniority.

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:

	2021	2020
1 January	23,383	20,600
Charge for the period	19,642	13,045
Payments during the period	(15,131)	(10,262)
31 December	27,894	23,383

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.

**Notes to the Consolidated Financial Statements
For the Year Ended 31 December 2021**

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

14. Provisions (Continued)

Provision for employment termination benefits (Continued):

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.

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 2021	31 December 2020
Discount rate (%)	4.45%	4.63%
Turnover rate to estimate probability of retirement (%)	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 TRY10,848.59 which is effective as at 1 January 2022 (31 December 2020: TRY7,638.96).

The movement in the provision for employment termination benefits during the period is as follows:

	2021	2020
1 January	271,661	232,075
Interest expense	18,149	27,985
Actuarial (gain)/loss	5,779	818
Increase during the period	109,403	32,739
Payments during the period	(40,705)	(21,956)
31 December	364,287	271,661

	31 December 2021		31 December 2020	
	Net discount rate		Net discount rate	
Sensitivity analysis	100 Base Increase	100 Base Decrease	100 Base Increase	100 Base Decrease
Ratio	5.45%	3.45%	5.63%	3.63%
Provision for employee termination benefit adjustment	29,503	(36,726)	34,586	(8,243)

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements For the Year Ended 31 December 2021

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

14. Provisions (Continued)

Provision for unused vacation:

The movement in the provision for unused vacation during the period is as follows:

	2021	2020
1 January	72,866	71,754
Increase during the period	3,002	7,272
Payments during the period	(7,660)	(6,160)
31 December	68,208	72,866

Other short term provisions:

	31 December 2021	31 December 2020
EMRA participation share ⁽¹⁾	78,170	41,458
Provision for demurrage	72,961	48,820
Provisions for pending claims and law suits	20,087	21,981
Provisions for cost	1,827	1,135
Other	7,684	4,122
Total	180,729	117,516

⁽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.

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements For the Year Ended 31 December 2021

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

14. Provisions (Continued)

Movement of the short-term provisions for the period ended 31 December 2021 and 2020 are as follow:

	Provision for pending claims and lawsuits	EMRA participation share	Provision for demurrage	Provision for cost	Other	Total
1 January 2021	21,981	41,458	48,820	1,135	4,122	117,516
Changes for the period, net	(904)	78,171	64,207	692	3,562	145,728
Payments during the period, net	(990)	(41,459)	(40,066)	-	-	(82,515)
31 December 2021	20,087	78,170	72,961	1,827	7,684	180,729
1 January 2020	21,195	37,054	41,924	1,010	192	101,375
Changes for the period, net	1,648	41,459	29,297	125	3,930	76,459
Payments during the period, net	(862)	(37,055)	(22,401)	-	-	(60,318)
31 December 2020	21,981	41,458	48,820	1,135	4,122	117,516

15. Liabilities for employee benefits

	31 December 2021	31 December 2020
Due to the personnel	89,007	113,713
Social security withholdings payment	45,464	38,214
Total	134,471	151,927

16. Other payables

	31 December 2021	31 December 2020
Deposits and guarantees received	46,799	33,350
Other payables to related parties (Note 27)	43,328	30,763
Total	90,127	64,113

Notes to the Consolidated Financial Statements For the Year Ended 31 December 2021

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

17. Derivative instruments

	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
<i>Cash flow hedge</i>								
Interest rate swap	2,729,767	2,729,767	73,916	74,244	729,500	729,500	-	46,563
Cross currency swap	157,006	27,328	229,912	-	885,015	613,238	318,377	18,222
Commodity derivative	15,667,877	15,667,877	2,472,790	2,925,262	51,016	51,016	20,939	32,067
<i>Derivatives held for trading</i>								
Currency forwards	17,935,101	17,291,627	1,041,354	232,454	15,125,099	16,070,341	40,366	665,976
Commodity derivative	10,100,317	10,100,317	-	70,217	-	-	-	-
Interest rate swap	-	-	-	-	-	-	447	-
Short term derivative financial instruments			3,817,972	3,302,177			380,129	762,828
<i>Cash flow hedge</i>								
Interest rate swap	1,690,745	1,690,745	-	29,117	2,126,201	2,126,201	-	45,490
Cross currency swap	157,003	27,327	44,213	-	172,928	54,654	87,313	-
<i>Derivatives held for trading</i>								
Interest rate swap	-	-	-	-	750,000	750,000	570	-
Long term derivative financial instruments			44,213	29,117			87,883	45,490
Total			3,862,185	3,331,294			468,012	808,318

As of 31 December 2021, forward foreign exchange transactions consist of forward and currency swap transactions which generate a sales obligation of TRY17,291,627 thousand in exchange of USD1,345,570 thousand which will expire in 2021. (As of 31 December 2020, forward, swap, futures and options market transactions consist of forward transactions which generate a sales obligation of TRY16,070,341 thousand in exchange of USD2,060,500 thousand which has expired on in January 2021)

As of 31 December 2021, interest rate swap consists of exchange of floating rate instalment payments of long term borrowings and bonds amounting to USD201,104 thousand (31 December 2020: USD289,615 thousand) and TRY1,740,000 (31 December 2020: TRY1,400,000 thousand) thousand with fixed rate instalment payments for cash flow hedging. There are no EUR denominated interest rate swap transactions as of 31 December 2021 (31 December 2020: EUR8,857 thousand).

**Notes to the Consolidated Financial Statements
For the Year Ended 31 December 2021**

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

17. Derivative instruments (Continued)

As of 31 December 2021, cross currency swap transactions consist of swaps with fixed interest rate transaction of foreign currency indexed floating interest rate USD23,558 thousand and fixed interest rate long-term borrowings amounting to TRY54,655 thousand.

As of 31 December 2020, cross currency swap transactions consist of swaps with fixed interest rate transaction of foreign currency indexed floating interest rate USD66,837 thousand and fixed interest rate long-term borrowings amounting to TRY253,690 thousand and indexed to Turkish Lira, swap of foreign currency indexed floating interest long-term borrowing of EUR52,300 thousand and fixed interest rate long-term borrowings amounting to TRY326,483 thousand and indexed to Turkish Lira, foreign currency indexed interest rate swap transactions EUR4,429 thousand with Turkish Lira indexed long term borrowings and fixed interest payments amounting to TRY16,429 thousand, and fixed interest payments amounting to TRY16,429 thousand with fixed interest payments with total of USD4,668 thousand, and swap transaction of EUR4,429 thousand foreign currency indexed fixed interest rate of long-term borrowing and USD5,043 thousand USD indexed fixed interest payments.

Commodity future purchase and sales transactions consist of transactions of product crack margin fixing as of 31 December 2021. As of 31 December 2021, commodity derivative transactions; consists of average refinery crack margin fixing transactions. Future sales product crack margin fixing transactions have been executed for, gasoline stocks of 551 thousand barrels, jet fuel stocks of 214 thousand barrels, diesel stocks of 1,061 thousand barrels and fuel oil stocks of 214 thousand barrels for first quarter of 2022. (As of 31 December 2020 there is no future sales product crack margin fixing transactions). Commodity derivative consist of crude oil sales transactions amounting to 10,865 thousand barrels.

There is no ineffective portion of these derivative instrument transactions.

**Notes to the Consolidated Financial Statements
For the Year Ended 31 December 2021**

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

18. Commitments and contingent assets and liabilities

Guarantees received:	31 December 2021		31 December 2020	
	Original currency ⁽¹⁾ :	TRY amount:	Original currency:	TRY amount:
Letter of guarantees received		1,900,224		1,329,871
- Letter of guarantees in TRY	782,663	782,663	658,781	658,781
- Letter of guarantees in USD	21,763	290,084	36,186	265,624
- Letter of guarantees in EUR	54,712	825,429	44,517	401,005
- Letter of guarantees in other currencies	-	2,048	-	4,461
Guarantee notes received		733		679
- Guarantee notes in TRY	733	733	679	679
Guarantee letters received		727,787		417,926
- Guarantee letters received in TRY	50,000	50,000	50,000	50,000
- Guarantee letters received in USD	50,851	677,787	50,000	367,025
- Guarantee letters received in EUR	-	-	100	901
Guarantee letters of credit		119,507		205,520
- Letters of credit in USD	8,966	119,507	27,998	205,520
Direct debiting limits		610,515		407,475
- TRY direct debiting limits	610,515	610,515	407,475	407,475
Total guarantees received		3,358,766		2,361,471
Guarantees given:				
Letter of credits given		15,973,754		3,953,337
- Letter of credits in USD	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		2,656,844		1,423,999
- Letter of guarantees in TRY	2,642,862	2,642,862	1,271,955	1,264,460
- Letter of guarantees in USD	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		800,740		897,796
- Letter of guarantees in TRY	710,220	710,220	843,749	843,749
- Letter of guarantees in EUR	6,000	90,520	6,000	54,047
Letters of guarantee given to banks		860,398		753,762
- Letter of guarantees in USD	64,551	860,398	89,322	655,667
- Letter of guarantees in EUR	-	-	10,890	98,095
Guarantess	104,000	1,386,216	-	-
Total guarantees given		21,677,952		7,028,894

⁽¹⁾ Original balance amounts are expressed in thousands of currencies

As at 31 December 2021 and 31 December 2020, letter of guarantees received are composed of guarantees from customers and suppliers. Guarantees given are mainly composed of guarantees given to government entities and customs offices. As at 31 December 2021, letters of guarantee given to banks are given for loans which were used by Companies within scope of consolidation amounting to TRY809,367 thousand (31 December 2020: TRY92,365 thousand) and for derivative financial instruments amounting to 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 2021

(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 2021 and 31 December 2020 are as follows:

	31 December 2021	31 December 2020
A. CPMs given for companies in the name of its own legal personality	18,673,584	6,275,132
- TRY	3,353,082	2,108,209
- USD	15,198,067	4,081,182
- EUR	117,091	85,741
- Other	5,344	-
B. CPMs given on behalf of the fully consolidated companies	3,004,368	753,762
- USD	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	21,677,952	7,028,894

A commission at an amount of TRY17,957 thousand is recognized as of 31 December 2021 related to letter of guarantees given in favor of partnerships included in full consolidation (31 December 2020 - TRY5,970 thousand).

