



Energy To the future

 **Tüpraş**

 **Koc** | May 2023

Investor Presentation

Disclaimer

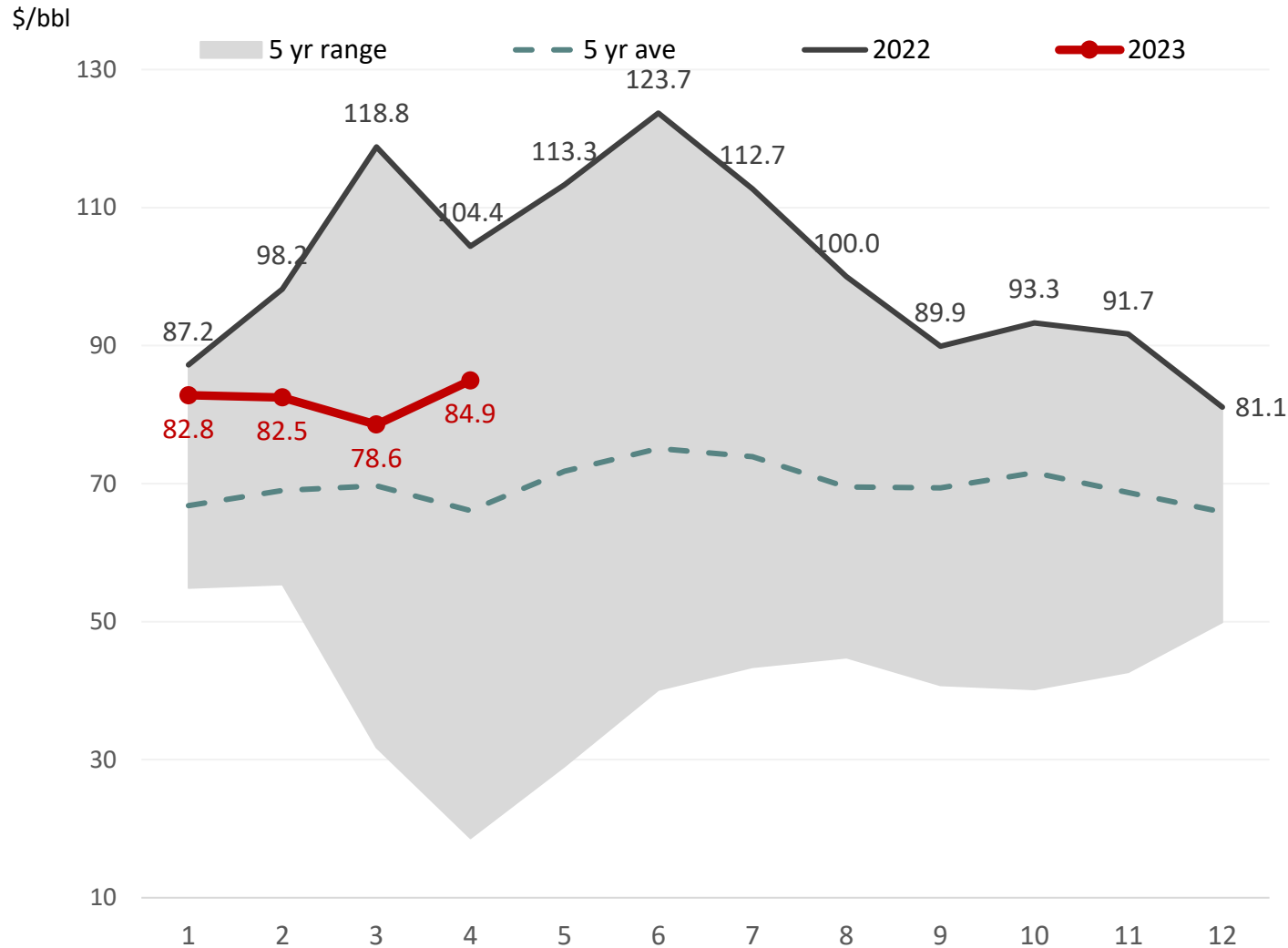
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Refining Market

Brent Crude Prices



- + Russian-Ukraine war
- + Impact of sanctions
- + Post-pandemic demand recovery

- Recession fears
- Zero Covid Policy and its impact on Chinese demand
- SPR releases

Year	Average Brent Prices (\$/bbl)
2018	71.0
2019	64.3
2020	41.7
2021	70.7
2022	101.2

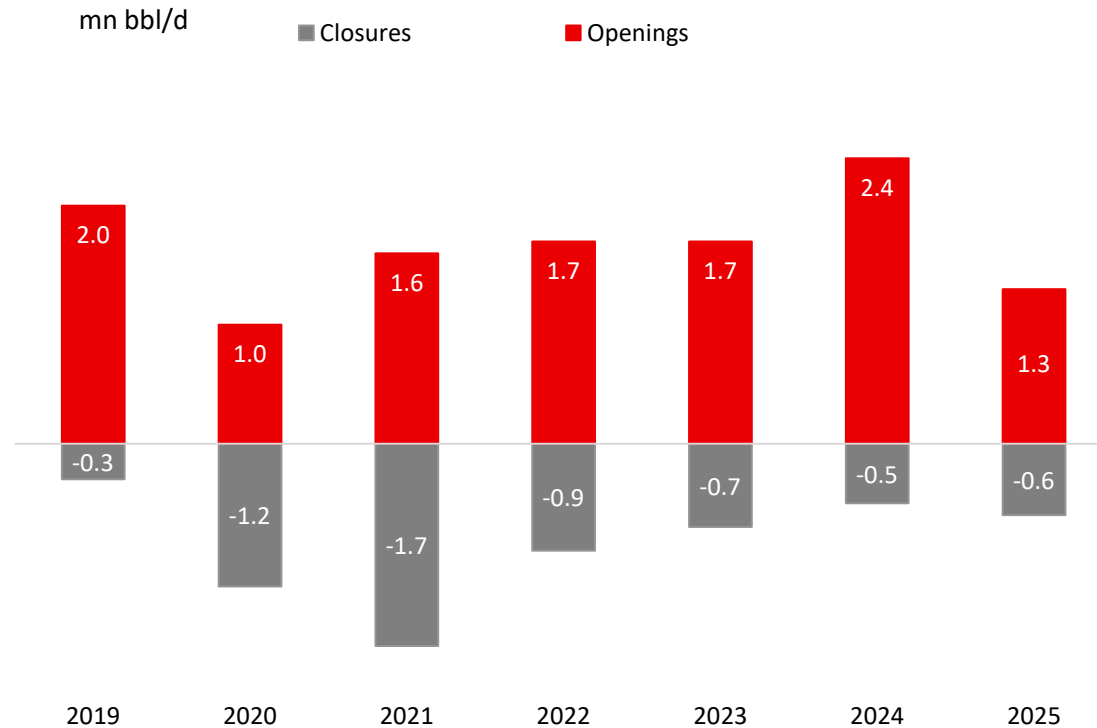
data as of 30 April 2023, 5 year range shows 2018-2022

Global Refinery Capacity Changes

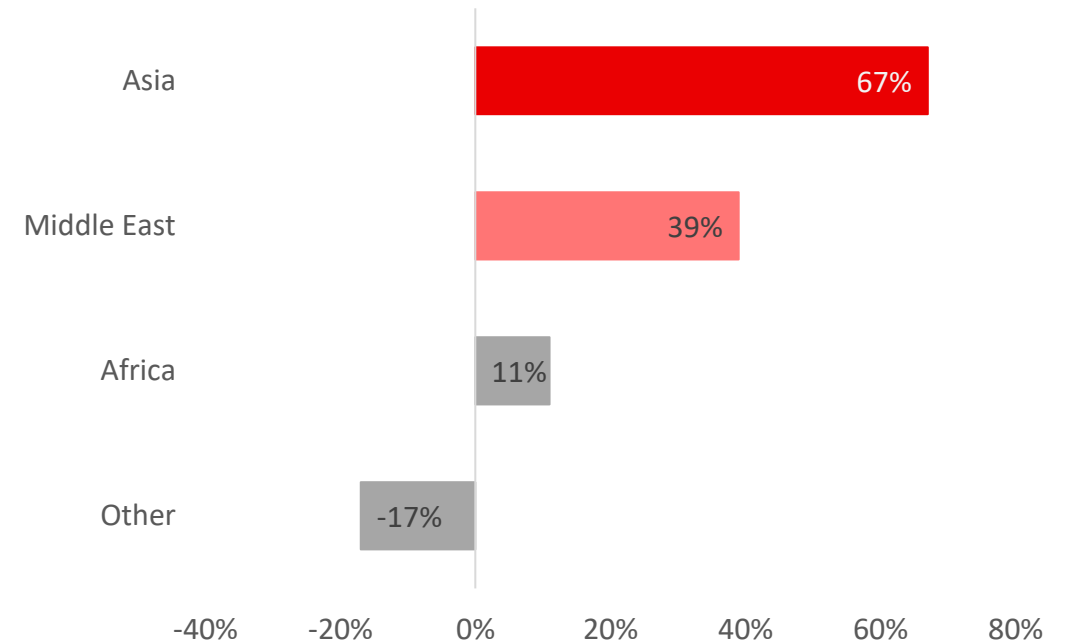
Expectations until 2025:

- In the 2019-2025 period, 67% of the net capacity increase comes from Asia and 39% from the Middle East Region.
- 67% of the closures intensified after the pandemic come from the OECD region.

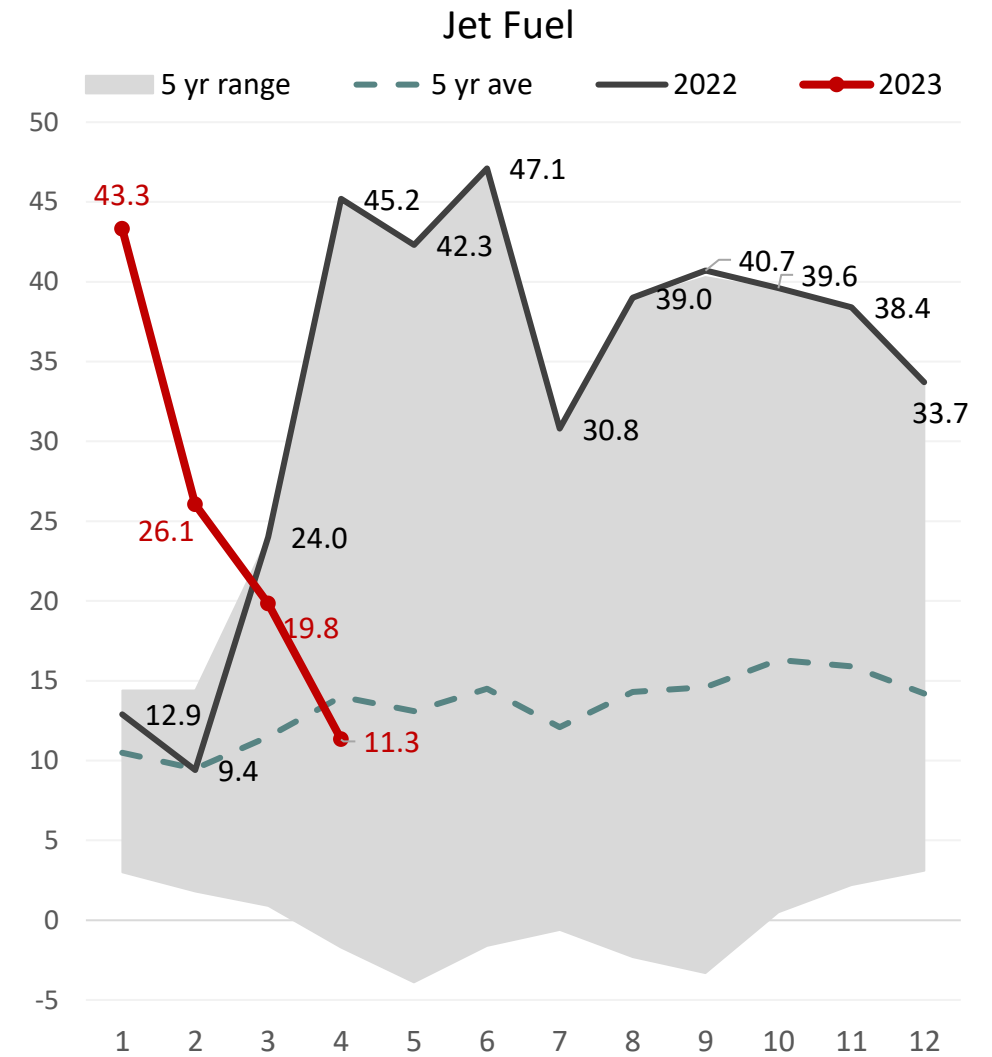
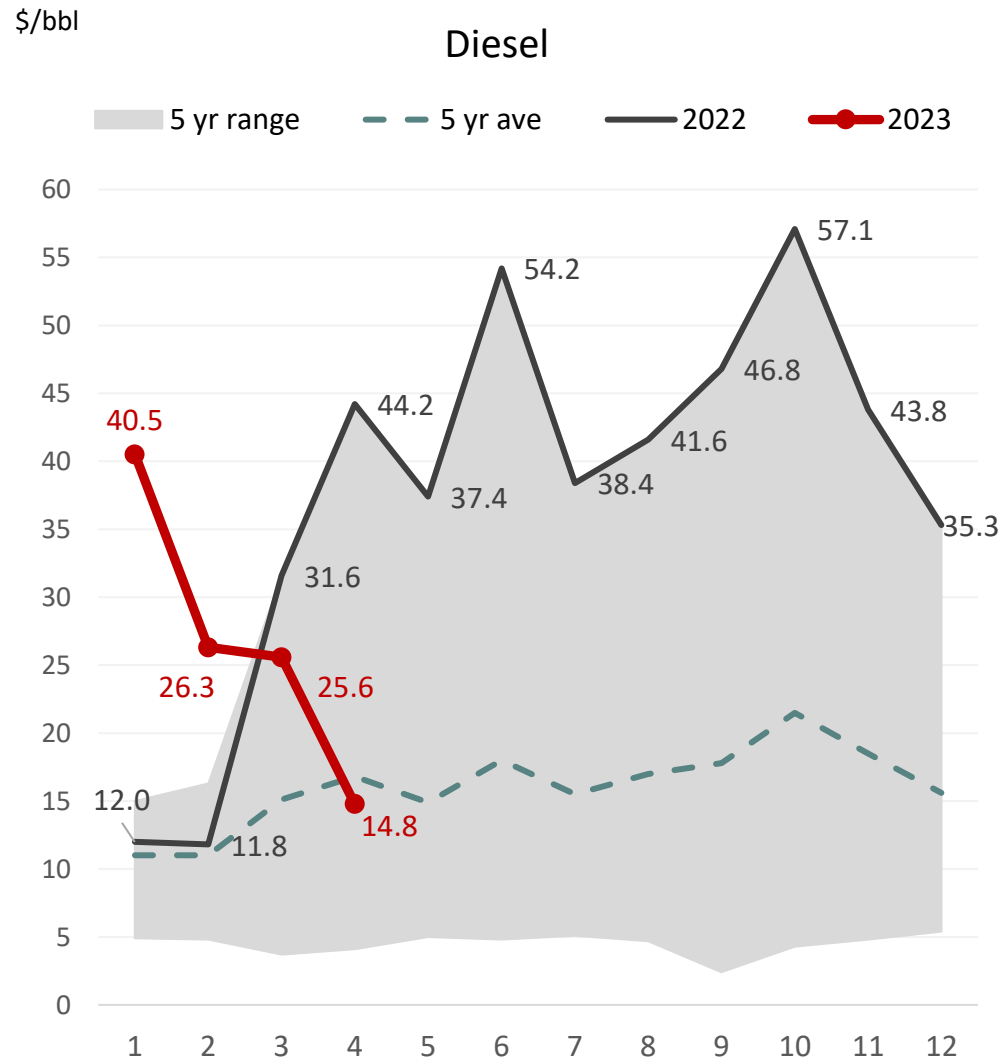
2019-2025 Net Capacity Additions