**Notes to the Consolidated Financial Statements
For the Year Ended 31 December 2021**

(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 2021 and 31 December 2020 are as follows:

	31 December 2021	Share (%)	31 December 2020	Share (%)
Enerji Yatırımları A.Ş.	127,714	51	127,714	51
Publicly Owned	122,705	49	122,705	49
Total	250,419	100	250,419	100
Adjustment to share capital	1,344,243		1,344,243	
Total paid-in capital	1,594,662		1,594,662	

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 2020: 1Kr) each. The authorised and paid-in share capital of the Company comprises 25,041,919,999 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 2021, the restricted reserves of the Company amount to TRY503,343 thousand (31 December 2020 - TRY503,343).

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements For the Year Ended 31 December 2021

(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.

At the Ordinary General Assembly Meeting dated 31 March 2021, in the financial statements prepared in accordance with the Tax Procedural Law records; due to loss of amounting TRY1,139,413 thousand in the current year result, it was decided to dividends will not be distributed and transfer the net period profit amounting to TRY525,837 thousand attributable to equity holders of the parent to the retained earnings in the related financial statements.

20. Revenue and cost of sales

	1 January - 31 December 2021	1 January - 31 December 2020
Domestic revenue	118,500,409	51,044,765
Export revenue	34,450,224	13,222,620
Gross revenue	152,950,633	64,267,385
Less: Sales discounts	(1,883,693)	(801,256)
Less: Sales returns	(95,356)	(222,314)
Sales (net)	150,971,584	63,243,815
Cost of goods sold	(135,520,941)	(61,479,585)
Gross profit	15,450,643	1,764,230

Notes to the Consolidated Financial Statements For the Year Ended 31 December 2021

(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 2021	1 January - 31 December 2020
Raw material, manufactured and consumable material	129,274,507	56,685,371
Energy expenses	3,194,608	2,094,408
Personnel expenses	1,148,446	963,730
Depreciation and amortization (Note 10-11)	574,441	554,349
Other production expenses	1,328,939	1,181,727
Cost of sales	135,520,941	61,479,585

21. General administrative expenses, marketing expenses and research and development expenses

General administrative expenses:

	1 January - 31 December 2021	1 January - 31 December 2020
Personnel expenses	702,719	533,872
Insurance expenses	265,202	204,802
Taxes and duties	211,584	152,836
Outsourced services	141,091	109,863
Depreciation and amortization (Note 10-11)	98,871	78,907
Office expenses	86,610	74,201
Subscription fees	86,370	47,638
Lawsuit and consultancy expenses	44,739	36,104
Donations	28,954	22,654
Transportation and travel expenses	5,845	3,911
Other	121,802	79,437
Total general administrative expenses	1,793,787	1,344,225

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements For the Year Ended 31 December 2021

(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 2021	1 January - 31 December 2020
Transportation, storage and insurance expenses	900,964	253,727
Personnel expenses	191,290	157,443
Depreciation and amortization (Note 10)	99,578	95,859
Outsourced services	60,690	9,440
Energy expenses	32,634	22,865
Advertising expenses	30,671	29,909
Other	93,249	63,809
Total marketing expenses	1,409,076	633,052

Research and development expenses:

	1 January - 31 December 2021	1 January - 31 December 2020
Personnel expenses	15,810	12,546
Depreciation and amortization (Note 10)	14,580	13,123
Lawsuit and consultancy expenses	3,218	1,090
Outsourced services	1,114	988
Licence expenses	21	4,394
Other	4,223	2,831
Total research and development expenses	38,966	34,972

Depreciation expenses, which have been recorded under cost of goods sold between 1 January to 31 December 2020, have been appropriately allocated to cost centers as of 31 December 2021.

Notes to the Consolidated Financial Statements For the Year Ended 31 December 2021

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

21. General administrative expenses, marketing expenses and research and development expenses (Continued)

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:

	2021 ^(*)	2020 ^(*)
Audit and assurance fee	2,490	1,821
Tax consulting fee	134	99
Other assurance services fee	18	106
Other service fee apart from audit	-	28
	2,642	2,054

(*) 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.

22. Other operating income/(expenses)

	1 January - 31 December 2021	1 January - 31 December 2020
Other operating income		
Credit finance gains	835,695	424,235
Foreign exchange gain from trade receivables	180,931	55,562
Rent income	7,696	5,277
Provisions no longer required	432	178
Other	197,628	131,648
Total other operating income	1,222,382	616,900
Other operating expense:	1 January - 31 December 2021	1 January - 31 December 2020
Foreign exchange loss from trade payables	(12,724,345)	(557,269)
Credit finance charges	(135,439)	(374,273)
Other	(106,821)	(56,366)
Total other operating expense	(12,966,605)	(987,908)

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements For the Year Ended 31 December 2021

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

23. Income/(expense) from investment activities

	1 January - 31 December 2021	1 January - 31 December 2020
Gain/(loss) on sales of property plant and equipment and intangible assets	107,950	1,805
Total income/(expense) from investment activities	107,950	1,805

24. Financial income/(expenses)

	1 January - 31 December 2021	1 January - 31 December 2020
Financial income:		
Foreign exchange gains on deposits	10,617,543	2,634,829
Interest income on deposits	1,941,668	578,847
Total financial income	12,559,211	3,213,676
Financial expense:		
Foreign exchange losses on borrowings	(7,939,717)	(3,444,698)
Interest expenses	(2,527,911)	(1,753,615)
Losses on derivative instruments	(1,089,057)	(1,112,680)
Other	(6,877)	(51,240)
Total financial expense	(11,563,562)	(6,362,233)

As of 31 December 2021, TRY30,382 thousand interest expense from leasing transactions is included in interest expenses and TRY47,798 thousand expense from leasing transactions is included in the foreign exchange losses (31 December 2020 - TRY20,525).

25. Tax assets and liabilities

	31 December 2021	31 December 2020
Current period corporate tax provision	47,972	13,310
Current year tax assets	(9,579)	(10,851)
Corporation tax provision	38,393	2,459

Notes to the Consolidated Financial Statements For the Year Ended 31 December 2021

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

25. Tax assets and liabilities (Continued)

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 2021 is 25% (2020: 22%). The corporate tax rate for the 2022 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 2021 and 2022 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. POA made a declaration on the Implementation of Financial Reporting in High Inflation Economies under TFRS on 20 January 2022, and it was stated that there was no need to make any adjustments within the scope of TAS 29 Financial Reporting in Hyperinflationary Economies in the consolidated financial statements for 2021.

Reconciliation of the income before tax with the calculated corporate tax is as follows:

	2021	2020
Profit/(Loss) before taxation	2,161,179	(3,795,394)
Less: Shares in profit/loss of joint ventures	592,989	(29,615)
Profit before tax (Excluding the profit/loss shares of Joint Ventures)	1,568,190	(3,765,779)
Expected tax expense ^(*)	(392,048)	759,079
Investment incentive income	1,718,057	588,815
Deductions and exemptions	174,774	102,547
Changes in the tax rate	36,772	(76,794)
Effect on revaluation of fixed assets and other assets subject to depreciation ^(**)	96,458	-
Disallowable expenses and differences		
Not subject to taxation	(359,018)	(1,178)
Taxation on income	1,274,996	1,372,469

^(*) The current year tax rate is taken into account as 25%.

^(**) In accordance with the regulation numbered 7326, published in Official Gazette on 9 June 2021, the opportunity to revalue the immovables registered in assets and the economic assets subject to depreciation on the effective date of the law. The companies can benefit from the provision of the article 31 December 2021. The covered assets will be valued with the D-PPI rate and tax will be paid in 3 installments (at two-month intervals) at the rate of 2% over the amount of valuation increase. For the revalued assets, the valuation difference can be depreciated and recognized as taxable expense. Within the scope of the amendment, deferred income tax asset has been recognized in the statement of financial position based on the revaluation records for property, plant, equipment in the tax books, and the deferred income tax related to this asset has been recognized in other comprehensive income.

**Notes to the Consolidated Financial Statements
For the Year Ended 31 December 2021**

(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 2021 and 31 December 2020 using the enacted tax rates are as follows:

	Cumulative temporary differences		Deferred tax (liability)/asset	
	31 December 2021	31 December 2020	31 December 2021	31 December 2020
Gain on revaluation of property	11,598,575	8,274,475	(1,159,864)	(827,448)
Fair value difference of derivative instruments	632,642	(313,375)	(145,508)	62,675
Inventories	149,788	(185,705)	(34,451)	37,141
Provision lawsuits	(20,087)	(21,981)	4,620	4,396
Cash capital incentives	(23,790)	(31,400)	4,758	6,280
Provision for unused vacation liability	(55,089)	(62,013)	11,035	12,403
Employment termination benefits	(379,579)	(268,153)	71,784	53,631
Deferred financial income (expense), net	(1,073,031)	(22,500)	246,797	4,500
Accumulated deductible financial losses ^(*)	(2,403,799)	(4,176,390)	480,760	835,278
Difference between the carrying values and tax base of property, plant, equipment and intangible assets	(2,810,278)	(1,290,035)	561,354	258,007
Prepaid expenses	-	19,630	-	(3,926)
Investment incentives ^(*)	(34,664,738)	(29,724,926)	6,264,162	4,546,105
Other	(314,787)	(66,925)	72,401	13,385
Deferred tax asset - net			6,377,848	5,002,427

^(*) 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 Residium 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, Residium 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 36.20% 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

^(*) Deferred tax assets amounting to TRY480,760 thousand which is to be used within 5 years consist of Group's financial losses amounting to TRY2,403,799 thousand (31 December 2020 - TRY835,278 thousand).

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.

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements For the Year Ended 31 December 2021

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

25. Tax assets and liabilities (Continued)

The movement of deferred taxes is as follows:

	2021	2020
Deferred tax asset/(liability), net		
1 January	5,002,427	3,767,503
Charge for the period	1,337,730	1,385,779
Charge to equity:		
- Hedging cash flow gains/(losses)	368,988	(37,250)
- Actuarial gains/(losses) arising from defined benefit plans	1,120	(134)
- Revaluation of property gains/(losses)	(332,417)	(113,471)
31 December	6,377,848	5,002,427

26. Earnings per share

	1 January - 31 December 2021	1 January - 31 December 2020
(Loss) profit for the year attributable to shareholders of the Group	3,319,134	(2,493,511)
Weighted average number of Shares with nominal value of Kr1 each	25,041,920,000	25,041,920,000
Basic and diluted (loss) earnings per share in Kr	13.25	(9.96)

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 2021	31 December 2020
Yapı ve Kredi Bankası A.Ş. ⁽²⁾	7,012,655	6,253,361
Total	7,012,655	6,253,361

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements For the Year Ended 31 December 2021

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

27. Related party transactions (Continued)

b) Due from related parties:

	31 December 2021	31 December 2020
Opet Petrolcülük A.Ş. ⁽¹⁾	1,382,904	226,065
Aygaz A.Ş. ⁽²⁾	186,648	24,516
THY OPET Havacılık Yakıtları A.Ş. ⁽¹⁾	75,814	51,113
Opet Fuchs Madeni Yağ San. ve Tic. A.Ş. ⁽¹⁾	21,765	19,093
Other ⁽²⁾	1,133	3,768
Total	1,668,264	324,555

As of 31 December 2021, Tüpraş has derecognized TRY70,000 thousand TL (31 December 2020: TRY250,000 thousand) which has been collected from factoring companies and TRY153,100 thousand (31 December 2020: TRY507,000 thousand) which has been collected via supplier financing, from trade receivables from related parties.

c) Trade payables:

	31 December 2021	31 December 2020
Opet Petrolcülük A.Ş. ⁽¹⁾	41,542	16,910
Koç Sistem Bilgi ve İletişim A.Ş. ⁽²⁾	37,183	22,479
Zer Merkezi Hizmetler ve Ticaret A.Ş. ⁽²⁾	27,801	16,368
Ark İnşaat A.Ş. ⁽²⁾	23,540	44,880
Aygaz A.Ş. ⁽²⁾	16,170	8,104
Otokoç Otomotiv Tic. ve San. A.Ş. ⁽²⁾	4,988	4,922
RAM Sigorta Aracılık Hizmetleri A.Ş. ⁽²⁾	3,399	14,269
Setur Servis Turistik A.Ş. ⁽²⁾	3,082	2,996
Aygaz Doğalgaz Toptan Satış A.Ş. ⁽²⁾	-	75,733
THY OPET Havacılık Yakıtları A.Ş. ⁽¹⁾	-	1,137
Other ⁽²⁾	7,316	10,688
Total	165,021	218,486

d) Other payables:

	31 December 2021	31 December 2020
Koç Holding A.Ş. ⁽³⁾	43,328	30,763
Total	43,328	30,763

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements For the Year Ended 31 December 2021

(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 2021	31 December 2020
Ark İnşaat A.Ş. ⁽²⁾	5,643	2,126
Total	5,643	2,126

f) Bank loans:

	31 December 2021	31 December 2020
Yapı ve Kredi Bankası A.Ş. ⁽²⁾	815,729	821,310
Total	815,729	821,310

g) Lease liabilities:

	31 December 2021	31 December 2020
Koç Ailesi ⁽³⁾	67,827	63,286
Otokoç Otomotiv Tic. ve San. A.Ş. ⁽²⁾	16,427	22,477
Zer Merkezi Hizmetler ve Ticaret A.Ş. ⁽²⁾	20	31
Total	84,274	85,794

h) Product and service sales:

	1 January - 31 December 2021	1 January - 31 December 2020
Opet Petrolcülük A.Ş. ⁽¹⁾	32,432,913	10,585,137
THY OPET Havacılık Yakıtları A.Ş. ⁽¹⁾	3,326,389	1,645,791
Aygaz A.Ş. ⁽²⁾	1,458,967	554,462
Opet Fuchs Madeni Yağ San. ve Tic. A.Ş. ⁽¹⁾	146,248	50,895
Demir Export A.Ş. ⁽¹⁾	31,333	14,526
Other ⁽²⁾	34,096	23,781
Total	37,429,946	12,874,592

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements For the Year Ended 31 December 2021

(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 2021	1 January - 31 December 2020
Opet Petrolcülük A.Ş. ⁽¹⁾	476,039	287,417
Aygaz Doğalgaz Toptan Satış A.Ş. ⁽²⁾	393,250	730,333
Aygaz A.Ş. ⁽²⁾	279,649	91,691
Ram Sigorta Aracılık Hizmetleri A.Ş. ^{(2) (*)}	278,854	230,035
Zer Merkezi Hizmetler ve Ticaret A.Ş. ⁽²⁾	129,502	101,762
Ark İnşaat A.Ş. ⁽²⁾	115,159	11,240
Koç Sistem Bilgi ve İletişim A.Ş. ⁽²⁾	57,590	54,793
Koç Holding A.Ş. ^{(3) (*)}	39,463	56,017
Otokoç Otomotiv Tic. ve San. A.Ş. ⁽²⁾	27,651	25,169
THY OPET Havacılık Yakıtları A.Ş. ⁽¹⁾	68	11,433
Other ⁽²⁾	61,579	52,254
Total	1,858,804	1,652,144

⁽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 Communiqué 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 2021	1 January - 31 December 2020
Koç Sistem Bilgi ve İletişim A.Ş. ⁽²⁾	22,329	19,971
Ark İnşaat A.Ş. ⁽²⁾	11,228	158,238
RMK Marine Gemi Yapım Sanayii ve Deniz Taşımacılığı İşletmesi A.Ş. ⁽²⁾	4,549	103,680
Other ⁽²⁾	2,687	14,477
Total	40,793	296,366

Türkiye Petrol Rafinerileri A.Ş.

Notes to the Consolidated Financial Statements For the Year Ended 31 December 2021

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

27. Related party transactions (Continued)

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 TRY102,536 thousand as of period ending on 31 December 2021 (31 December 2020 - TRY72,819 thousand). All of this amount consists of short term benefits.

l) Financial expenses paid to related parties:

	1 January - 31 December 2021	1 January - 31 December 2020
Yapı ve Kredi Bankası A.Ş. ⁽²⁾	90,583	68,143
Yapı Kredi Faktoring A.Ş. ⁽²⁾	3,515	3,358
Yapı Kredi Bank Nederland N.V. ⁽²⁾	-	835
Total	94,098	72,336

m) Time deposit interest income:

	1 January - 31 December 2021	1 January - 31 December 2020
Yapı ve Kredi Bankası A.Ş. ⁽²⁾	909,883	192,615
Total	909,883	192,615

n) Donations:

As of 31 December 2021, total donation is amounting to TRY162 thousand (31 December 2020 - TRY15,338 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.

**Notes to the Consolidated Financial Statements
For the Year Ended 31 December 2021**

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

28. Financial instruments and financial risk management (Continued)

Liquidity risk: (Continued)

The table below demonstrates the Group's future cash outflows due to financial liabilities as at 31 December 2021 and 31 December 2020. 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 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)	75,411,907	77,689,079	46,338,917	10,887,794	19,755,120	707,248
Bank borrowings	20,002,145	21,877,076	2,470,950	10,102,392	8,980,638	323,096
Bonds and notes issued	11,352,244	11,354,525	47,715	586,510	10,720,300	-
Lease liabilities	263,152	654,859	17,633	198,892	54,182	384,152
Trade payables	43,704,239	43,712,492	43,712,492	-	-	-
Other liabilities	90,127	90,127	90,127	-	-	-
Derivative instruments (net)	530,891	973,397	728,209	140,142	105,046	-
Derivative cash inflows	3,862,185	21,570,000	18,125,496	2,168,367	1,276,137	-
Derivative cash outflows	3,331,294	20,596,603	17,397,287	2,028,225	1,171,091	-

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)	43,446,649	46,154,382	17,193,885	7,102,970	21,529,628	327,899
Bank borrowings	22,654,919	24,192,831	2,280,370	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	228,890	475,448	8,274	109,636	29,639	327,899
Trade payables	14,137,468	14,143,068	14,143,068	-	-	-
Other liabilities	64,113	64,113	64,113	-	-	-
Derivative instruments (net)	(340,306)	(657,543)	(738,939)	(15,384)	96,780	-
Derivative cash inflows	468,012	19,804,551	15,855,982	1,655,147	2,293,422	-
Derivative cash outflows	808,318	20,462,094	16,594,921	1,670,531	2,196,642	-

Cash outflows will be financed through cash inflows generated from sales or through funding.

Notes to the Consolidated Financial Statements For the Year Ended 31 December 2021

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

28. Financial instruments and financial risk management (Continued)

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.