Capacity Additions by Region

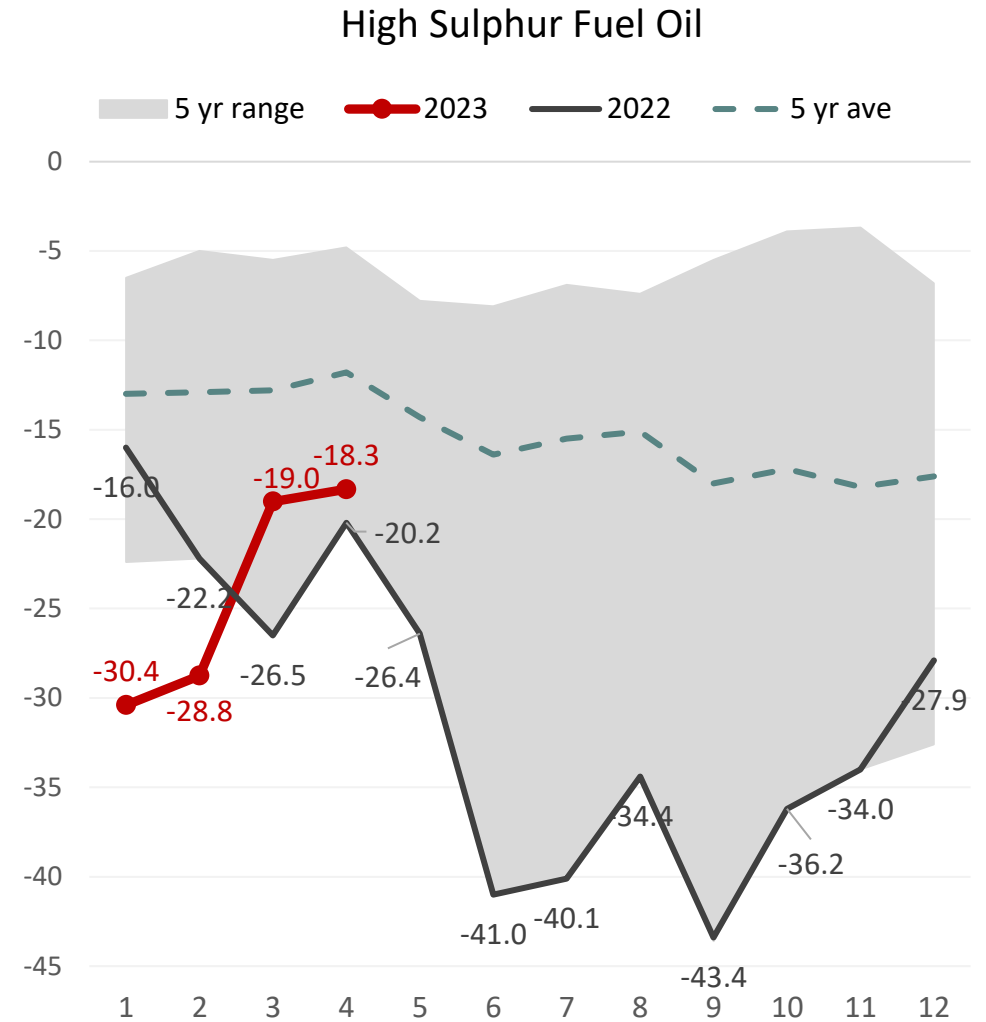
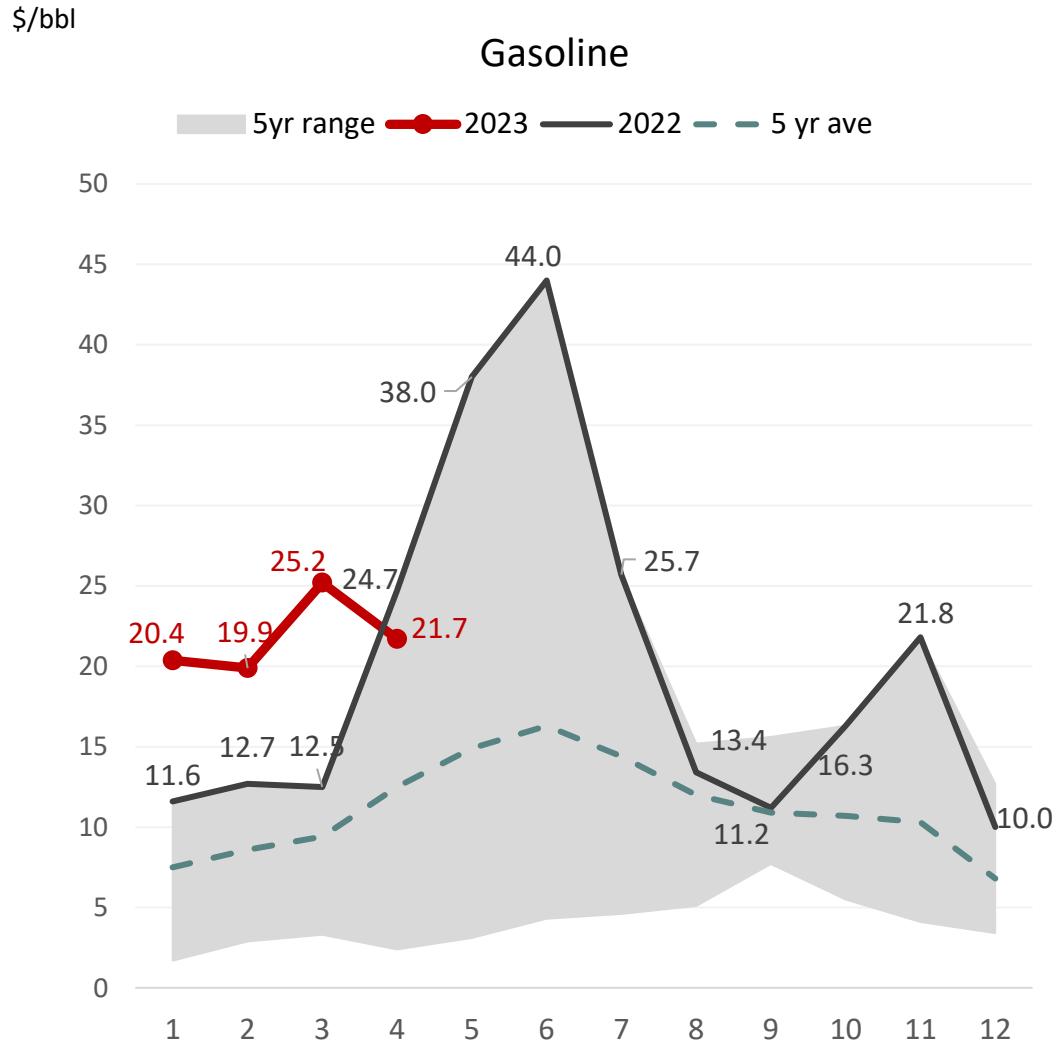


Middle Distillate Cracks



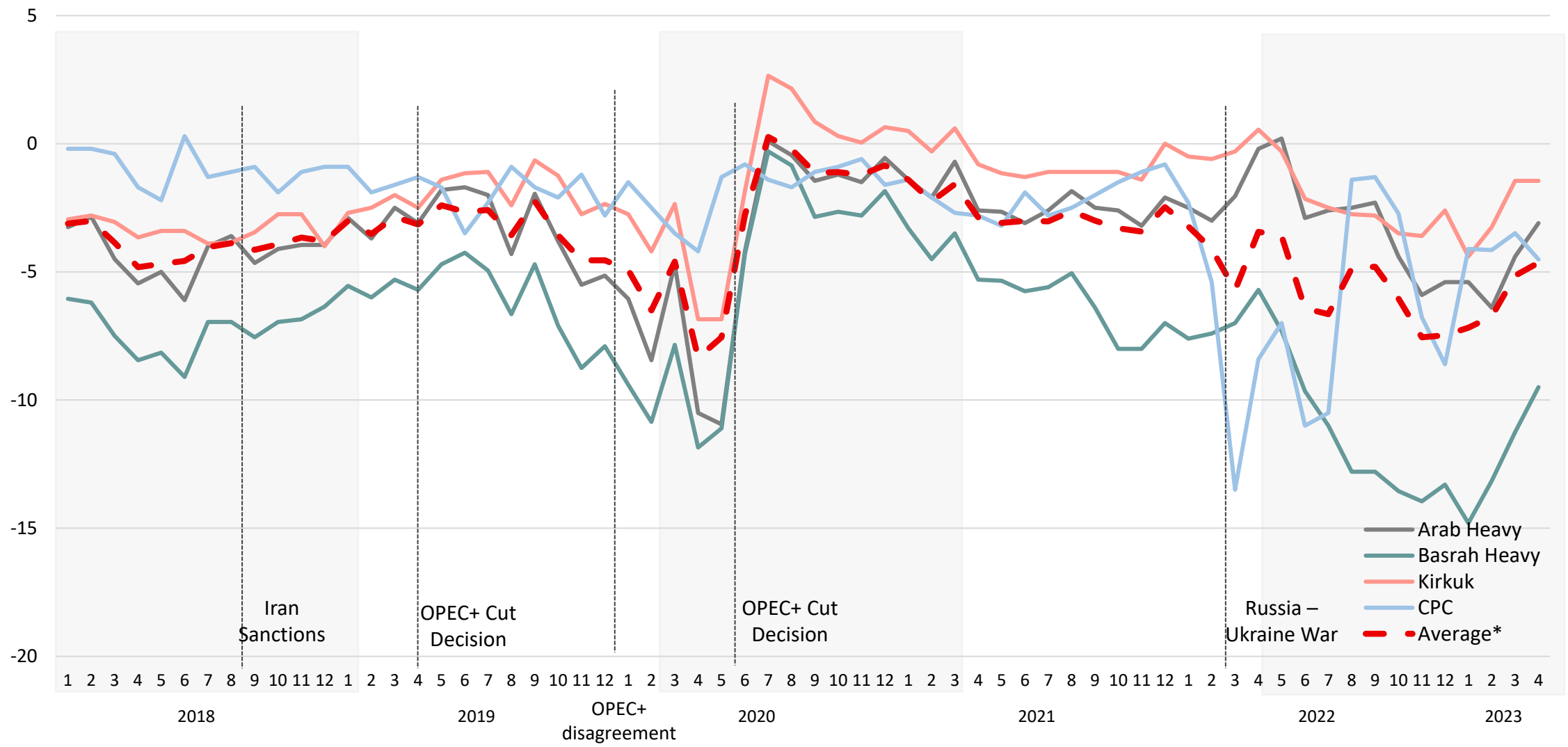
data as of 30 April 2023, 5 year range shows 2018-2022

Gasoline and High Sulphur Fuel Oil Cracks



data as of 30 April 2023, 5 year range shows 2018-2022

Heavy Crude Price Differentials to Brent (\$/bbl)



data as of 30 April 2023

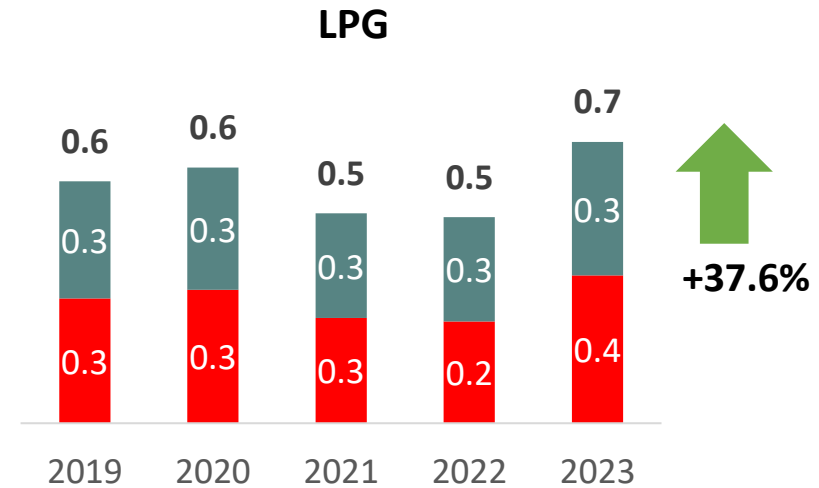
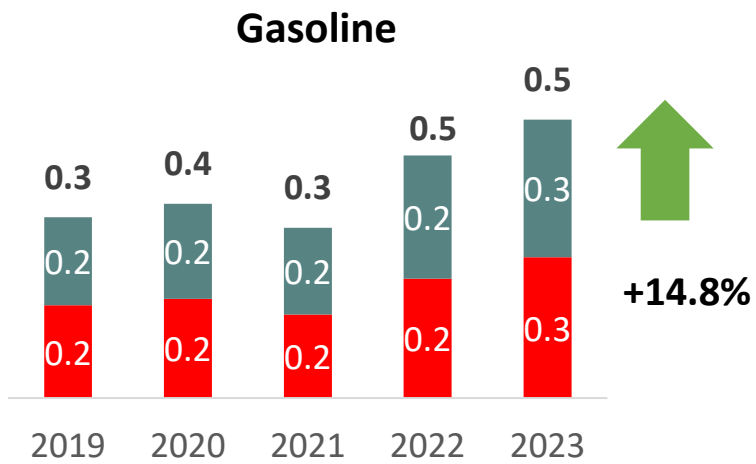
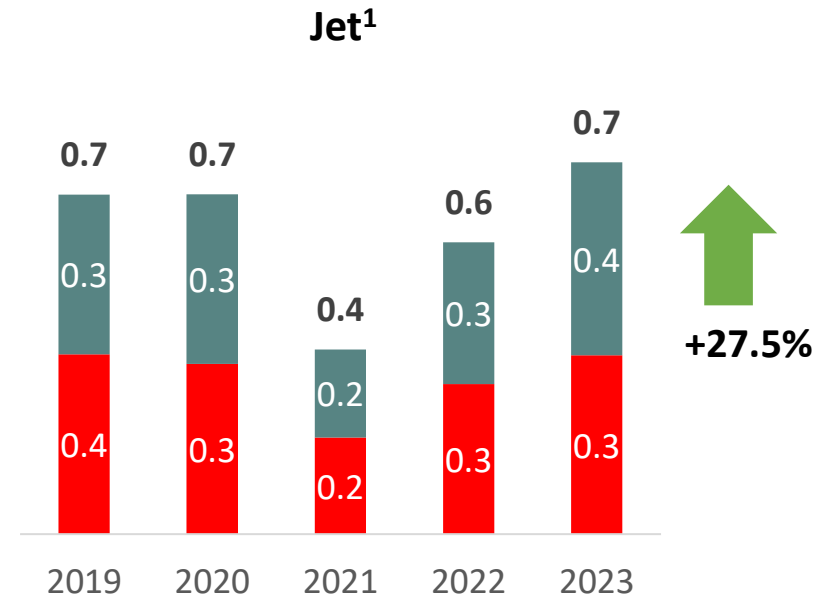
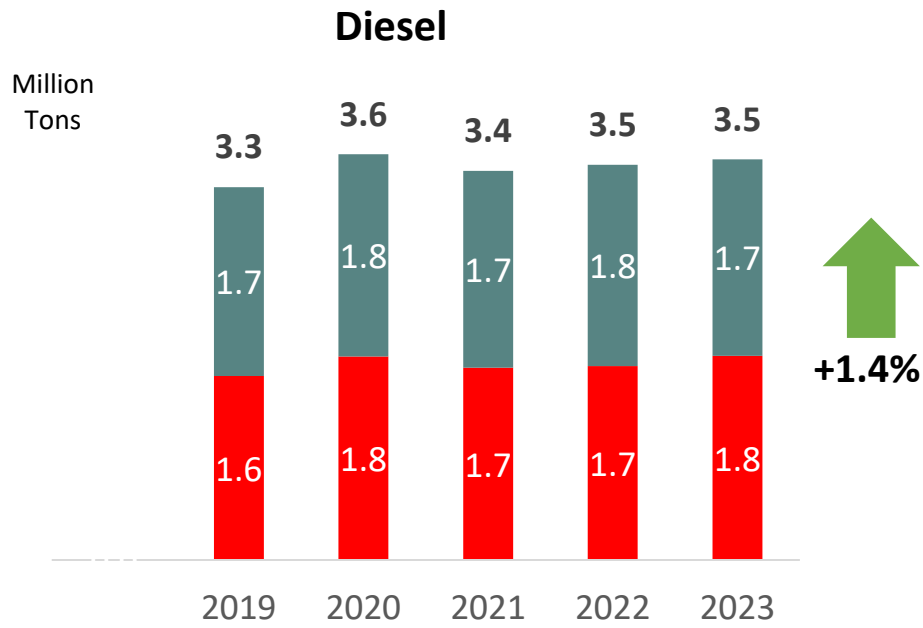
*Simple average of listed differentials



Turkish Market

Turkish Market, 2M 2023

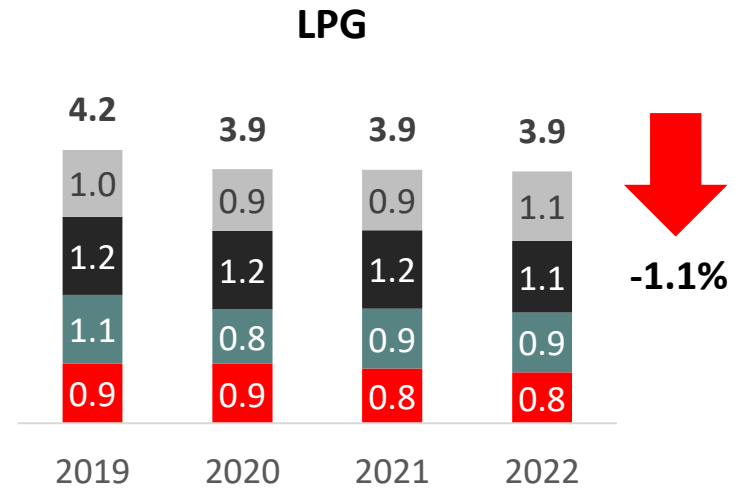
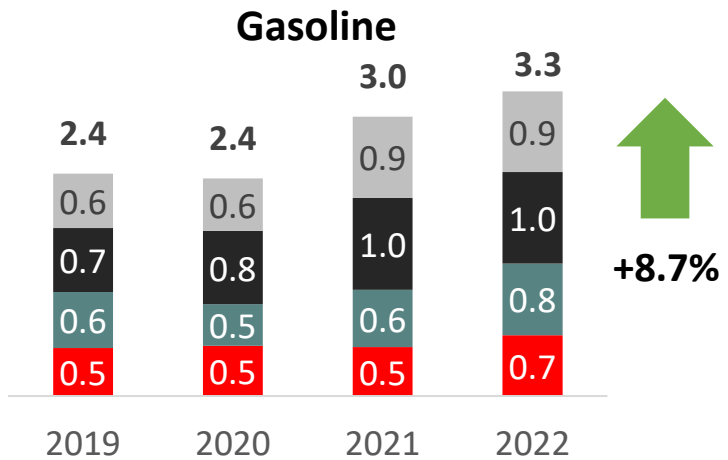
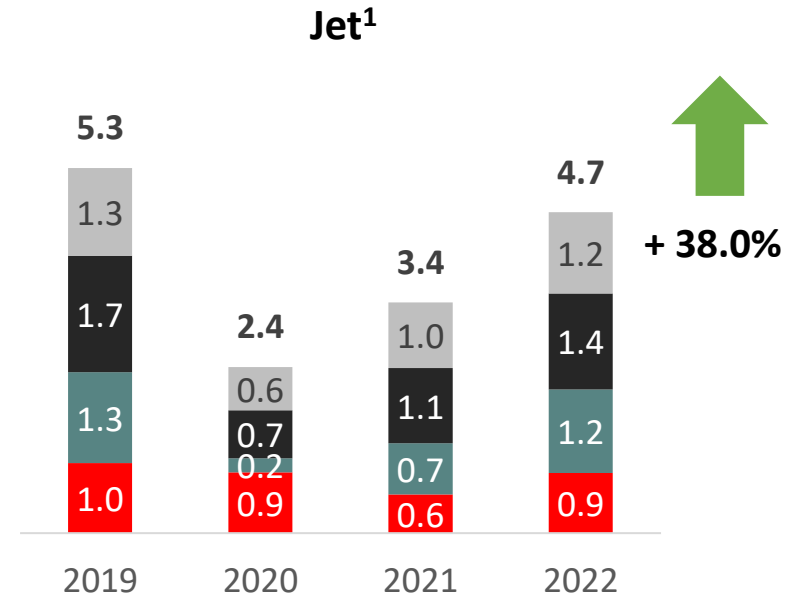
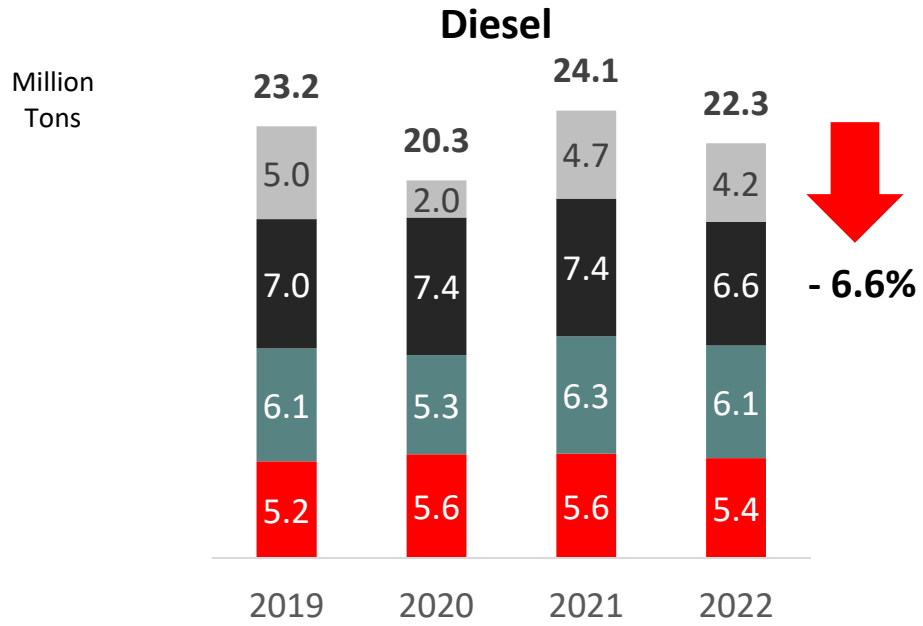
Jan Feb