Major portion of Tüpraş's customers are composed of financially strong companies or government entities. As at 31 December 2021 and 2020, trade receivables from the top 5 customers of the Group constitute 68% and 57% of total receivables, respectively. When these factors are considered together with the insignificant historical default experience for the Group's receivables, the Group management considers the credit risk as low. The Group uses the same risk management principles for the management of financial assets. Investments are made to highly liquid instruments and the banks that the Group deposits its cash and cash equivalents in are selected among the financially strong institutions. As the Group did not have any uncollected, past due, impaired or renegotiated bank deposits, the Group believes that it does not have any impairment risk related to bank deposits.

Credit risks of the Group for each financial instrument type as at 31 December 2021 and 2020 are as follows:

	Receivables						
	Trade Receivables		Other Receivables				
	Related parties	Other parties	Related parties	Other parties	Bank deposits	Derivative instruments	Other
31 December 2021							
Maximum exposed credit risk as of reporting date	1,668,264	11,848,559	-	20,541	20,400,235	3,862,185	-
- 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	1,668,264	11,727,020	-	20,541	20,400,235	3,862,185	-
B. Net book value of overdue but not impaired financial assets	-	121,539	-	-	-	-	-
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 2021

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

28. Financial instruments and financial risk management (Continued)

Credit risk: (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	324,555	1,410,994	-	18,690	19,825,292	468,012	-
- 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	324,555	1,221,413	-	18,690	19,825,292	468,012	-
B. Net book value of overdue but not impaired financial assets	-	189,581	-	-	-	-	-
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	-	-	-	-	-	-	-

Notes to the Consolidated Financial Statements For the Year Ended 31 December 2021

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

28. Financial instruments and financial risk management (Continued)

Credit risk (Continued):

	Receivables				
	Trade receivables	Other Receivables	Bank deposits	Derivative instruments	Other Trade receivables
31 December 2021					
Overdue (1-30 days)	68,106	-	-	-	-
Overdue (1-3 months)	6,081	-	-	-	-
Overdue (3-12 months)	36,404	-	-	-	-
Overdue (1-5 years)	10,948	-	-	-	-
Overdue (5+ years)	-	-	-	-	-
	Receivables				
	Trade receivables	Other Receivables	Bank deposits	Derivative instruments	Other Trade receivables
31 December 2020					
Overdue (1-30 days)	150,374	-	-	-	-
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 TRY70,726 thousand (31 December 2020: TRY89,116 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 2021 and 31 December 2020 are as follows:

	31 December 2021	31 December 2020
Group 1	24,306	9,468
Group 2	3,329,855	589,770
Group 3	9,648,375	774,025
Group 4	392,748	172,705
Total	13,395,284	1,545,968

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)

**Notes to the Consolidated Financial Statements
For the Year Ended 31 December 2021**

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

28. Financial instruments and financial risk management (Continued)

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.

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).

Notes to the Consolidated Financial Statements For the Year Ended 31 December 2021

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

28. Financial instruments and financial risk management (Continued)

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 2021 and 31 December 2020:

	31 December 2021	31 December 2020
Financial instruments with fixed interest rate		
Financial assets		
Time deposits	18,406,543	19,673,367
Financial liabilities	20,722,390	20,003,939
Financial instruments with floating interest rate		
Financial liabilities ⁽¹⁾	10,895,151	9,241,129

⁽¹⁾ As of 31 December 2021, there is interest rate swap and cross currency interest rate swap transactions for loans with floating interest rate amounting to USD 224,662 thousand (31 December 2020: USD365,647 thousand) and 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: EUR61,157 thousand) (Note 17).

As at 31 December 2021, 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 TRY15,756 thousand lower/higher (31 December 2020: TRY9,128 thousand). As at 31 December 2021, 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 2021, 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 TRY1,759 thousand lower/higher (31 December 2020: 1,344).

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 2021 and 2020 based on their contractual repricing dates are disclosed in Note 5.

**Notes to the Consolidated Financial Statements
For the Year Ended 31 December 2021**

(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 2021 and 31 December 2020:

	31 December 2021		31 December 2020	
	TRY	USD ^(*)	TRY	USD ^(*)
Monetary assets	16,145,074	1,211,274	1.173.619	159.883
Monetary liabilities	(63,749,820)	(4,782,791)	(29.337.009)	(3.996.595)
Monetary assets/(liabilities) foreign currency position	(47,604,746)	(3,571,517)	(28.163.390)	(3.836.712)
Non-monetary assets	14,358	1,077	105,732	14,404
Net foreign currency position of derivative financial instruments	18,249,110	1,369,128	16,095,327	2,192,674
Net foreign currency asset/(liability) position	(29,341,278)	(2,201,311)	(11,962,331)	(1,629,634)
Cash flow hedging ^(**)	5,170,028	387,878	4,360,123	593,982
Net foreign currency position after cash flow hedging	(24,171,250)	(1,813,433)	(7,602,208)	(1,035,652)
Inventory in natural hedge scope ^(***)	24,197,942	1,815,436	7,220,776	983,690
Net foreign currency position after cash flow hedging and natural hedge	26,692	2,002	(381,432)	(51,962)

^(*) Dollar equivalent amounts are determined through dividing total TRY equivalent positions to exchange rate of dollar as at balance sheet date.

^(**) The Group uses investment loans amounting to USD387,878 thousand, which is equivalent to TRY5,170,028 thousand (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 2021, TRY4,108,543 thousand of (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 2021, the foreign exchange loss amounting to TRY1,618,926 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 2021, foreign exchange loss of these loans in 2021 amounting to TRY2,990,615 were added to the "Cash flow hedge gains (losses)" account under equity.

^(***) 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 2021, the Group has crude oil and petroleum products inventories amounting to TRY24,197,942 thousand (31 December 2020: TRY7,220,776 thousand).

Notes to the Consolidated Financial Statements
For the Year Ended 31 December 2021

(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 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
Trade receivables	2,286,540	171,534	11	-	-	358,951	45,743	2,568	1	40
Monetary financial assets (including cash, banks)	13,858,534	1,014,354	729	18,212	-	814,668	105,636	3,962	357	-
Other	9,491	237	108	262	(6)	103,077	13,540	255	139	-
Current assets	16,154,565	1,186,125	848	18,474	(6)	1,276,696	164,919	6,785	497	40
Monetary financial assets	-	-	-	-	-	-	-	-	-	-
Other	4,867	-	-	271	-	2,655	-	-	267	-
Non-current assets	4,867	-	-	271	-	2,655	-	-	267	-
Total assets	16,159,432	1,186,125	848	18,745	(6)	1,279,351	164,919	6,785	764	40
Trade payables	41,249,784	3,077,863	14,123	-	11,879	13,026,055	1,759,069	12,127	74	3,642
Financial liabilities	4,274,587	319,889	354	303	-	3,676,865	424,446	61,982	291	-
Other monetary liabilities	3,596,305	269,811	-	-	-	379,918	50,265	36	1,068	-
Current liabilities	49,120,676	3,667,563	14,477	303	11,879	17,082,838	2,233,780	74,145	1,433	3,642
Financial liabilities	14,605,610	1,087,904	6,586	310	-	12,208,681	1,653,846	6,941	613	-
Other monetary liabilities	23,534	1,766	-	-	-	45,490	6,197	-	-	-
Non-current liabilities	14,629,144	1,089,670	6,586	310	-	12,254,171	1,660,043	6,941	613	-
Total liabilities	63,749,820	4,757,233	21,063	613	11,879	29,337,009	3,893,823	81,086	2,046	3,642
Net asset/(liability) position of off-balance sheet foreign currency derivatives	18,249,110	1,369,128	-	-	-	16,095,327	2,117,625	61,157	-	-
Total amount of off-balance sheet derivative financial assets	35,955,537	2,697,542	-	-	-	17,901,631	2,363,699	61,157	-	-
Total amount of off-balance sheet derivative financial liabilities	(17,706,427)	(1,328,414)	-	-	-	(1,806,304)	(246,074)	-	-	-
Net foreign currency asset/(liability) position	(29,341,278)	(2,201,980)	(20,215)	18,132	(11,885)	(11,962,331)	(1,611,279)	(13,144)	(1,282)	(3,602)
Cash flow hedging	5,170,028	387,878	-	-	-	4,360,123	593,982	-	-	-
Net foreign currency position after cash flow hedging	(24,171,250)	(1,814,102)	(20,215)	18,132	(11,885)	(7,602,208)	(1,017,297)	(13,144)	(1,282)	(3,602)
Net monetary foreign currency asset/(liability) position	(47,604,746)	(3,571,345)	(20,323)	17,599	(11,879)	(28,163,390)	(3,742,444)	(74,556)	(1,688)	(3,602)
Fair value of derivative instruments Used for hedging	1,083,025	81,253	-	-	-	(238,142)	(32,442)	-	-	-

As at 31 December 2021, the Group has TRY26,692 thousand as net foreign currency deficit after natural hedging (31 December 2020: TRY381,432 thousand net foreign currency deficit).

**Notes to the Consolidated Financial Statements
For the Year Ended 31 December 2021**

(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 2021 and 31 December 2020.