¹Transit flight consumption included

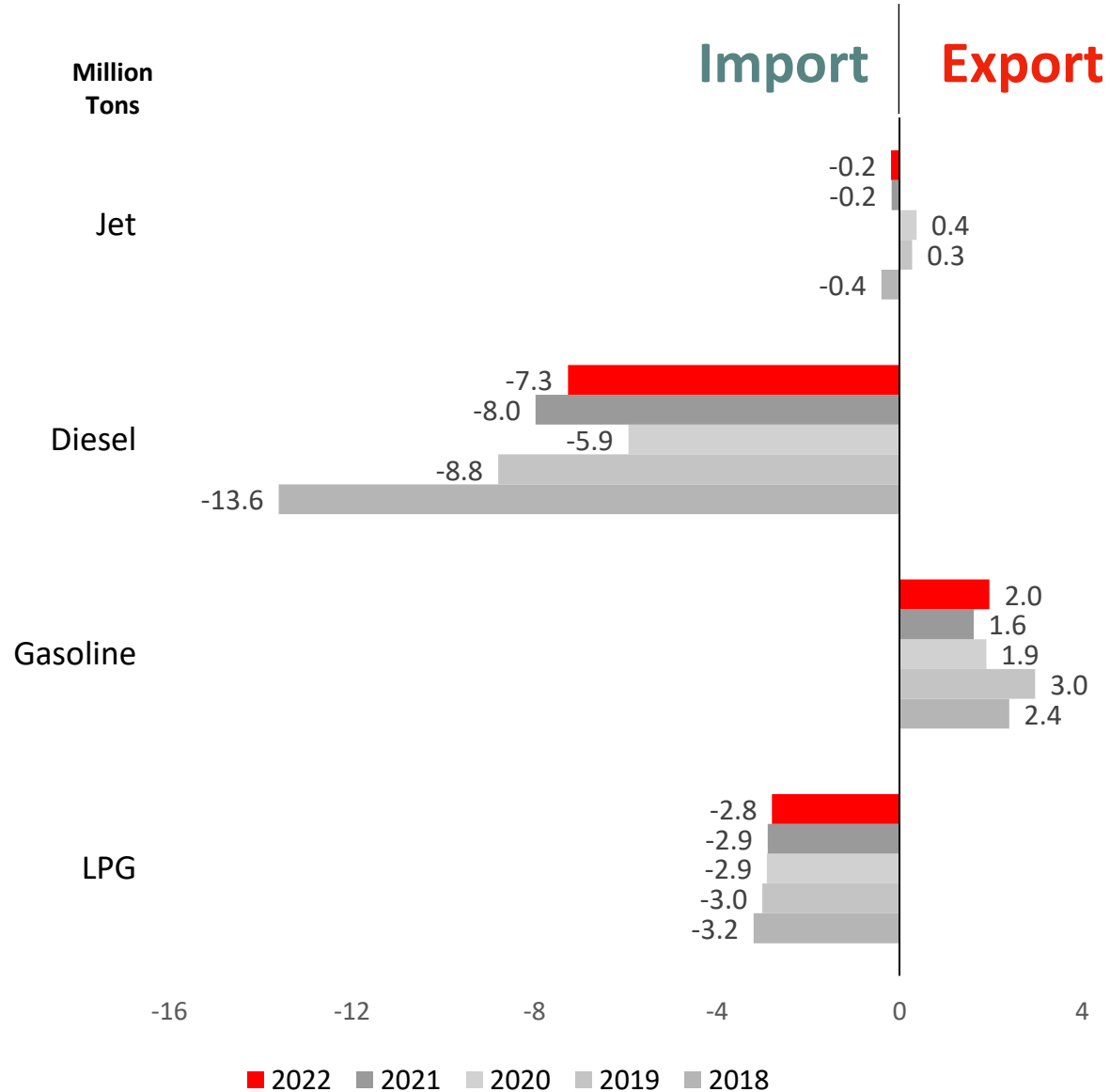
Turkish Market, 12M 2022

■ Q1 ■ Q2 ■ Q3 ■ Q4



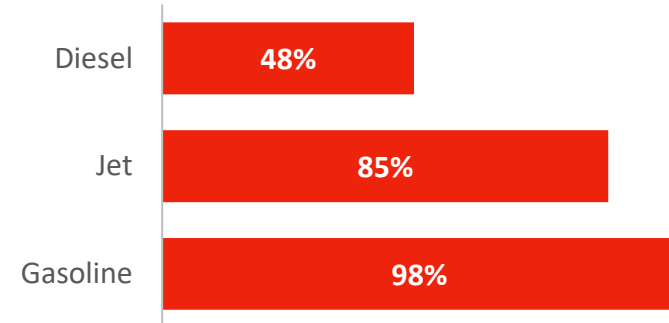
¹Transit flight consumption included

Turkey's Net Import / Export Balance

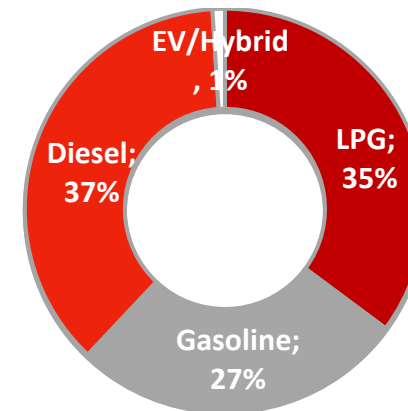


Market Share of Tüpraş

2022 12M



Fuel Choice of Passenger Cars 2022

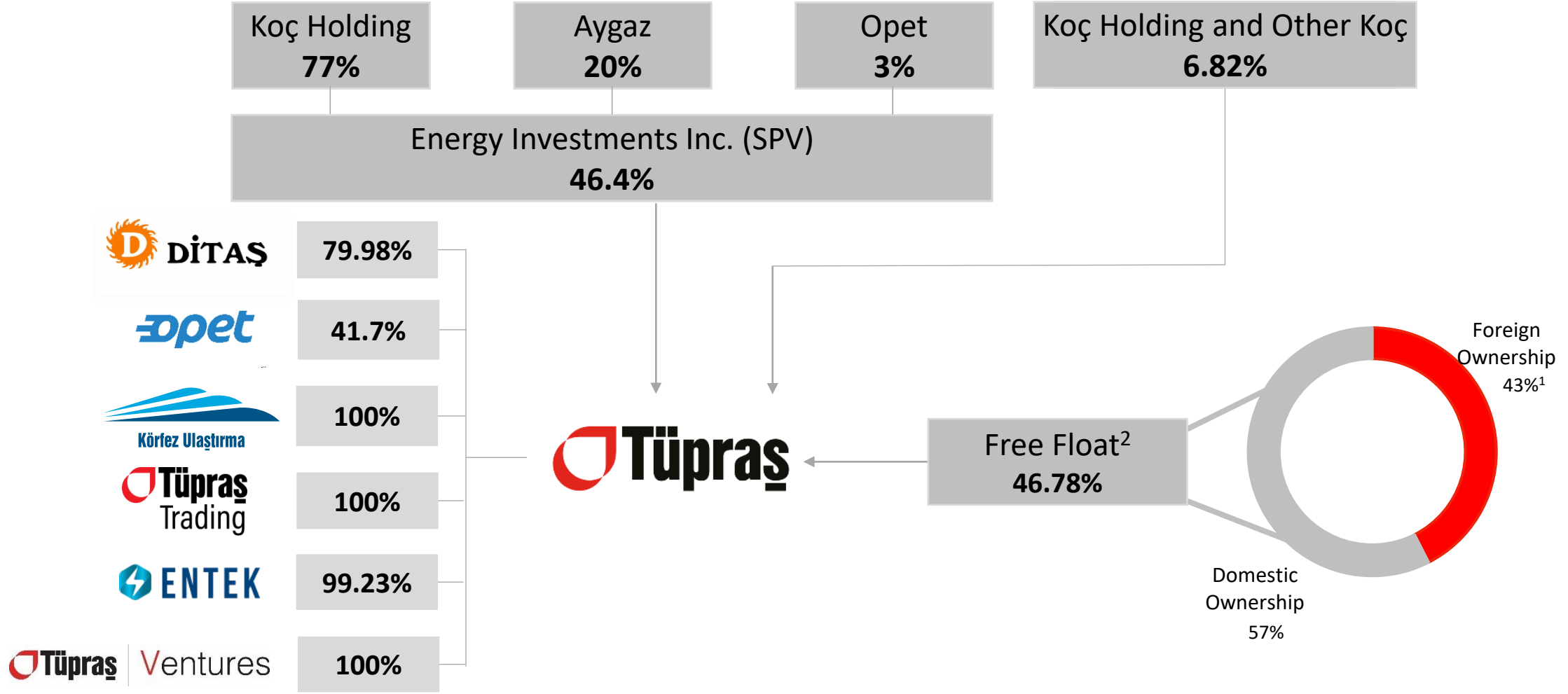




Company Overview

Tüpraş Shareholder Structure

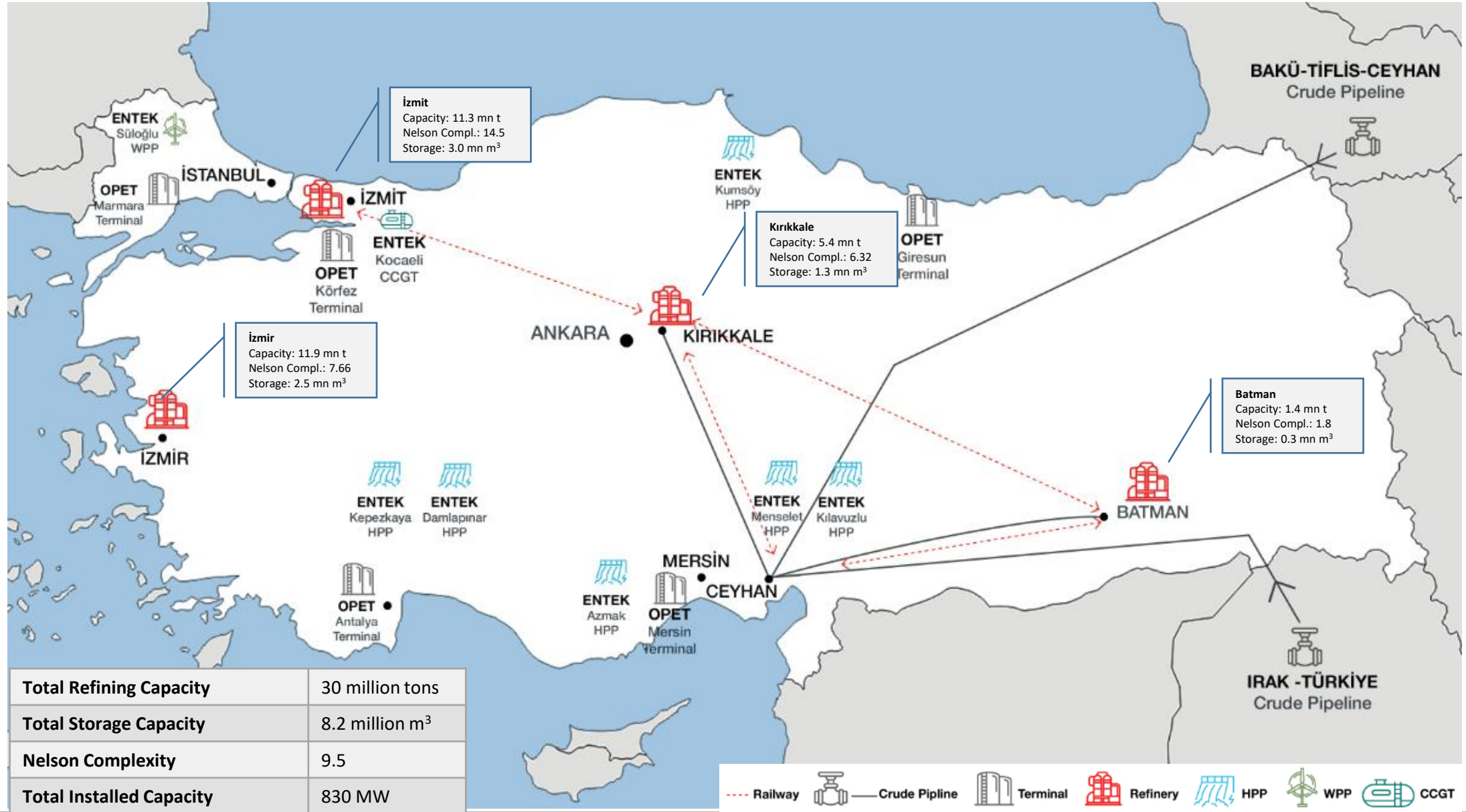
Tüpraş is Turkey's biggest industrial company and leading refiner.



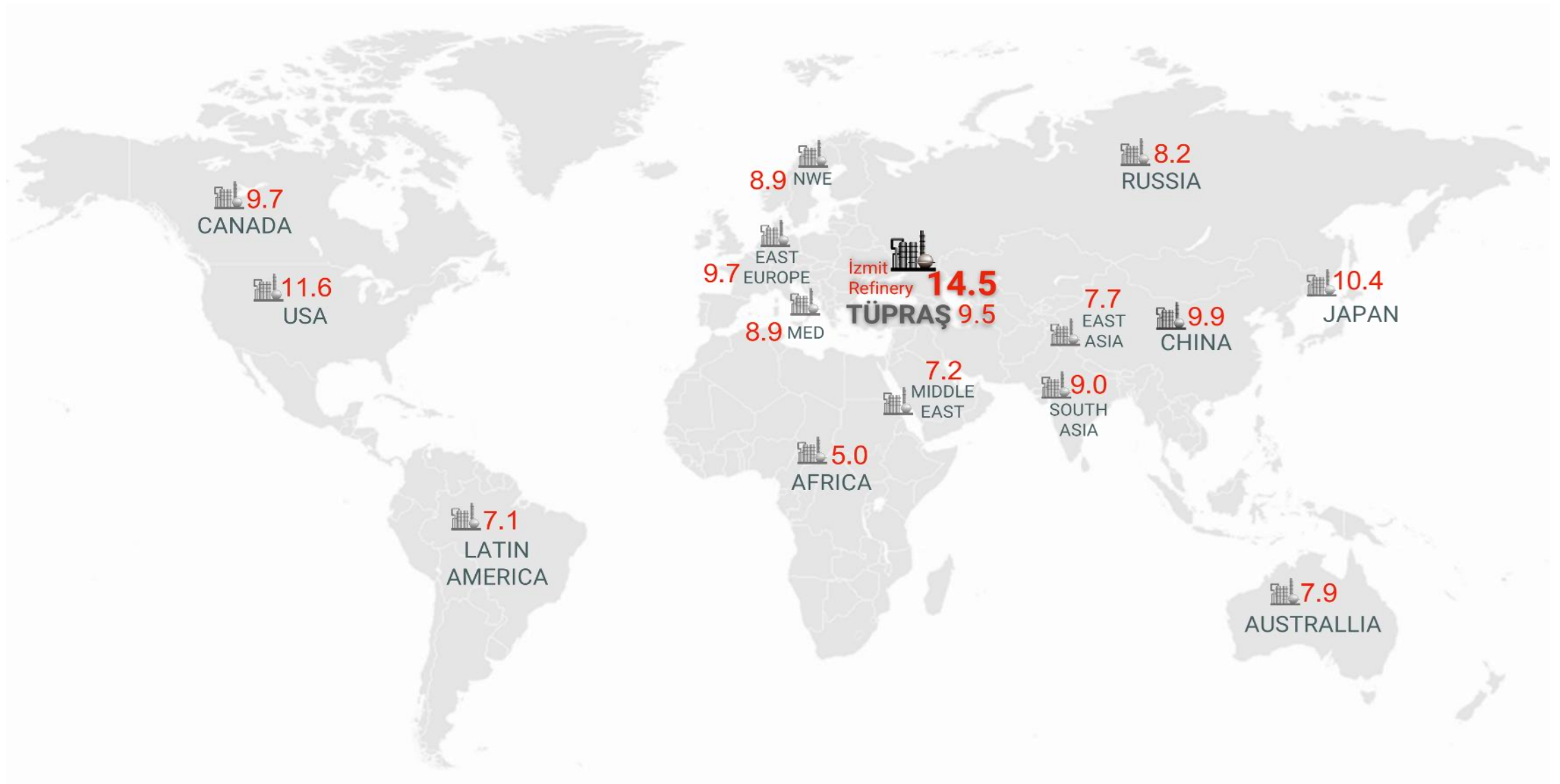
¹ As of December 31st, 2022

² Includes %1.11 shares of Liquid Petroleum Co.

Tüpraş' Refining Assets & Distribution Network



Nelson Complexity of Refining Companies



OPET - Distribution



Tüpraş Share: 41.7%

- 1,866 stations as of 31 March 2023.
- As of January 2023 Market share: 20.3% in white products; 30.2% in black products

Tüpraş Trading UK - Trading



Tüpraş Share: 100%

- Over 8 million tons of product trade**
More than 10 million tons of spot crude oil connections
- Trading Office in London is important for wider integration with the global energy landscape by allowing to:
 - Closely monitor international market opportunities
 - Support import and export operations
 - Create additional value from supply chain and sales activities

DİTAŞ - Marine Transport



Tüpraş Share: 79.98%

- 4 Crude Oil Tanker: 470,067 DWT
- 7 Product Tanker: 116,533 DWT
- 4 Bitumen Tanker: 61,450 DWT

Körfez Ulaştırma - Railway Transport

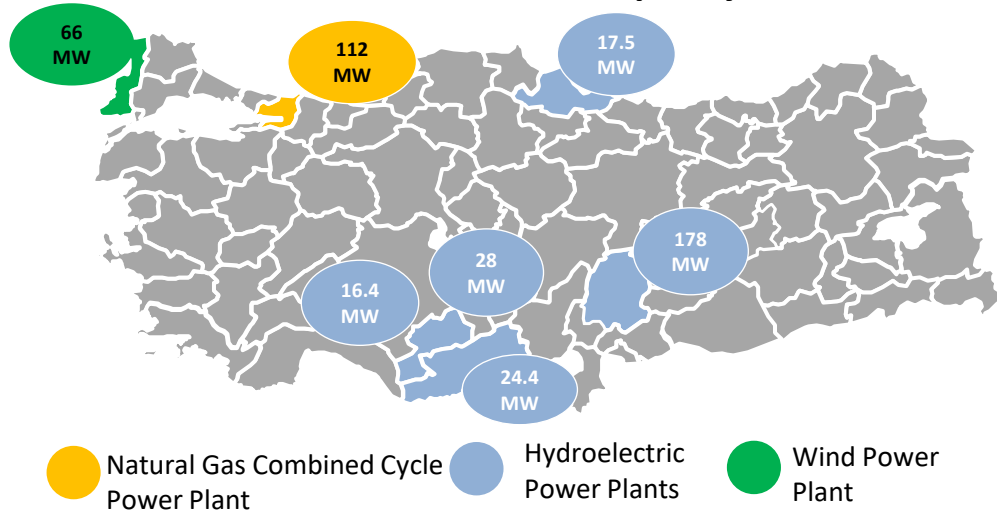


Tüpraş Share: 100%

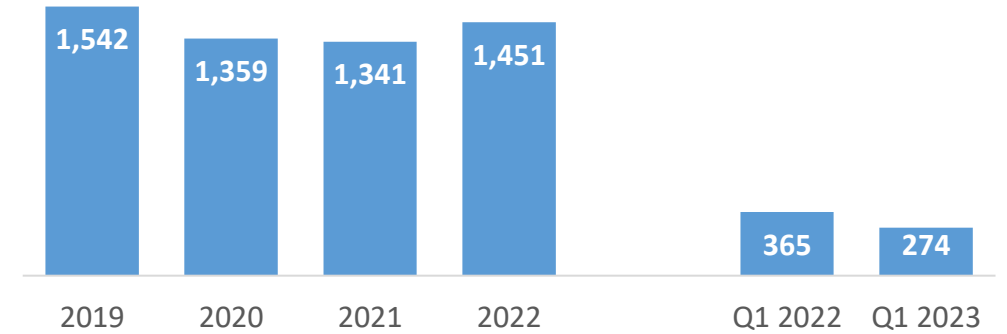
- ~5% share in Turkish rail freight market
- ~2.5 mn ton of product and semi-product carried in 2022
- Operates with 12 locomotives (7 of them are hybrid) and 519 cistern wagons

Entek - Electricity (Tüpraş Share: 99.23%)

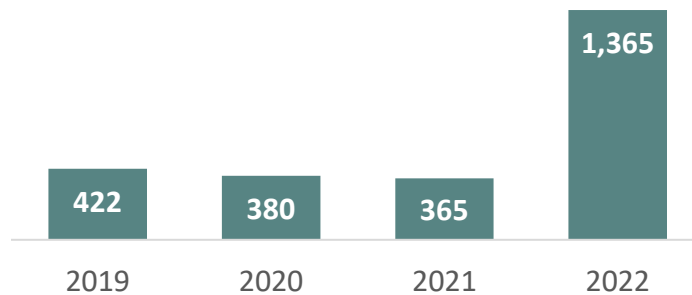
Entek's Installed Capacity



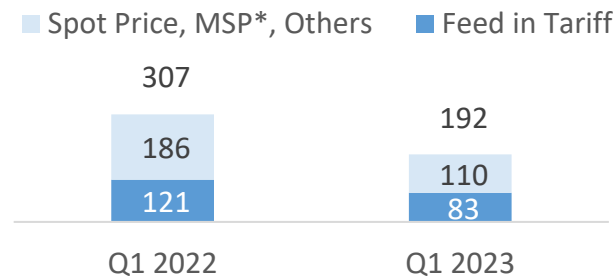
Production (000 MWh)



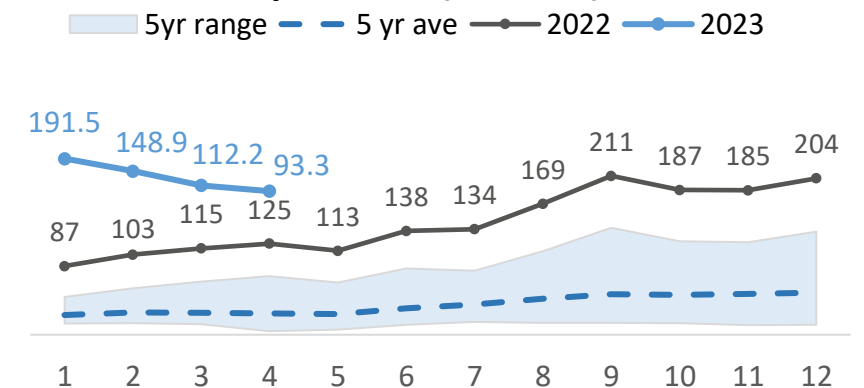
EBITDA (million TL)



Total ZCE Sales from Production (GWh)



Spot Price (\$/MWh)