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	(4,760,246)	4,760,246	(500,711)	500,711
Amount hedged for USD risk (-)	2,325,623	(2,325,623)	-	-
USD net effect	(2,434,623)	2,434,623	(500,711)	500,711
10% change in EUR rate				
Euro net assets/liabilities	(30,660)	30,660	-	-
Amount hedged for Euro risk (-)	-	-	-	-
EUR net effect	(30,660)	30,660	-	-
TOTAL	(2,465,283)	2,465,283	(500,711)	500,711

Notes to the Consolidated Financial Statements For the Year Ended 31 December 2021

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

28. Financial instruments and financial risk management (Continued)

	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	(2,747,141)	2,747,141	(420,058)	420,058
Amount hedged for USD risk (-)	1,974,501	(1,974,501)	-	-
USD net effect	(772,640)	772,640	(420,058)	420,058
10% change in EUR rate				
Euro net assets/liabilities	(67,159)	67,159	-	-
Amount hedged for Euro risk (-)	55,090	(55,090)	-	-
EUR net effect	(12,069)	12,069	-	-
TOTAL	(784,709)	784,709	(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 2021	1 January - 31 December 2020
Export		
USD (equivalent of thousand TRY)	25,746,961	13,583,940
Total	25,746,961	13,583,940
Import		
USD (equivalent of thousand TRY)	117,751,750	47,661,580
Total	117,751,750	47,661,580

**Notes to the Consolidated Financial Statements
For the Year Ended 31 December 2021**

(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 2021 and 31 December 2020 are as follows:

	31 December 2021	31 December 2020
Total financial liabilities (Note 5)	31,617,541	29,245,068
Less: Cash and cash equivalents (Note 4)	(16,152,381)	(17,621,288)
Net financial liabilities	15,465,160	11,623,780
Total shareholders' equity	17,827,517	11,672,525
Total capital invested	33,292,677	23,296,305
Gearing ratio	46.45%	49.90%

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.

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

**Notes to the Consolidated Financial Statements
For the Year Ended 31 December 2021**

(Amounts expressed in thousands of Turkish Lira ("TRY") unless otherwise indicated.)

28. Financial instruments and financial risk management (Continued)

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	-	3,862,185	-
Financial liabilities at fair value in statement of financial position			
Derivative financial liabilities	-	3,331,294	-

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	-	468,012	.-
Financial liabilities at fair value in statement of financial position			
Derivative financial liabilities	-	808,318	-

29. Government grants

Government incentives and aids that the Group has are as follows:

- 100% customs duty exemption for imported machinery and equipment,
- VAT exemption for investment goods procured domestically and abroad,
- Incentives in the scope of research and development law (100% Corporate Tax exemption, Social Security Institution incentives, Stamp tax incentive, etc.),
- Cash supports received from Teydeb in return for research and development expenses,
- Discounted corporate tax incentive,
- Insurance premium employer share support,
- Corporate tax incentive within the scope of investment allowance exemption,
- Insurance premium employer's share, employment agency, minimum wage and trainee education supports
- Real estate tax incentive
- Interest support.

30. Subsequent events

None.

OTHER INFORMATION

297	INFORMATION DOCUMENT REGARDING THE ORDINARY GENERAL ASSEMBLY MEETING OF TURKISH PETROL REFINERIES CORPORATION, TO BE HELD ON 30 MARCH 2022, FOR THE YEAR 2021
304	DECLARATION FOR INDEPENDENCY
308	CORPORATE GOVERNANCE COMPLIANCE REPORT
324	INDEX OF EXPLANATIONS REGARDING SUSTAINABILITY PRINCIPLES
330	GLOSSARY
336	IDENTITY

INFORMATION DOCUMENT REGARDING THE ORDINARY GENERAL ASSEMBLY MEETING OF TÜRKİYE PETROL RAFİNERİLERİ A.Ş., TO BE HELD ON 30 MARCH 2022, FOR THE YEAR 2021

1. INVITATION TO THE ORDINARY GENERAL ASSEMBLY MEETING, TO BE HELD ON 30 MARCH 2022

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 30, 2022 at 10:00 am in order to review the activities of the year 2021 and to discuss and resolve the following agenda.

In accordance with the legal requirements, 2021 Financial Statements, the Independent Auditor's Report of the Independent Auditing 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 branch, 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 to the Company the 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. 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.

We would like to state that due to the COVID-19 pandemic affecting the world and our country, the meeting will be held in accordance with the pandemic rules announced by official institutions, and that the new rules to be announced by the official institutions should be closely followed by our shareholders.

In this context;

- Considering the pandemic conditions and the restrictions on group gatherings in the relevant regulations of public authorities, for protecting the public health, our guests other than the shareholders will not be admitted to the general assembly meeting room for this year.
- Guests' body temperature will be checked at the entrance of the building / hall where the meeting will be held.
- It is mandatory to use a mask during the entrance to the meeting place and during the meeting
- No food or beverage will be offered at the general assembly meeting.

INFORMATION DOCUMENT REGARDING THE ORDINARY GENERAL ASSEMBLY MEETING OF TÜRKİYE PETROL RAFİNERİLERİ A.Ş., TO BE HELD ON 30 MARCH 2022, FOR THE YEAR 2021

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 informed to the shareholders with due respect.

Tüpraş, Türkiye Petrol Rafinerileri A.Ş. Board of Directors

Company Address: 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 prerogative share group if there is a prerogative share in capital of the partnership and the information about the voting rights and the qualifications of the prerogatives are given below:

The issued capital of the Company is TL 250,419,200.00 and divided into 25,041,920,000.00 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 to merger, division or the resolution of the Company's liquidation that would restrict from meeting fuels and / or prevent 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	51.00%	12,771,379,222	51.00%
Publicly held Shares (A Group)	122,705,407.77	49.00%	12,270,540,777	49.00%
Privatization Administration (C Group)	0.01	0.00%	1	0.00%
Total	250,419,200.00	100.00%	25,041,920,000	100.00%

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:

According to our Strategic Transition Plan, Tüpraş aims to lead the transformation of Turkey's energy industry through investments in new areas to support its sustainability while managing existing assets to achieve sustainable profitability growth. Additionally, along with a balanced and diversified clean energy portfolio, Tüpraş aims to become a carbon-neutral company by reducing its emissions.

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>

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 2021 will be discussed.

3. OUR EXPLANATIONS REGARDING THE ARTICLES ON THE AGENDA OF THE ORDINARY GENERAL ASSEMBLY MEETING DATED ON 30 MARCH 2022

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 2021 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 2021 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 2021,

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 2021 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.

INFORMATION DOCUMENT REGARDING THE ORDINARY GENERAL ASSEMBLY MEETING OF TÜRKİYE PETROL RAFİNERİLERİ A.Ş., TO BE HELD ON 30 MARCH 2022, FOR THE YEAR 2021

5. Approval of the amendment made to the Board of Directors during the year according to Article 363 of the Turkish Commercial Code

According to the article 363 of the Turkish Commercial Code, after the resignation of Fatih Kılınç from the Board of Directors, in order to complete the remaining term of office of the member who resigned with the decision of the Board of Directors dated 08.06.2021, Mr. Arda Salim Ermut was appointed as a Board member.

The curriculum vitae of Mr. Salim Arda Ermut, which is prepared in accordance to the CMB's 1.3.1 Corporate Governance Principle, is presented in **Appendix-1**

6. Release of the members of the Board of Directors from liability for the affairs of the Company for the year 2021,

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 2021 shall be presented for approval of the General Assembly.

7. Within the framework of the Company's dividend policy; approval, amendment or disapproval of the Board of Directors' proposal on profit distribution of year 2021 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 01.01.2021 - 31.12.2021; "Consolidated Net Profit for the Period" TL 3,319,134,000.00 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 2**.

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 terms 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 12 people in 2022. 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, Mr. Kamil Ömer Bozer and Mr. Tufan Erginbilgiç. Our Company has been informed by the CMB that there is no negative opinion regarding these Independent Board Members

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 Türkiye Petrol Rafinerileri A.Ş. are disclosed in footnote 27 of our financial statements for the year of 2021.

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 2022 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 2 February 2022, 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 PricewaterhouseCoopers) to audit the financial tables of our Company covering the accounting term of 2022 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 about the “Strategic Transition Plan” of the Company, which was approved by the Board of Directors decision dated November 24, 2021,

In order to invest in new areas that support our sustainability understanding, to lead the transition of the energy sector in our country, to make existing assets more competitive and profitable, to transform Tüpraş into a leading carbon neutral energy company by having a balanced and diversified clean energy portfolio, The “Strategic Transition Plan” was approved by the decision of the board of directors and announced to the public on the same date by our Company’s Board of Directors.

In the first period that will cover the years 2022-2035 within the scope of the plan;

- Energy Efficiency and Decarbonization Projects that increase operational efficiency and reduce Scope 1 and Scope 2 emissions for sustainable refining,
- Green Hydrogen Production Facilities,
- Biofuel Production Facilities, especially Sustainable Aviation Fuel,
- Wind, Solar Energy and other Zero Carbon Electricity Production Facilities.

It is planned to spend approximately USD 350 million annually on projects involving investments, and the total amount of investment in this period will reach USD 5 billion.

Within the framework of this plan, it is aimed to reduce Scope 1 and Scope 2 CO₂ emissions, which consist of our company’s activities, by 27% in 2030, by 35% in 2035, by 49% in 2040 compared to the base level in 2017, and to become carbon neutral in 2050.

Detailed information and presentation on the subject can be found on our Company’s corporate website at www.tupras.com.tr.

INFORMATION DOCUMENT REGARDING THE ORDINARY GENERAL ASSEMBLY MEETING OF TÜRKİYE PETROL RAFİNERİLERİ A.Ş., TO BE HELD ON 30 MARCH 2022, FOR THE YEAR 2021

13. Presentation to shareholders of the donations made by the Company in 2021 and resolution of an upper limit for donations to be made for 2022,

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 2021, donations totaling TL 2,952.3 thousand were made to foundations and associations, TL 913 thousand to Aegean Mediterranean Fires, TL 900 thousand to TEMA Foundation, TL 314 thousand to Education and the remaining amount has been made to various other institutions and organizations each less than TL 250 thousand and which do not constitute important information for investors. The upper limit of donations to be made in 2022 is going to be decided by the General Assembly.

14. In accordance with the Capital Markets Board regulations, presentation to shareholders of the securities, pledges and mortgages granted in favor of the third parties in the year 2021 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 31.12.2021 under foot note 18:

	31 December 2021	31 December 2020
A. CPMs given for companies in the name of its own legal personality	18,673,584	6,275,132
B. CPMs given on behalf of the fully consolidated companies (*)	3,004,368	753,762
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	21,677,952	7,028,894

Guarantees given are mainly composed of guarantees given to government entities and customs offices. As at 31 December 2021. A commission at an amount of TRY 17,957 thousand is recognized as of 31 December 2020 related to letter of guarantees given in favor of partnerships included in full consolidation.

15. 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 2021 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 2021, 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.

16. Wishes and Opinions.

APPENDICES:

1. CVs of Mr. Salim Arda Ermut (see page 36)
2. 2021 Dividend Distribution Proposal (see pages 38-39)
3. CVs of Board of Directors Candidates and Independence Declarations of Independent Board Member Candidates (see pages 300-303)
4. Remuneration Policy for Board of Directors and Executive Management (see page 41)

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 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.

[Signature]

Ayşe Canan Ediboğlu

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 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.

[Signature]

Kamil Ömer Bozer

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 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.

[Signature]

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 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) 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 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 neither more than 3 corporations controlled by the company or its controlling shareholders nor in total more than 5 corporations listed in Borsa İstanbul,
- i) I am not registered in the name of any legal entity elected as a board member.

[Signature]

Tufan Erginbilgiç

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	X					
1.2.1 - Management did not enter into any transaction that would complicate the conduct of special audit.	X					
1.3. GENERAL ASSEMBLY	X					
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 150 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.
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 current 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 2021.

	Compliance Status					Explanation
	Yes	Partial	No	Exempted	Not Applicable	
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.
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					

CORPORATE GOVERNANCE COMPLIANCE REPORT AND INFORMATION FORM

	Compliance Status					Explanation
	Yes	Partial	No	Exempted	Not Applicable	
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					
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					

	Compliance Status					Explanation
	Yes	Partial	No	Exempted	Not Applicable	
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					
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					

CORPORATE GOVERNANCE COMPLIANCE REPORT AND INFORMATION FORM

	Compliance Status					Explanation
	Yes	Partial	No	Exempted	Not Applicable	
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					
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					

	Compliance Status					Explanation
	Yes	Partial	No	Exempted	Not Applicable	
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					
4.4. BOARD MEETING PROCEDURES						
4.4.1-Each board member attended the majority of the board meetings in person.			X			During 2021, no physical meetings were held due to the COVID-19 pandemic; Board of Directors members were informed about the Company's performance and developments on a regular basis. However, all decisions were passed employing the circulation method.
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	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.

CORPORATE GOVERNANCE COMPLIANCE REPORT AND INFORMATION FORM

	Compliance Status					Explanation
	Yes	Partial	No	Exempted	Not Applicable	
4.4.4 - Each member of the board has one vote.	X					However, on the issues specified below depends on the affirmative vote of the Group C shareholder: 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. 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. c) Any actions specified below that could restrict or obstruct the ability of meeting the fuel requirements of the Turkish Armed Forces: 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 II. Division of the company or merger with another company. d) Resolutions related to the liquidation of the company
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.

	Compliance Status					Explanation
	Yes	Partial	No	Exempted	Not Applicable	
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					
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 COMPLIANCE REPORT AND INFORMATION FORM

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	8 Conferences and roadshows are attended. 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/en/Bildirim/915313
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 Communique 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 Communique on Corporate Governance (II-17.1)	https://www.kap.org.tr/en/Bildirim/914286
The name of the section on the corporate website that demonstrates the donation policy of the company	The Donation and Aid Policy, adopted by the Board of Directors' Decision dated March 4, 2021 and the Ordinary General Assembly resolution dated March 31, 2021, is available in the Investor Relations / Corporate Governance / Policies section of the corporate website.
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 2021, 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	51%

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. SHAREHOLDERS

1.6. Dividend Right

The name of the section on the corporate website that describes the dividend distribution policy	Investor Relations / Corporate Governance /Policies
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 2020, in compliance with the TFRS, prepared by the management of Türkiye Petrol Rafinerileri A.Ş., 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 Türkiye Petrol Rafinerileri A.Ş. in accordance with Tax Procedural Law, net loss of TL 2,493,511,000.00 per the financial statements prepared in accordance with TFRS and net losses of TL 3,070,277,889.10 as per the records in accordance with the Tax Procedural Law have been noted and profit distribution proposal is prepared accordingly as explained below; 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; Profit share shall not be distributed due to the loss of activities in the financial statements prepared on the basis of both the Tax Procedure Law and IFRS. In the Financial Statements prepared in accordance with the Tax Procedural Law records; due to a loss of TL 3,070,277,889.10 in the current year result, in the financial statements prepared in accordance with the Tax Procedural Law is to be transferred to the retained losses, Transferring the Net Period Loss Attributable to Equity Holders of The Parent of TL 2,493,511,000.00 which is formed according to the financial statements prepared in line with TFRS, to the retained losses in the related 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 169,384,770.22 paid-in share capital against dissenting votes for TL 39 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/en/Bildirim/922381

General Assembly Meetings

General Meeting Date	31.03.2021
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	67.6%
Percentage of shares directly present at the GSM	-
Percentage of shares represented by proxy	67.6%
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
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.
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/en/Bildirim/922381

CORPORATE GOVERNANCE COMPLIANCE REPORT AND INFORMATION FORM

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 Corporate Governance /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 / Principles Compliance Report / Activities of the Board of Directors and Board of Directors Committees
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
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

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	22
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. 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.

CORPORATE GOVERNANCE COMPLIANCE REPORT AND INFORMATION FORM

3. STAKEHOLDERS

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.

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.

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.

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

Whether the company provides an employee stock ownership program

There is no an employee stock ownership program.

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.

Decision was taken to ensure employees can appeal to Human Resources Department in case of any problems regarding discrimination and misconduct and this has been communicated to all employees. Ethics Board mechanism was established with the participation of Risk Management and Audit, Legal, Corporate Communications and Human Resources Departments and it's being actively operated.
Annual Report /Human Resources

The number of definitive convictions the company is subject to in relation to health and safety measures

0

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	31.12.2021
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	1 (Internal audit unit provides information to the audit committee 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	-
The name of the section on the corporate website that demonstrates current diversity policy targeting women directors	<u>Investor Relations / Corporate Governance / Board Diversity Policy</u>
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 Independence 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
Salim Arda Ermut	Non-executive	Not Independent Director	08.06.2021	-	-	-	Yes
Muharrem Hilmi Kayhan	Non-executive	Independent Director	21.03.2018	https://www.kap.org.tr/tr/Bildirim/915313	Considered	No	Yes
Ayşe Canan Ediboğlu	Non-executive	Independent Director	21.03.2018		Considered	No	Yes
Kamil Ömer Bozer	Non-executive	Independent Director	21.03.2018		Considered	No	Yes
Tufan Erginbilgiç	Non-executive	Not Independent Director	31.03.2021		Considered	No	Yes

CORPORATE GOVERNANCE COMPLIANCE REPORT AND INFORMATION FORM

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)	During 2021, no physical meetings were held due to the COVID-19 pandemic; Board of Directors members were informed about the Company's performance and developments on a regular basis. However, all decisions were passed employing the circulation method.
Director average attendance rate at board meetings	100%
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

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%	7	7
Corporate Governance Committee	-	67%	33%	8	8
Risk Management Committee	-	100%	50%	6	6
Other	Executive Committee	100%	0%	12	12

INDEX OF EXPLANATIONS REGARDING SUSTAINABILITY PRINCIPLES

Explanation of Principle	Annual Report Section, Page Number	Links
A. General		
A1. Strategy, Policy ve Targets		
The Board of Directors determines ESG material issues, risks and opportunities and puts forward ESG policies accordingly. As far as the effective implementation of these policies; In-partnership directives, business procedures etc. can be developed. The Board of Directors takes decisions regarding these policies and	Sustainability at Tüpraş Page 114 Statement of Compliance with Sustainability Principles Page 188-189	
Designates the Partnership Strategy, appropriate to the ESG policies, risks and opportunities. Sets and discloses short and long-term targets in line with the partnership strategy and ESG policies.	Performance Indicators Page 158-163 Statement of Compliance with Sustainability Principles Page 188-189	
A2. Implementation / Monitoring		
Determines and publicly discloses the committees / units responsible for the execution of ESG policies. The committee / unit in charge reports the activities carried out with respect to the policies to the Board of Directors at least once a year and in any case within the maximum periods specified for the public disclosure of the annual activity reports in the relevant regulations of the Board.	Sustainability at Tüpraş Page 114	
Creates and publicly discloses implementation and action plans in line with the short-and long-term targets set.	Sustainability at Tüpraş Page 114	
Determines the Key Performance Indicators (KPI) of ESG and shares comparative data on a yearly basis. In the presence of verifiable qualified data, it presents KPIs with local and international industry comparisons.	Performance Indicators Page 158-163 Statement of Compliance with Sustainability Principles Page 188-189	
Discloses innovation activities that improve the sustainability performance for business processes or products and services.	R&D and Innovation Page 124-132	
A3. Reporting		
Reports its sustainability performance, goals and actions at least once a year and shares with public. Explains the information regarding the sustainability activities within the annual report.	Performance Indicators Page 158-163 Statement of Compliance with Sustainability Principles Page 188 -189	
It is essential to share information that is important for stakeholders in order to understand the position, performance and development of the partnership in a direct and concise manner. It can also explain comprehensive information and data on the corporate website, and arrange separate reports that directly meet the needs of other stakeholders.	Sustainability at Tüpraş Page 117	https://www.tupras.com.tr/surdurulebilirlik
Takes maximum care in terms of transparency and reliability. Objectively explains all kinds of improvements on priority issues in the reports and disclosures on the basis of balanced approach.	Sustainability at Tüpraş Page 117	
Provides information about which of the United Nations (UN) 2030 Sustainable Development Goals the activities are related to.	Sustainability at Tüpraş Page 114	