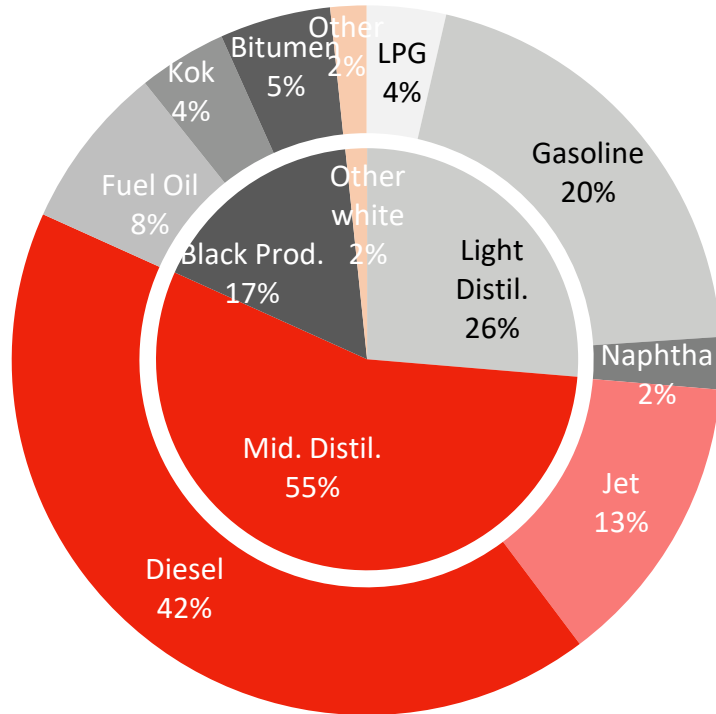




Operations

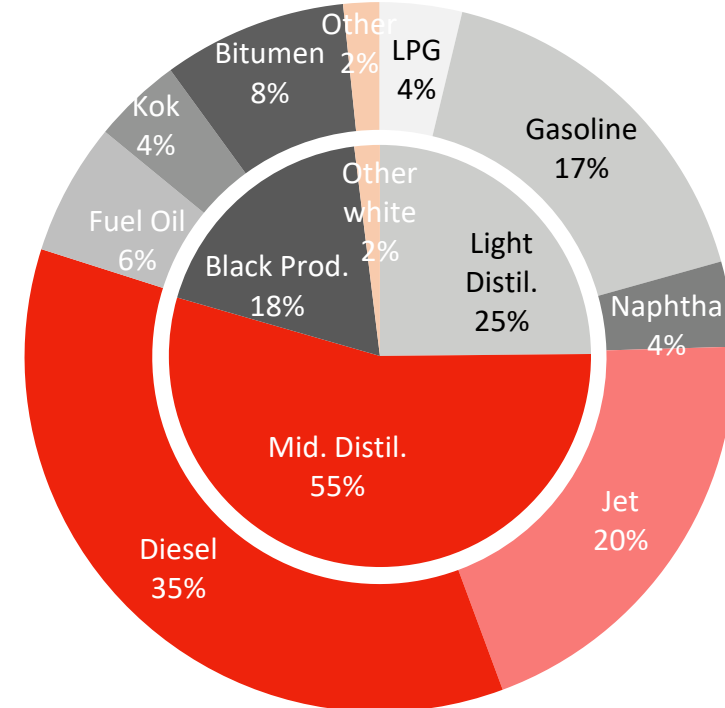
Q1 Product Yields

Q1 2022



White Product Yield (%)	82.1%
Production	6.0 mn tons
API	31.3

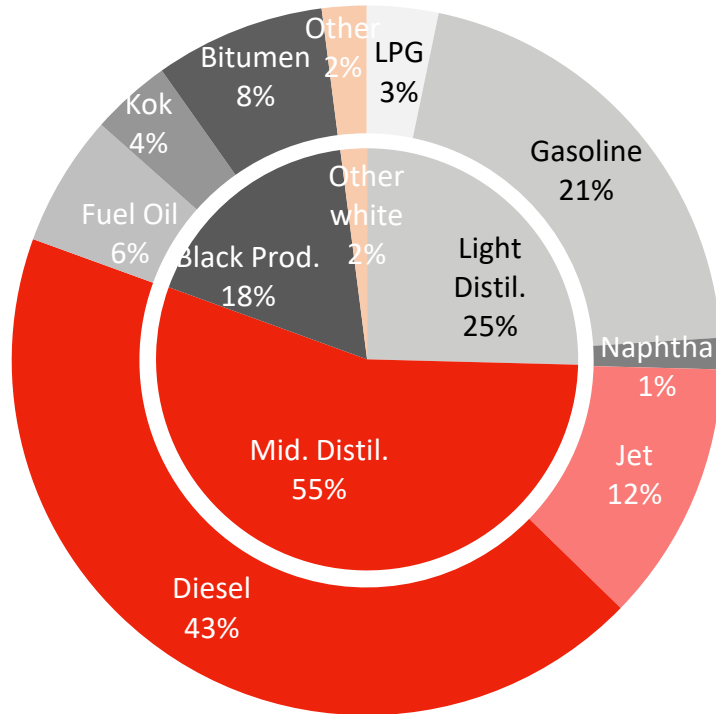
Q1 2023



White Product Yield (%)	80.2%
Production	5.0 mn tons
API	31.1

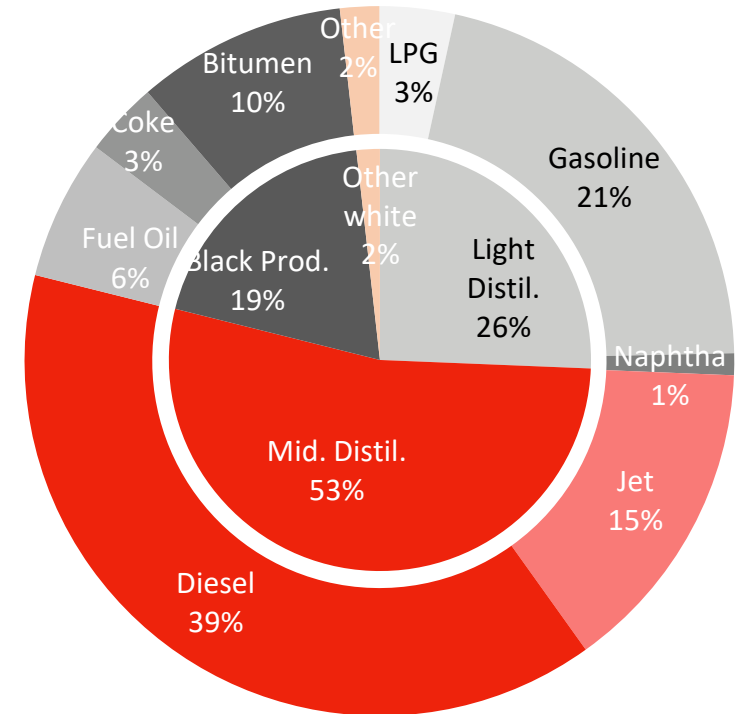
Annual Product Yields

12M 2021



White Product Yield (%)	81.4%
Production	25.1 mn tons
API	31.2

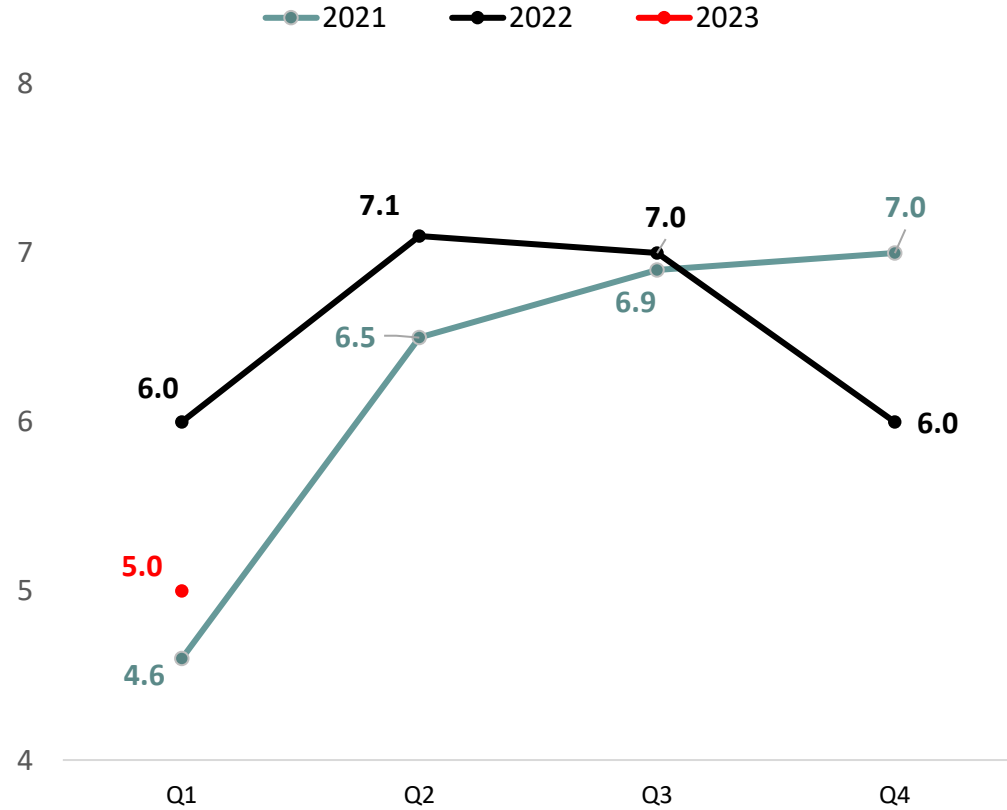
12M 2022



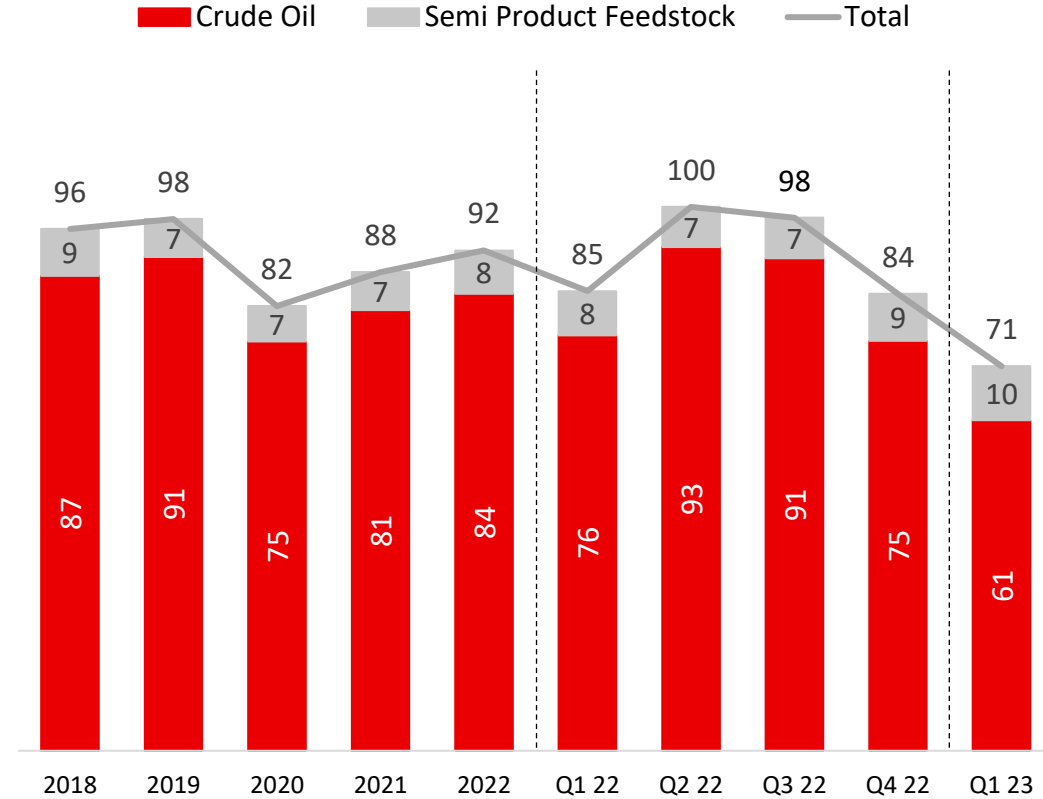
White Product Yield (%)	80.0%
Production	26.0 mn tons
API	31.1

Capacity Utilization and Quarterly Production Volume

Quarterly Production (Million Tons)



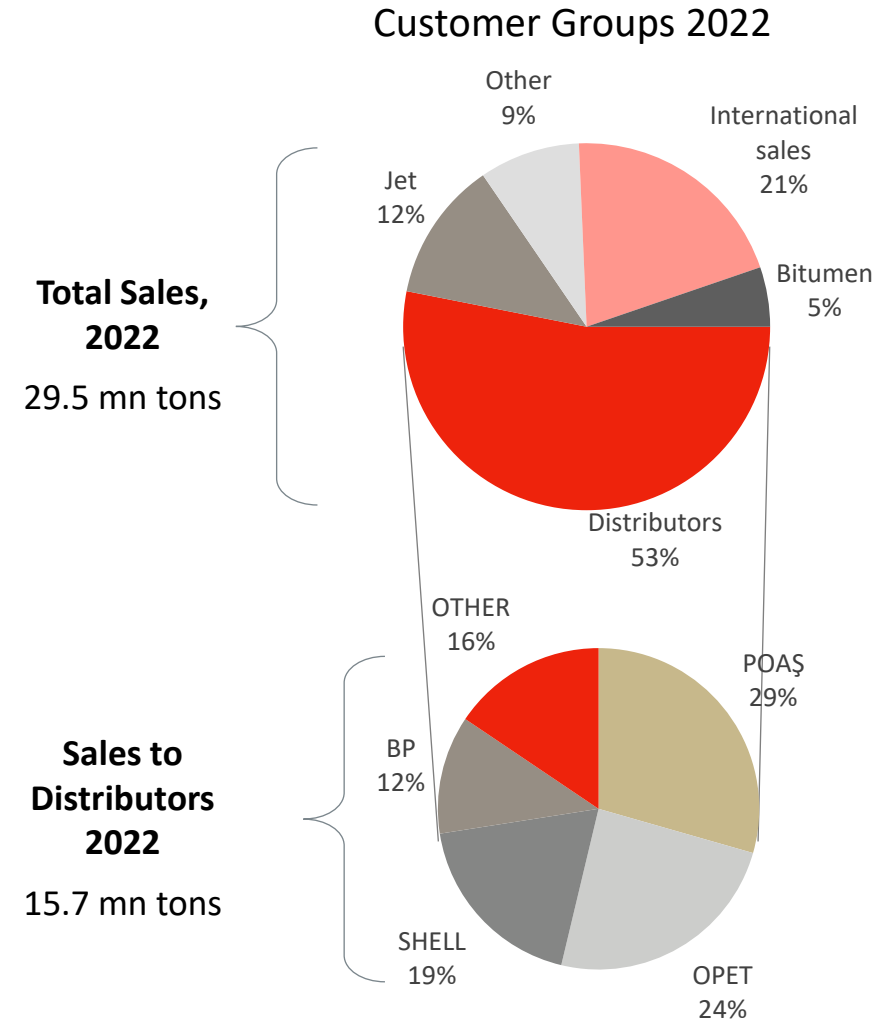
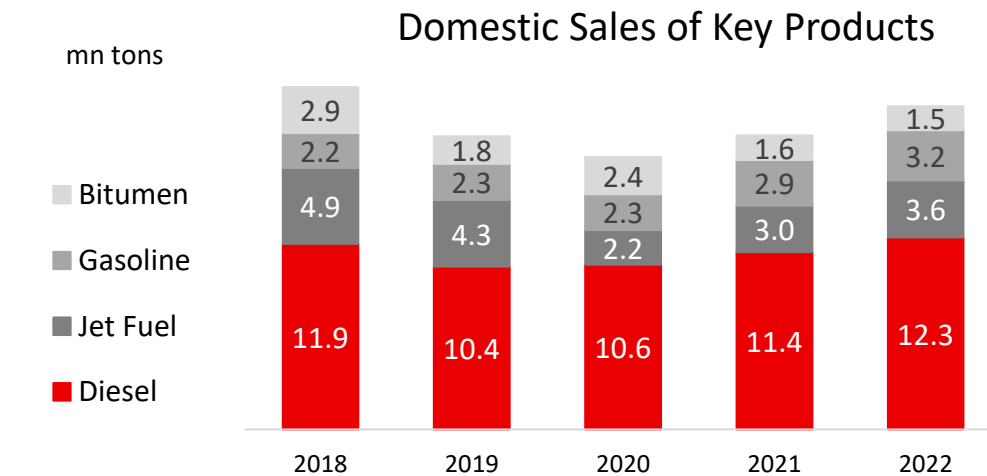
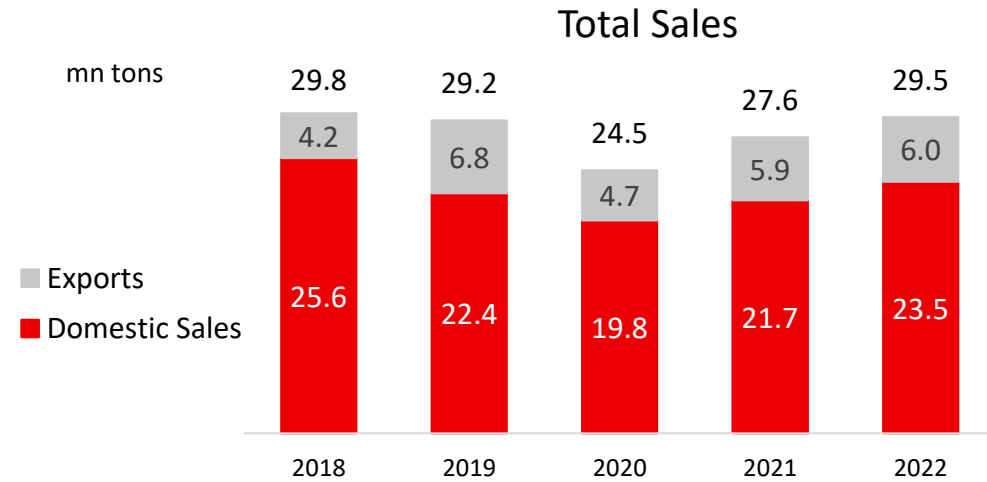
Capacity Utilization (%)



*Capacity utilization calculation is based on 30 mn tons for Q1 2019 and onwards.

Sales

- Tüpraş generated 29.5 million tons of total sales in 2022.



Product Sales in Q1 2023 (Million Tons)

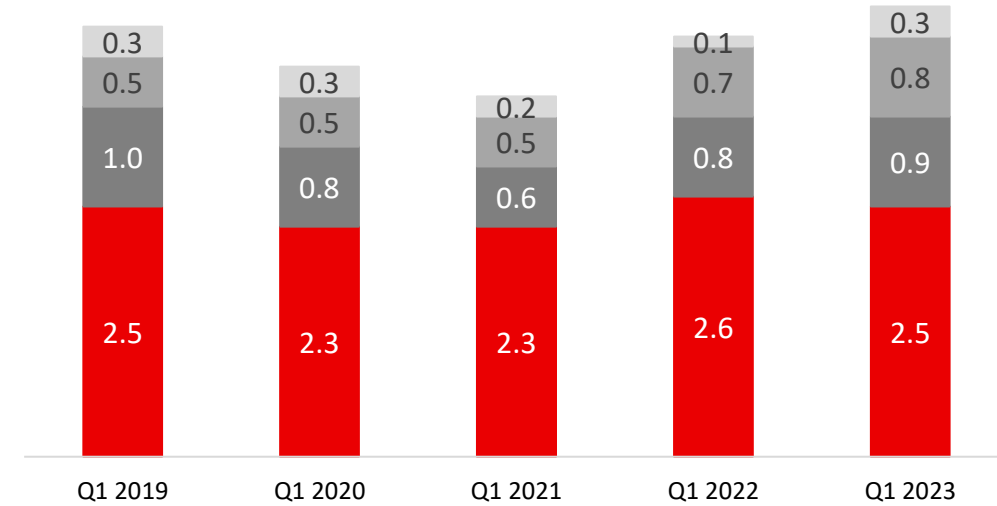
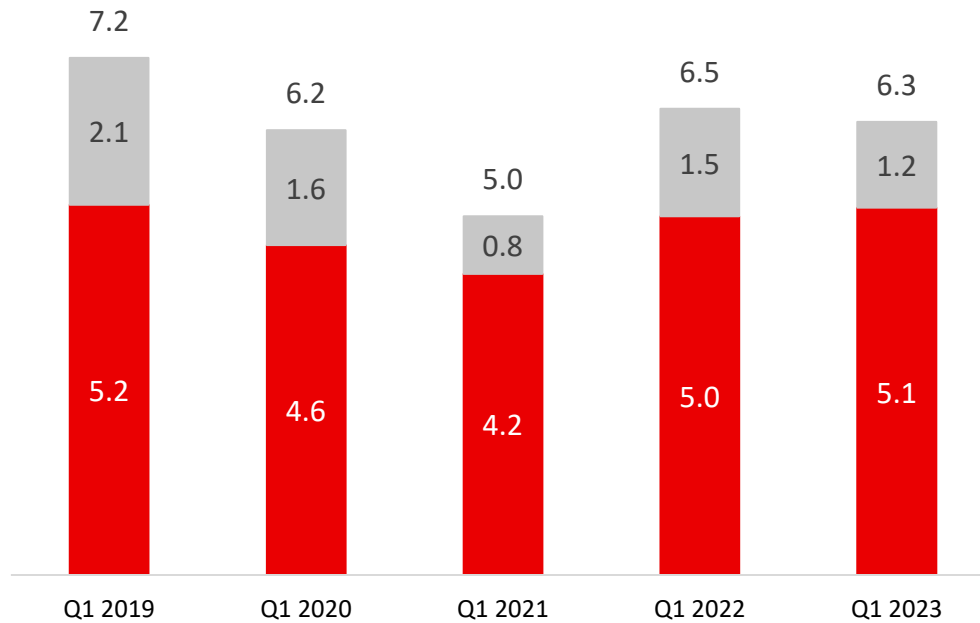
- Tüpraş generated 6.3 million tons of sales in Q1 2023, 4% lower y-o-y.
- Domestic sales were 3% higher y-o-y in Q1 2023 with better gasoline, jet fuel and bitumen sales.

Total Product Sales

Domestic Sales of Selected Products

■ Domestic Product Sales ■ International Sales

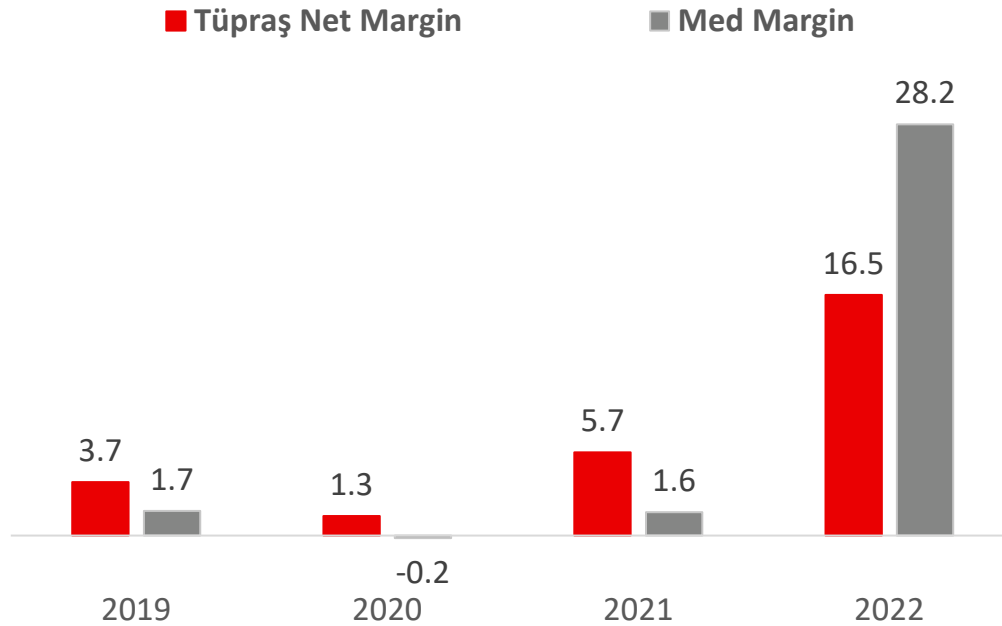
■ Diesel ■ Jet Fuel ■ Gasoline ■ Bitumen





Financials

Tüpraş and Med Refining Margins



	(\$/bbl)	Gross Margin	Inventory Effect	Clean Gross Margin	Clean NET Margin	Net Margin	Med Margin*	Processed bbl (mn)
Q1 2023		20.5	0.5	20.1	8.8	9.3	32.7	38.4
12M 2022		23.9	0.7	23.2	15.8	16.5	28.2	198.8
Q1 2022		11.8	4.7	7.1	0.5	5.2	9.5	45.9
12M 2021		10.5	2.1	8.4	3.6	5.7	1.6	190.2

Premium to the benchmark Mediterranean peers' refining margin due to:

- Ability to use heavier and sour crudes with higher complexity
- Access to a wide range of cheaper sources of crude oil
- Close proximity to major suppliers reduces transport costs
- Lower cost basis and more efficient energy usage
- Ability to produce a broad range of refined products with higher value added
- Direct pipeline connections with domestic clients

* Weight of Ural crude oil is 100% for crude oil supplies in the theoretical calculation of Med Margin.

Income Statement (Million TL)

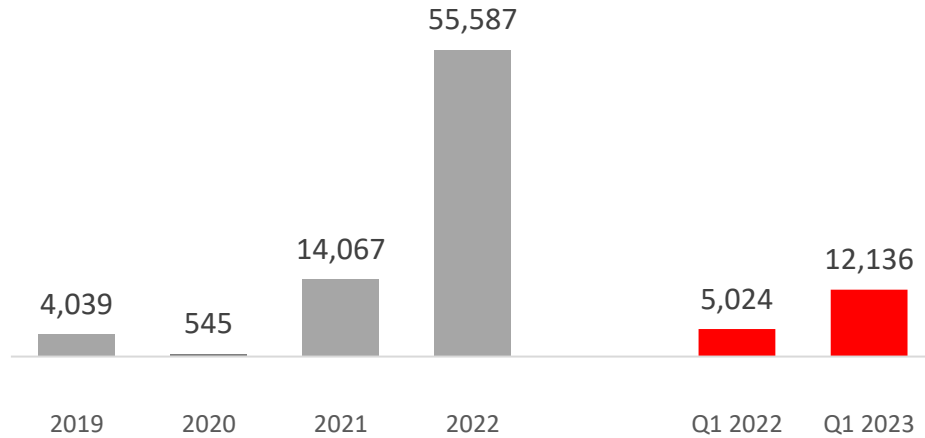
Million TL	Q1 2023	Q1 2022(**)	%
Net Sales	92,826	77,646	20%
COGS	-78,829	-71,950	-10%
Gross Profit	13,997	5,695	146%
Operating Expenses	-2,206	-1,081	-104%
Income/Loss from other operations	-620	-1,522	59%
Operating Profit	11,171	3,092	261%
Inc./Loss from Equity pick ups	267	211	26%
Operating Profit Before Fin. Income/Loss	11,438	3,303	246%
Financial Income /Expense	-752	-1,971	62%
Profit Before Tax	10,686	1,332	702%
Net Profit (excluding minority interest)	6,748	1,103	512%
EBITDA* (mn. TL)	12,136	5,024	142%
Inventory Gain/Loss (mn. TL)	-22	4,102	-101%
EBITDA* (mn. TL) CCS	12,157	922	1,219%

Income Statement (Million TL)

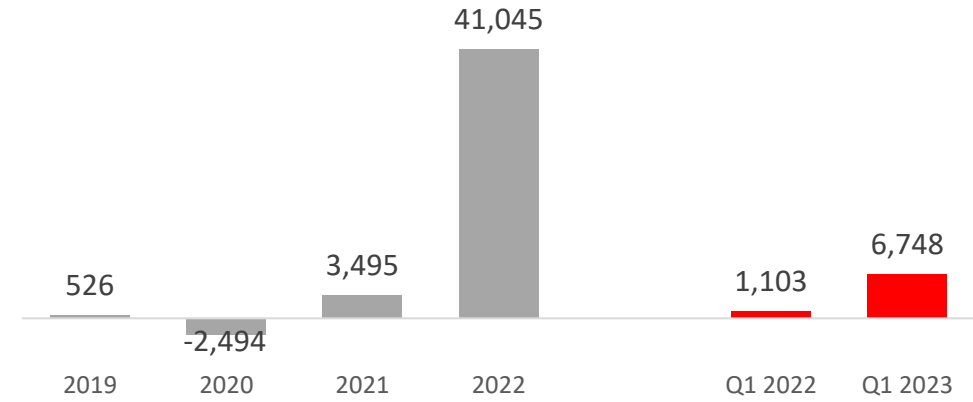
Million TL(**)	2022	2021	%
Net Sales	481,765	152,492	216%
COGS	-418,988	-136,632	-207%
Gross Profit	62,777	15,860	296%
Operating Expenses	-8,235	-3,318	-148%
Income/Loss from other operations	-8,935	-11,766	24%
Operating Profit	45,607	777	5773%
Inc./Loss from Equity pick ups	365	701	-48%
Operating Profit Before Fin. Income/Loss	45,972	1,477	3012%
Financial Income /Expense	-6,096	881	-792%
Profit Before Tax	39,876	2,358	1591%
Net Profit (excluding minority interest)	41,045	3,495	1074%
EBITDA* (mn. TL)	55,587	14,067	295%
Inventory Gain/Loss (mn. TL)	7,274	8,659	-16%
EBITDA* (mn. TL) CCS	48,313	5,409	793%

Financial Highlights

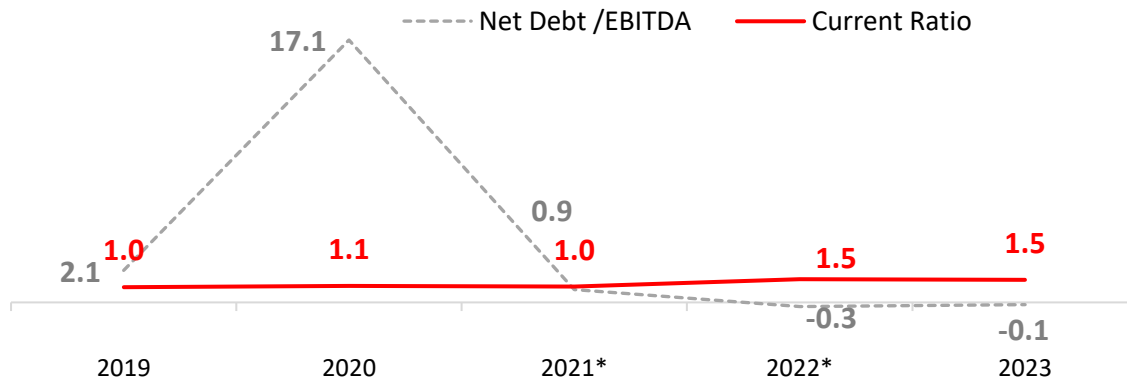
EBITDA (mn TL)



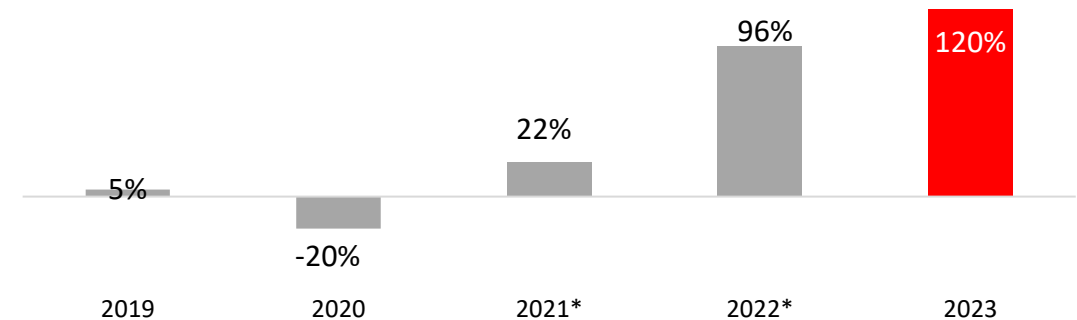
Net Income¹ (mn TL)



Current Ratio & Net Debt / EBITDA

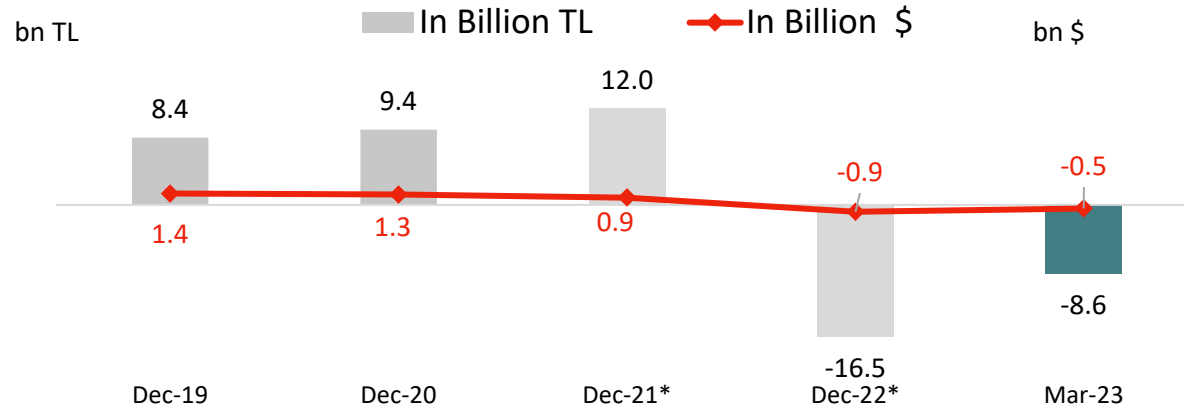


Return on Average Equity (%)