Explanation of Principle	Annual Report Section, Page Number	Links
Provides information regarding the lawsuits filed and / or concluded on environmental, social and corporate governance issues.	Corporate Governance / Legal Disclosures Page 171-172	
A4. Verification		
If verified by independent third parties (independent assurance providers for sustainability), the sustainability performance measurements is shared with public and endeavors to increase the aforementioned verification processes.	Performance Indicators Page 158-163 Statement of Compliance with Sustainability Principles Page 188-189	
B. Environment		
Environmental Principles		
Shares the policies and practices, action plans, environmental management systems (known by the ISO 14001 standard) and programs in the field of environmental management.	Environmental Management Page 148-153 Quality Management Systems Page 146	
Complies with environmental laws and other relevant regulations and explains them.	Environmental Management Page 148-153 Statement of Compliance with Sustainability Principles Page 188-189	
Explains the constraints regarding reporting period, reporting data, data collection period and reporting conditions of the environmental report to be prepared, under the Sustainability principles.	Sustainability Reporting Page 117	
Explains the highest person responsible from the partnership regarding the environment and climate change issue, relevant committees and their duties.	Statement of Compliance with Sustainability Principles Page 188-189	
Describes the incentives it offers for the management of environmental issues, including the achievement of targets	Performance Indicators Page 158-163	
Explains how environmental challenges are integrated into business goals and strategies.	Environmental Management Page 148-153	
Explains the sustainability performances for business processes or products and services and the activities to help improve this performance.	Environmental Management Page 148-153	
Elucidates not just in terms of direct operations but also how environmental issues are managed along the value chain and how supplier and customers are integrated in its strategies.	Statement of Compliance with Sustainability Principles Page 188-189	
Explains whether it is involved in policy-making processes on environmental issues (sectoral, regional, national and international), explains the cooperation with the associations, related organizations and non-governmental organizations it is a member of on the subject of environment, and the duties it has taken, if any, and the activities it supports.	Environmental Management Page 148-153	
Environmental indicators (Greenhouse gas emissions (Scope-1 (Direct), Scope-2 (Energy indirect), Scope-3 (Other indirect)), air quality.	Statement of Compliance with Sustainability Principles Page 188-189	

INDEX OF EXPLANATIONS REGARDING SUSTAINABILITY PRINCIPLES

Explanation of Principle	Annual Report Section, Page Number	Links
Gives a full environmental impact report regarding the effects of energy management, water and wastewater management, waste management, biodiversity impacts), periodically, in a comparable manner.	Environmental Management Page 148-153 Performance Indicators Page 159 Statement of Compliance with Sustainability Principles, Page 188-189	
Discloses the details of the standards, protocols, methodology and base year it uses to collect and calculate its data.	Statement of Compliance with Sustainability Principles Page 188-189	
Explains the status of the environmental indicators (increase or decrease) for the year it has been reported in comparison with previous years.	Performance Indicators Page 159 Statement of Compliance with Sustainability Principles Page 188-189	
Sets short- and long-term targets to reduce its environmental impact and discloses these targets It is recommended that these are Science-Based Targets as suggested in the United Nations Conference of the Parties on Climate Change. Provides information whether there is an actual progress in the reporting year according to the goals set before.	Strategy Page 58-63 Environmental Management Page 148-153	
Explains the strategies and actions it takes against the climate crises.	Strategy Page 58-63 Sustainability at Tüpraş Page 117 Environmental Management Page 148-153	
Describes the program or procedures to prevent or minimize the potential negative impact of the products and / or services it offers; explains the actions of third parties to reduce greenhouse gas emissions.	Sustainability at Tüpraş Page 117 Statement of Compliance with Sustainability Principles Page 188-189	
Explains the actions taken to reduce its environmental impacts, the total number of projects and enterprises carried out, and the environmental benefits/ gains and cost savings they provide.	Sustainability at Tüpraş Page 117 Statement of Compliance with Sustainability Principles Page 188-189	
Reports the data of total energy consumption (excluding raw materials) and explains the energy consumption as Scope-1 and Scope-2.	Performance Indicators Page 159	
Provides information regarding the electricity, heat, steam and cooling which are generated and consumed during the reported year.	Environmental Management Page 148-153	
Carries out and explain studies on increasing the use of renewable energy, transition to zero or low carbon electricity.	Sustainability at Tüpraş Page 117 Environmental Management Page 148-153	
Discloses renewable energy production and consumption data.	Environmental Management Page 148-153	
Conducts energy efficiency projects and explains the amount of energy consumption and emission reduction with respect to these activities.	Performance Indicators Page 159 Energy Efficiency Page 154-157	

Explanation of Principle	Annual Report Section, Page Number	Links
Reports the amount of water withdrawn from surface and underground, water used, recycled and discharged, its sources and procedures (total withdrawal by source, water sources affected by water withdrawal; percentage and total volume of recycled and reused water, etc.).	Performance Indicators Page 159	
Explains whether its operations and activities are included in any carbon pricing system (emission trading system, Cap & Trade or carbon tax).	Environmental Management Page 148-153 Statement of Compliance with Sustainability Principles Page 188-189	
Explains information regarding the accumulated or purchased carbon credit during the reporting period.	Statement of Compliance with Sustainability Principles Page 188-189	
Explains the details if carbon pricing is executed within the partnership.	Statement of Compliance with Sustainability Principles Page 188-189	
Explains all compulsory and voluntary platforms where it discloses environmental information.	Environmental Management Page 148-153 Statement of Compliance with Sustainability Principles Page 188-189	
C. Social		
C1. Human Rights and Employee Rights		
Formulates the corporate Human Rights and Employee Rights Policy, which is fully compliant with the Universal Declaration of Human Rights, the ILO Conventions that Turkey has confirmed, and the legal framework and regulations governing the human rights and working life in Turkey. Discloses the policy in question and the roles and responsibilities associated with its implementation.	Human Resources Page 71	
Ensures equal rights regarding recruitment process. Taking the supply and value chain effects into account, it includes fair labor, improvement of labor standards, women's employment and inclusion issues (such as women, men, religious belief, language, race, ethnic origin, age, disability, refugee, etc.) in its policies.	Human Resources Page 73	
Explains the measures taken along the value chain to protect the rights of groups sensitive to certain economic, environmental, social factors (low-income groups, women, etc.) or measures taken for minority rights / equal opportunity.	Human Resources Page 73	
Reports developments on discrimination, inequality, human rights violations, and practices that prevent and correct forced labor. Explains the regulations which are against the employment child workers.	Human Resources Page 73	

INDEX OF EXPLANATIONS REGARDING SUSTAINABILITY PRINCIPLES

Explanation of Principle	Annual Report Section, Page Number	Links
It determines the processes of conflict resolution by establishing mechanisms for employee investment (training, development policies), compensation, vested benefits, union rights, work / life balance solutions and talent management. Regularly explains the activities carried out to ensure employee satisfaction.	Human Resources Page 74-79	
It develops occupational health and safety policies and makes them public. Explains the precautions taken for work accidents and health protection and accident statistics.	Health and Safety Practices Page 142-145	
Establishes the protection of personal data and data security policies and makes them public.	Risk Management Page 190	
Establishes a Code of Conduct (including work, work ethics, compliance processes, advertising and marketing ethics, open information, etc.) and shares them with the public.	Human Resources Page 72	
Explains the works within the scope of social investment, social responsibility, financial inclusion and access to finance.	Social Responsibility Page 164-169	
Organizes informative meetings and training programs for employees on ESG policies and practices.	Performance Indicators Page 158-163	
C2. Stakeholders, International Standards and Initiatives		
Conducts activities in the field of sustainability, taking into account the needs and priorities of all stakeholders (employees, customers, suppliers, and service providers, public institutions, shareholders, community and non-governmental organizations, etc.).	Sustainability at Tüpraş Page 115-116	
Puts in order a customer satisfaction policy regarding the management and resolution of customer complaints and makes public disclosure.	Sustainability at Tüpraş Page 115-116	
Conducts a continuous and transparent communication with stakeholders; It evaluates which stakeholders, their purpose, the issue and frequency of the communication, and the progresses in sustainability activities.	Sustainability at Tüpraş Page 115-116	
Discloses the international reporting standards it has adopted (Carbon Disclosure Project (CDP), Global Reporting Initiative (GRI), International Integrated Reporting Council (IIRC), Sustainability Accounting Standards Board (SASB), The Task Force on Climate-related Financial Disclosures (TCFD), etc.) to the public.	Sustainability at Tüpraş Page 115-117	