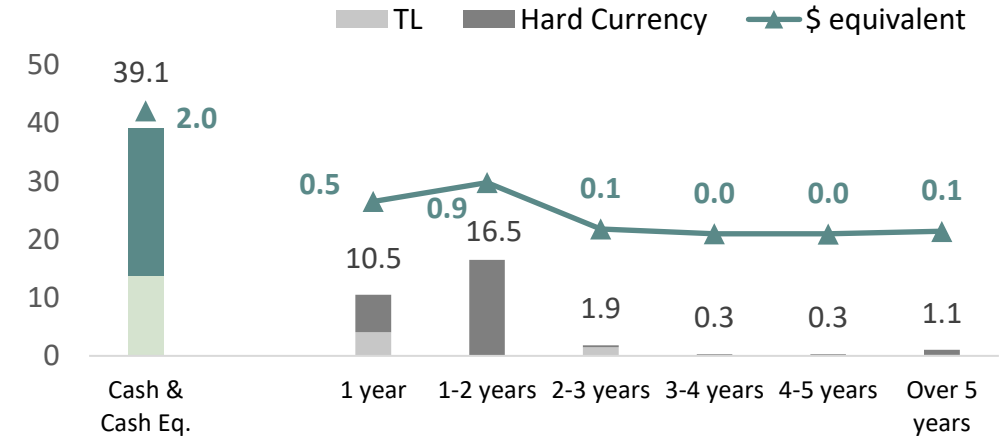


Balance Sheet Analysis

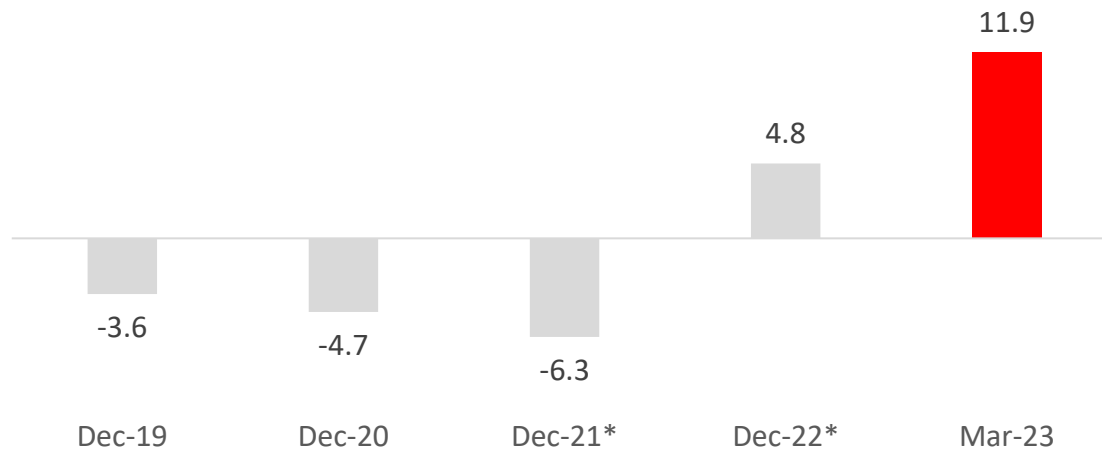
Net Debt



Redemption Schedule (Billion TL)



Working Capital Requirement (Billion TL)



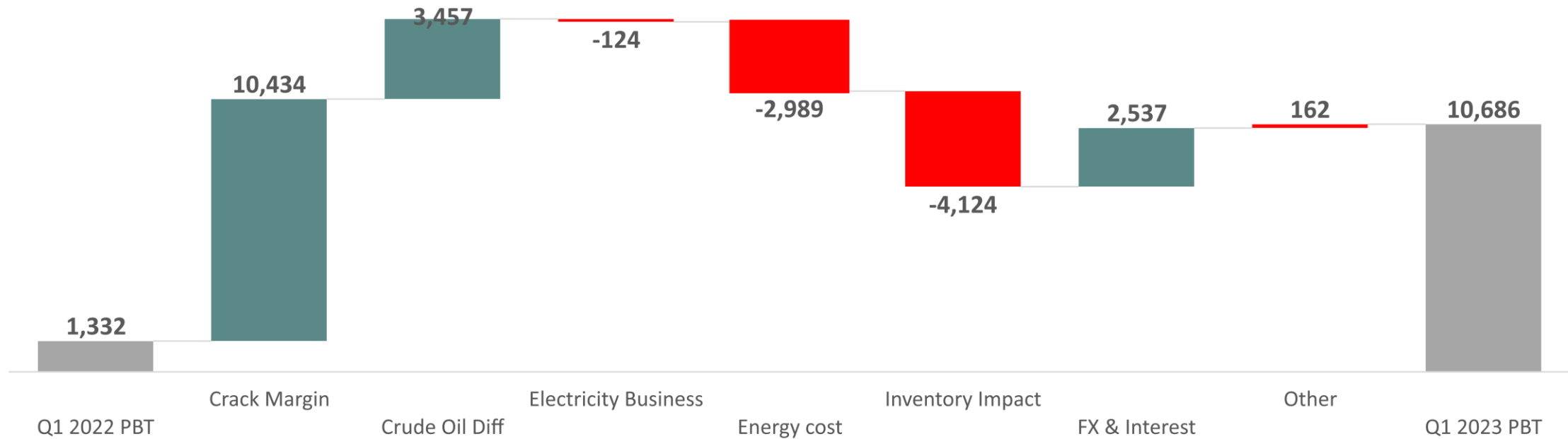
Financial Management

- Rapid drop in Brent prices in March resulted in payables falling faster compared to inventory and receivables and led to Working Capital Requirement increase.
- Net cash position continued with strong operating cashflow generation.

Profit Before Tax Bridge (Q1 2022 – Q1 2023)

Strong cracks coupled with wider differentials boosted PBT in Q1 2023 despite higher energy costs y-o-y.

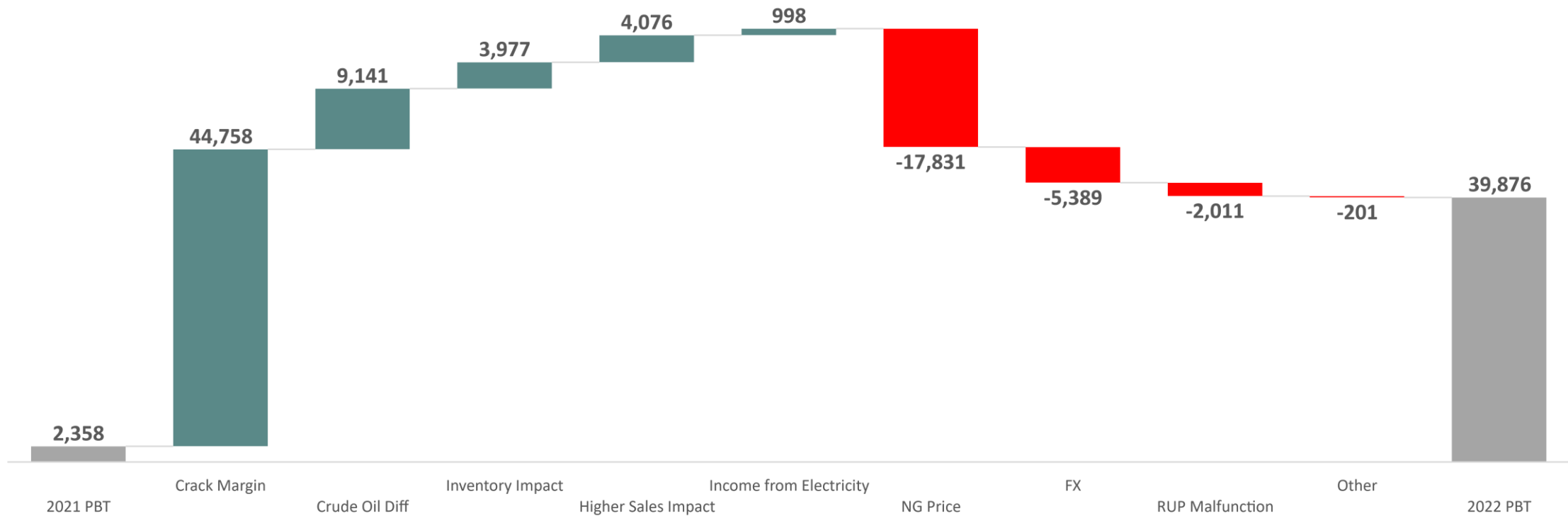
Million TL



Profit Before Tax Bridge (2021 – 2022)

2022 PBT was positively impacted by stronger cracks and wider differential spreads.

Million TL



Tüpraş Net Refining Margin **11\$/bbl -12\$/bbl**

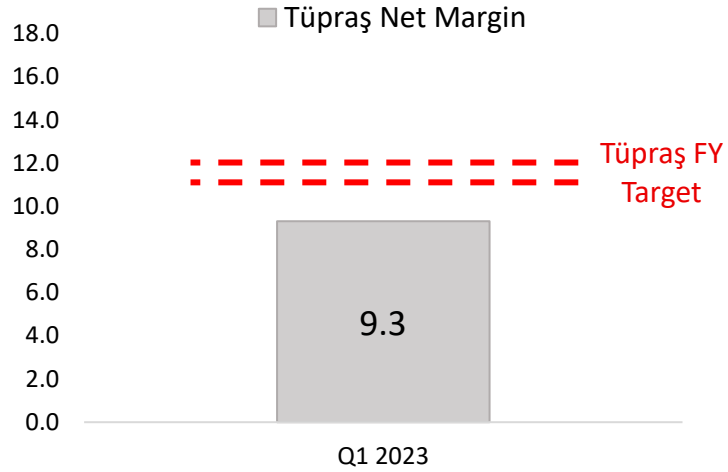
- 24-25 mn tons production, 28-29 mn tons sales and 85 - 90% capacity utilization

Consolidated Capex **~350 million \$**

- ~60% of capex for sustainability focused energy efficiency and environmental projects

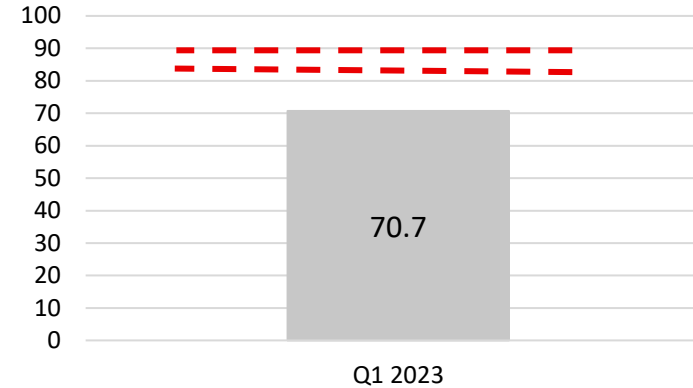
Q1 2023 Results

Refining Margins (\$/bbl)



9.3 \$/bbl net refining margin in Q1 2023

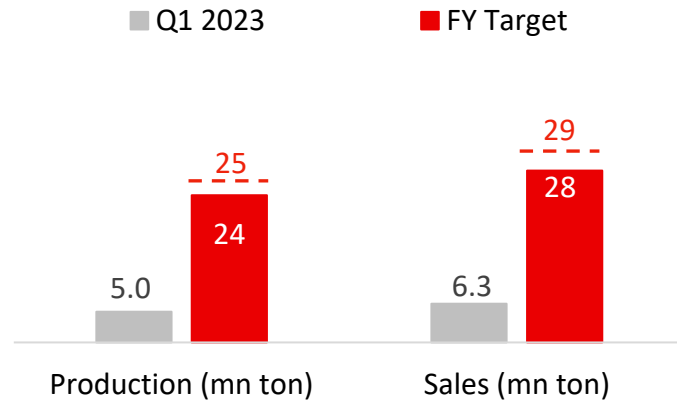
Capacity Utilization (%)



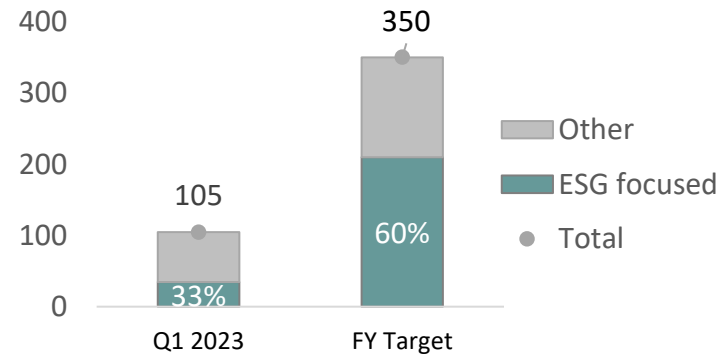
70.7 % total capacity utilization in Q1 2023

6.3 mn tons of sales and 5.0 mn tons of production in Q1 2023

Operational



Total Capex (mn \$)^(*)



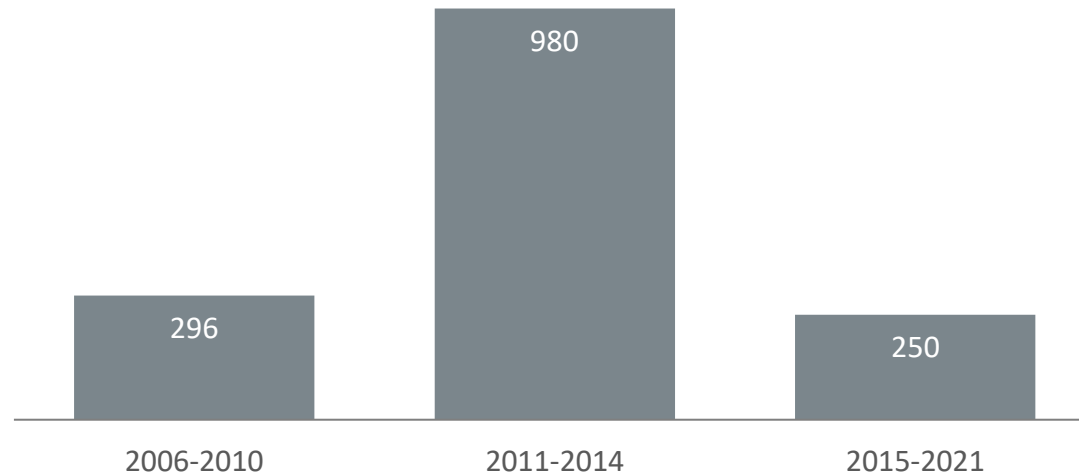
105 mn \$ total CAPEX in Q1 2023, with 33% spent on ESG related investments

Investments (Million \$)

Achievements & Ongoing Projects

- c6.9 bn USD investments since privatization
- Reached 9.5 Nelson Complexity
- Capability to process heavier and more sour crude
- 20 pps improvement in Energy Intensity since 2008
- 25% decrease in water consumption per crude oil processed since 2008
- Revamp of FCC, Periodic Maintenance of Vacuum & Lube Complex in Izmir in 2022

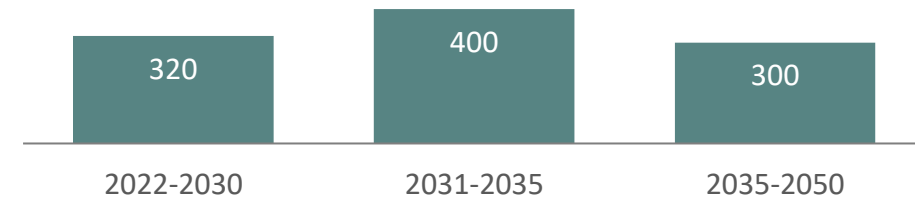
Avg. 460 Mn\$



Strategic Transition - Investment Program

- 27% CO₂ emission reduction by 2030 (scope1+2), 100% reduction by 2050
- Investment in **Zero Carbon Electricity** to mainly produce green hydrogen (reaching 2.5GW capacity by 2035)
- Reaching 1GW electrolyzer capacity to **produce green hydrogen** by 2035
- Installing 400 kton/year **biofuel (mainly SAF)** production capacity by 2030 as a best alternative fuel for aviation

Avg. 350 Mn\$



Financial Policy

Financial Discipline: Risk management policies focusing on areas such as leverage, liquidity, counterparty risk, commodity, interest rate and currency exposure.