Explanation of Principle	Annual Report Section, Page Number	Links
Whether one is a signatory or a member, it provides disclosure of the international organizations or principles (Equator Principles, United Nations Environment Programme - Finance Initiative (UNEP-FI), United Nations Global Compact (UNGC) Principles, United Nations Principles for Responsible Investment (UNPRI), etc.), and the international principles it has adopted (International Capital Market Association (ICMA) Green/Sustainable Bond Principles) to the public.	Sustainability at Tüpraş Page 113-116	
Shows concrete efforts to incorporate with Borsa Istanbul Sustainability Index and international sustainability indices (Dow Jones Sustainability Index, FTSE4Good, MSCI ESG Indices, etc.).	Sustainability at Tüpraş Page 115	
D. Corporate Governance		
Corporate Governance Principles		
Makes the maximum effort to comply with all Corporate Governance Principles as well as the Corporate Governance Principles that must be mandatorily applied according to the Capital Markets Board Corporate Governance Communiqué No II-17.1	Information about Corporate Governance Page 173	
Takes the issue of sustainability, environmental impacts of its activities and principles in this regard into consideration while determining its corporate governance strategy.	Sustainability at Tüpraş Page 112	
Takes the necessary measures to comply with the principles regarding the stakeholders and to strengthen the communication with the stakeholders, as stated in the Corporate Governance Principles. Consults to the opinions of stakeholders in determining measures and strategies in the field of sustainability.	Sustainability at Tüpraş Page 115-117	
Operates on raising awareness on the issue of sustainability and its importance, through social responsibility projects, awareness activities and trainings.	Performance Indicators Page 158-163	
Strives to become a member of international standards and initiatives on sustainability and show contribution to studies.	Sustainability at Tüpraş Page 116-117	
Explains anti-bribery and corruption policies and programs in line with the principle of honesty in terms of tax.	Information about Corporate Governance Page 174/180	

GLOSSARY

GLOSSARY OF TERMS

ACHIEF	Innovative high performance Alloys and Coatings for Highly Efficient intensive energy processes
AÇEV	Mother Child Education Foundation
AHT	Absorption Heat Transformer
APC	Advanced Process Control
APH	Air Preheater
API	The American Petroleum Institute gravity, or API gravity, is a measure of how heavy or light petroleum liquid is compared to water.
API754	Process Safety Performance Indicators
AquaSPICE	Advancing Sustainability of Process Industries through Digital and Circular Water Use Innovations
ARU	Amine Regeneration Unit
ASRFO	Atmospheric Straight Run Fuel Oil
ASTM	American Society for Testing and Materials
BAMBOO	Boosting new Approaches for flexibility Management By Optimizing process Off-gas and waste use
BAT	Best Available Technology
BIMCO	Baltic and International Maritime Council
BIZEOLCAT	Bifunctional Zeolite Based Catalysts and Innovative Process for Sustainable Hydrocarbon Transformation
CBAM	Carbon Border Adjustment Mechanism
CCPS	Chemical Process Safety Center
CCR REFORMER	Continuous Catalytic Regeneration Reformer
CDU	Crude Distillation Unit
CIF	Cost, Insurance & Freight
CORALIS	Creation Of new value chain Relations through novel Approaches facilitating Long-term Industrial Symbiosis
COZMOS	Efficient CO ₂ conversion over multisite Zeolite-Metal nanocatalysts to fuels and OlefinS
CRM	Customer Relationship Management
CWTP	Chemical Water Treatment Unit
ÇED	Environmental Impact Assessment
ÇSY	Environment, Social and Governance
DAP	Delivered at Place
DBO	Digital Based Operations
DCS	Distributed Control System
DECOKER	Delayed Coker
DHP	Diesel Desulfurization
DSS	Dupont Sustainable Solutions

GLOSSARY OF TERMS

DWT	Deadweight Tonnage
DYS	Change Management System
EBH	Ebullated Bed Hydrocraker
EBIO	Biofuels through Electrochemical transformation of intermediate BIO-liquids
EFQM	European Foundation for Quality Management
EII	Energy Intensity Index
ENVER	Energy Efficiency
EPC	Engineering, Procurement and Construction
EPC-EqTech	An innovative turnkey solution to process spent caustic created in the Oil&Gas industry at low-cost and that meets wastewater regulations
EPDK	Energy Market Regulatory Authority
ESD	Electrostatic Discharge
ETS	Emissions Trading System
EUREKA	European Research Coordination Agency
EURO 3	Euro Emission Standard (Max. Sulphur 350 ppm)
EURO 4	Euro Emission Standard (Max. Sulphur 50 ppm)
EURO 5	Euro Emission Standard (Max. Sulphur 10 ppm)
EX	Employee Experience
FACTLOG	Energy-aware Factory Analytics for Process Industries
FAT	Factory Acceptance Test
FAVÖK	EBITDA
FCC	Fluid Catalytic Cracking Unit
FED	Federal Reserve Bank
FOB	Free On Board
FP7	The Seventh Framework Program
GDR	Global Depositary Receipt
GES	Solar Power Plant
GMB	Security Centered Maintenance
GTL/CTL	Gas to Liquid, Coal to Liquid
HAY	Debugging Method
HAZOP	Hazard and Operability Study

GLOSSARY

GLOSSARY OF TERMS

HCM	Human Capital Management
HDS	Hydro Desulphurisation
HORIZON	EU Research and Innovation Framework Program
HRSG	Heat Recovery Steam Generator
HSRN	Heavy Straight-Run Naphtha
HVGO	Heavy Vacuum Gas Oil
HYDROKRAKER	Hydrocracker-Conversion Unit
HYDROPTICS	Photonics sensing platform for process optimization in the oil industry
IEA, UEA	International Energy Agency
ILO	International Labour Organization
IMO	International Maritime Organization
Indus3Es	Industrial Energy and Environment Efficiency
IOPC	International Oil Pollution Compensation Funds
IRATA	Industrial Rope Access Trade Association
ISM	International Safety Management
ISPS	International Ship and Port Security Rules
İPG	Business Plastics Initiative
İTA	Job Hazard Analysis
KBS	Boiler Feed Water
KKO	Capacity Utilization Rate
KOK	Persistent Organic Pollutants
KPI	Key Performance Indicators
LCGO	Light Cycle Gas Oil
LCGO/HCGO	Light/Heavy Gas Oil
LPG	Liquid Petroleum Gas
LSRN	Light Straight Run Naphtha
MACBETH	Membranes And Catalysts Beyond Economic and Technological Hurdles
ME	Mechanical Availabilities
MOF4AIR	Metal Organic Frameworks for CO ₂ Adsorption Processes in Power Production and Energy Intensive Industries
MTBE	Methyl Tertiary-Butyl Ether
NELSON COMPLEXITY	White Product Yield Ability
NFPA	National Fire Protection Association

GLOSSARY OF TERMS

NHT	Naphtha Hydrotreatment Unit
OCIMF	The Oil Companies International Marine Forum
OEА	Operational Availabilities
OECD	Organisation for Economic Co-operation and Development
OKR	Objective Key Results
OSAR	Event Classification, Research and Reporting
OSGB	Public health and safety unit
OSHA	Occupational safety and health administration
PCT	International Patent Protection
PETDER	Petroleum Industry Association
PMR	Partnership of Market Readiness
POX	Partial Oxidation
PPM	Parts Per Million
PRT	Power Recovery Turbine
PT	Penetrant Test
QDMS	Quality Documentation Management System
RAYEP	Refining Training Program
RBI	Technical Risk Control
RDT	Risk Evaluation Chart (REC)
RES	Wind Power Plant
RGY	Risk and Reliability Management
RON	Research Octane Number
RPA	Robotic Process Automation
RTK	Risk-Based Control
RUP	Residuum Upgrading
SAF	Sustainable Aviation Fuel
SAP	Systems Applications and Products in Data Processing
SDA	Solvent Deasphalting Unit
SEQ	HSE
SEQ-K	Health, Safety, Environment and Quality
SEVESO-II	Prevention of Major Industrial Accidents and Mitigation of Impacts on Regulation

GLOSSARY

GLOSSARY OF TERMS

SMR	Stream Methane Reformer
SOME	Corporate Cyber Incident Response Team
SPARAT	Society of Professional Rope Access Technicians
SRD	Health Risk Assessment
SWS	Sour Water Stripping Unit
SWS	Sour Water Stripping Unit
TAEK	Turkey Atomic Energy Agency
TAS	Terminal Automation System
TCFD	Task Force on Climate Related Financial Disclosures
TEX	Tüpraş Employee Experience
TEYDEB	Technological and Support Programs Department
TEYS	Management Process of the Dangers and Effects
TİSK	Confederation of Employers' Unions of Turkey
TMSA 2	Tanker Management Self-Assessment 2
TPE	Tons Petroleum Equivalent
TPP	Thermal Power Plant
TÜLOMSAŞ	Turkey Locomotive and Engine Industry Inc
TÜRKAK	Turkish Accreditation Agency
UN WEPs	United Nations Women's Empowerment Principles
UN Women	United Nations Women's Unit
VAP	Efficiency Enhancement Project
VDU	Vacuum Distillation Unit
VGO	Vacuum Gasoil
VLCC	Very Large Crude Carrier
VOC	Volatile Organic Compounds
VRES	Variable Renewable Energy Sources
WCGI	World Corporate Governance Index
WEF	World Economic Forum
WTI	West Texas Intermediate
YDA	Lifecycle Analysis
ZBB	Zero Based Budget

GLOSSARY OF UNITS

m ³	Cubic Meter
MW	Megawatt
KG	Kilogram
GRT	Gross Tonnage
M/T	Million Tons
KW	Kilowatt
KWh	Kilowatt Hour
m ²	Square Meter
CO ₂	Carbon Dioxide
Gcal	Giga Calories
Ton CO ₂ e	Ton Carbon Dioxide Equivalent
TJ	Terajoule
MJ	Megajoule
j	Joule
Mt	Million Ton
t	Ton
bpd	Barrel per Day
MtOE	Million Ton of Oil Equivalent
mmcf	Million Cubic Feet
g/l	Gram/Liter
ppm	Number of Parts per Million
N	Newton

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
BİST Kodu	TUPRS
Reuters Kodu	TUPRS.IS
Bloomberg Kodu	TUPRS.TI
Halka Arz Tarihi	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