Leverage & Liquidity

Proactive in liquidity risk management & targets/limits for financial ratios:

- Net financial debt/EBITDA
- Net financial debt/Equity
- Current ratio
- Share of long-term debt

Counterparty Risk Policy

Deposit is kept within bank-based limits:

- Credit rating assessment and strong capital base.
- Cap on the maximum deposit allocated to a single bank.
- Threshold for deposits subject to banks shareholders' equity.

Interest Rate & Fx

- The fixed/floating profile of financial debt.
- Proactive management of FX risk with derivative instruments
- Zero FX exposure target.

Commodity Hedging Policy

Inventory Hedging Policy:

- Operational hedge: Optimum stock policy & forward pricing mechanism.
- Financial hedge: Expected inventory exposure for the year end is hedged by using derivatives.
- Hedging ratio increasing throughout the year.

Crack Margin Hedging Policy:

- Financial hedge: Crack margin (gasoline, diesel, jet fuel, fuel oil) risk mitigation by using derivatives.
- Hedge ratio between %0-%50 with up to 1 year hedge tenor



Strategy

Strategic Transition Plan – Investment Areas



SUSTAINABLE REFINING

Energy Efficiency and Decarbonization Projects

- Remain as a **Major EBITDA Contributor**
- **Improve energy efficiency** to drive up profitability
- **Diversify product portfolio** through lighter chemicals
- Within **2022-2035**;
 - **~2.3 bn USD capex, ~13 bn USD Cumulative EBITDA**



ZERO CARBON ELECTRICITY

Integrating Zero Carbon Electricity to produce Green H₂

- Ensure affordable **green H₂ production, capturing electrification demand**
- **Primarily supply zero carbon electricity for H₂ production, remaining portion to be sold**
- Within **2022-2035**;
 - **~1.3 bn USD capex , ~400 MUSD Cumulative EBITDA**



BIOFUELS

Becoming the Lead SAF Supplier in Turkey

- Capture changing market for **liquid fuels, ensure long term profitability in aviation sector.**
- **Conversion of existing unit** in İzmir to produce **Sustainable Aviation Fuel (SAF)**
- Within **2022-2035**;
 - **~600 MUSD capex, ~1.1 bn USD Cumulative EBITDA**



GREEN HYDROGEN

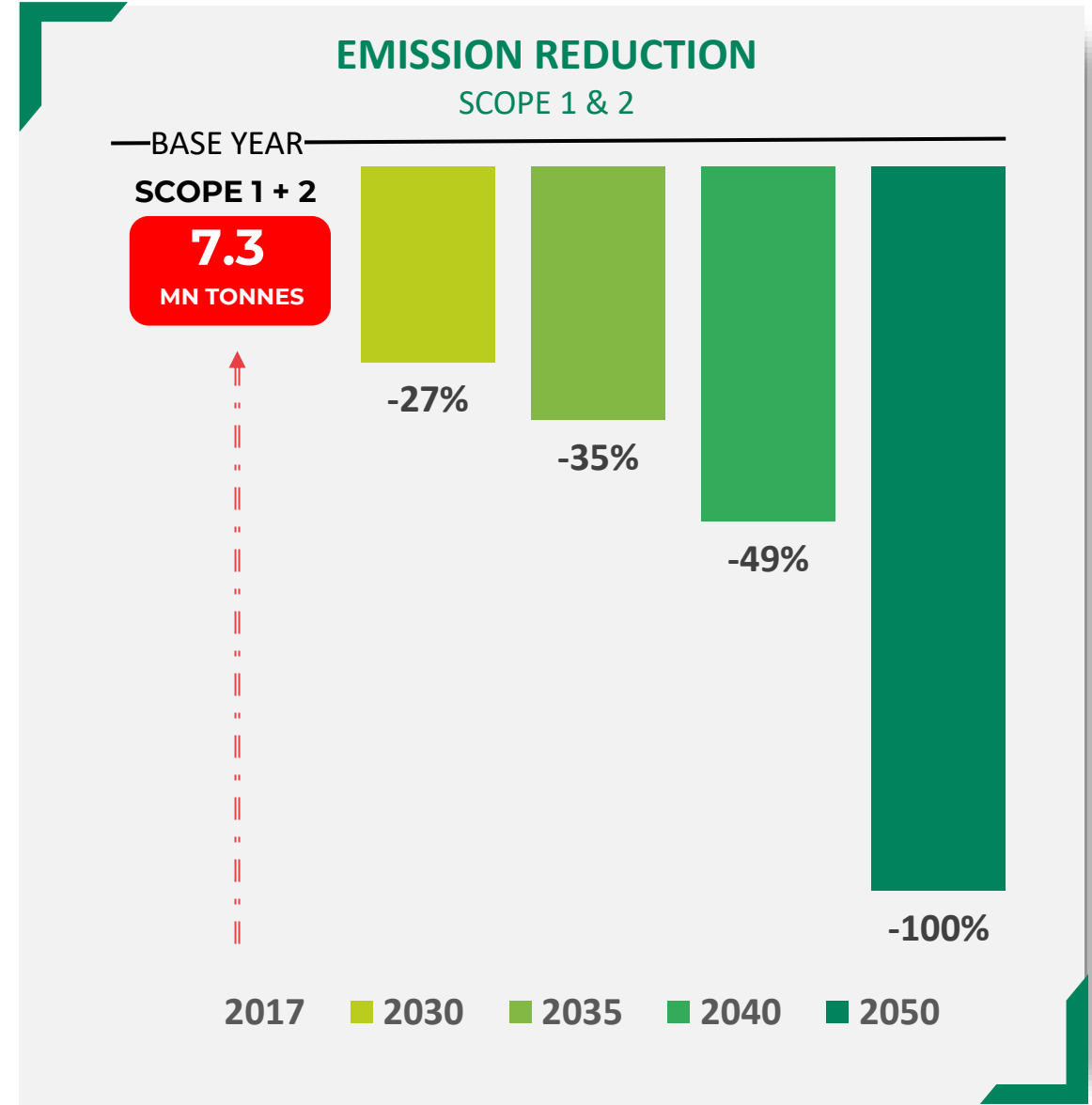
Reducing Refining Emissions

- Capture changing market for **land transportation, reduce refining emissions.**
- **Reduce Scope 1-2 emissions** of refineries. Followed by **H₂ sales**, starting from 2030.
- Within **2022-2035**;
 - **~690 MUSD capex, ~640 MUSD Cumulative EBITDA**

Strategic Transition Plan – Emission Reduction



We will invest in energy efficiency & decarbonization Projects, green hydrogen & zero carbon electricity usage in refining to reduce scope 1 & 2 emissions



Strategic Transition Plan - Financials

We are
sustainable
and
profitable.

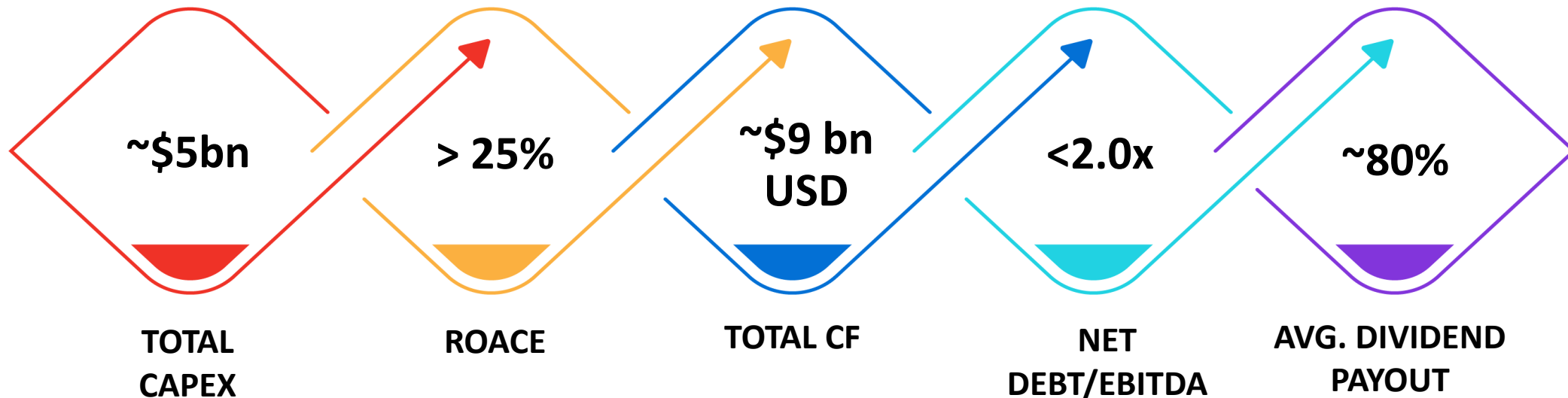
Will **eliminate our scope 1 & 2 emissions by 2050** while executing our plan and achieving these results.

\$350mn average CAPEX until 2035, totaling **\$5 bn.**

ROACE will remain above 25% creating **~ \$9bn total CF** until 2035

With ample CF, **Net Debt / EBITDA** will be below **<2.0x**

Will remain a **high dividend payer**, average **~80% dividend pay-out**



Strategic Transition Plan - Latest Updates



ZERO CARBON ELECTRICITY



As of Dec'22 end we have initiated ZCE capacity installations in our refineries with a total of 122.6 MW Solar & 12.6 MW Wind PP

Total Applications & Approvals (MW)			
Refineries	Solar	Wind	Total
İzmit	12		12
İzmir	1	13	14
Kırıkkale	139		139
Batman	7		7
Total	159		172

Approved Applications	112
-Under Construction	48
-Planning Phase	64
Application Made	58
Already in Service	2
Total	172



Entek made pre-license applications for a total capacity of 1,461.5 MW (and accompanying storage facilities) with 22 projects



1,271.5 MW Wind PP

190 MW Solar PP

Süloğlu
Solar: +20 MW (approved from EMRA)



BIOFUELS



Basic engineering studies were completed to produce sustainable aviation fuel, We will use Honeywell's **UOP Ecofining™** technology in our Izmir refinery.



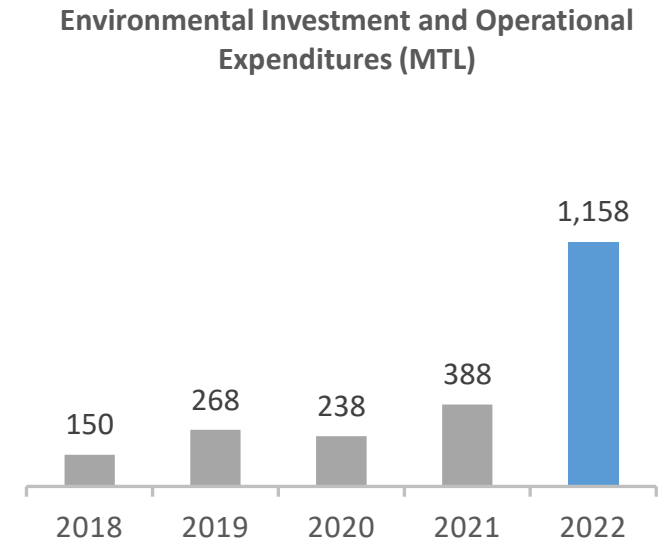
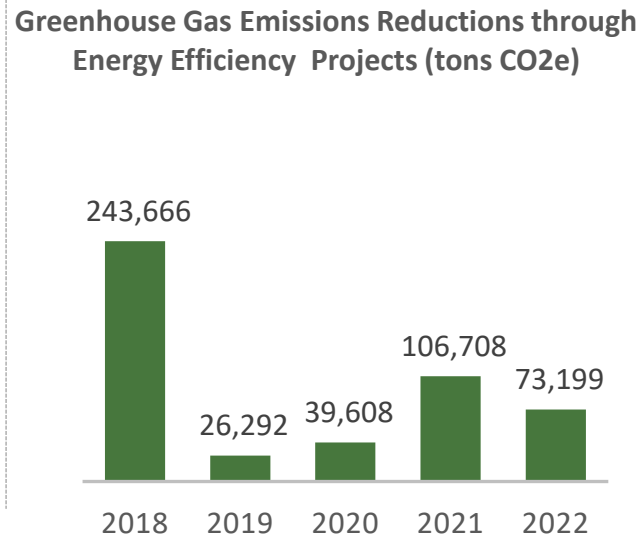
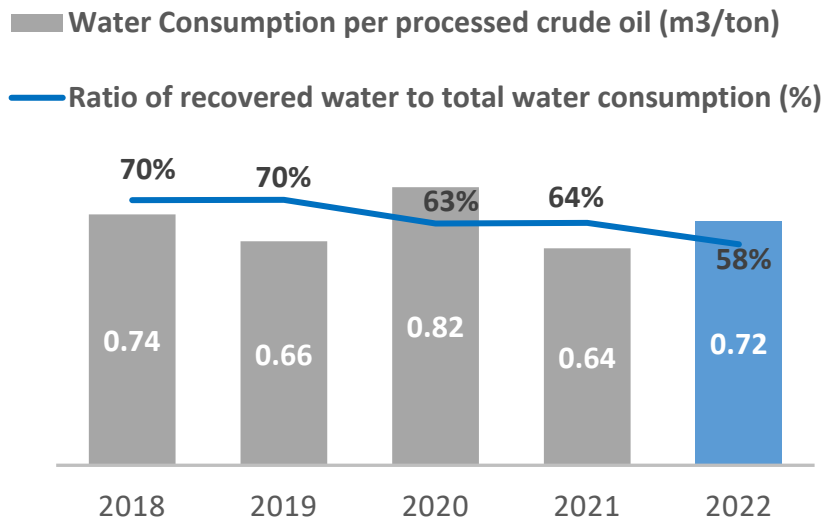
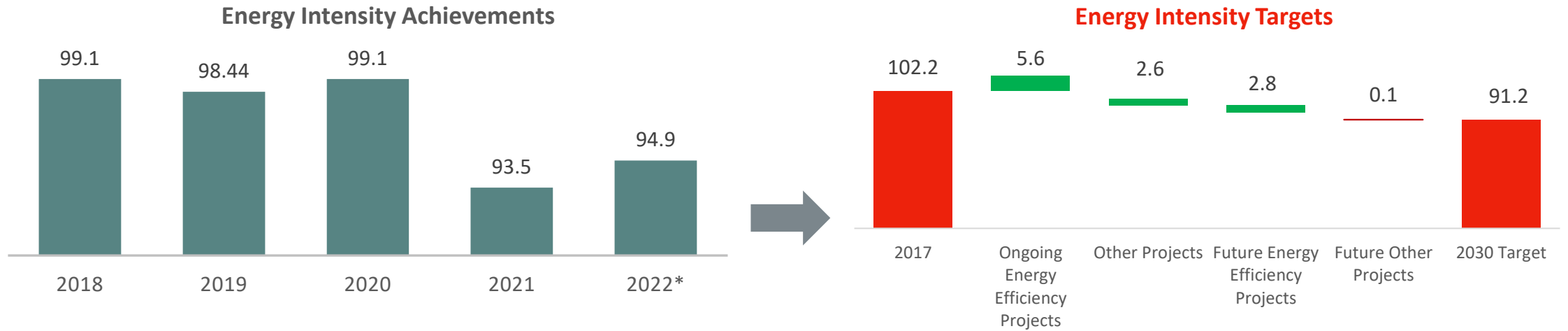
With this technology, we plan to produce dominantly sustainable aviation fuel (SAF) and some renewable diesel & other products with **400K ton capacity per year**

**400kt
biofuel
production
capacity**



ESG

Tüpraş's Environmental Highlights



*Energy Intensity increased in 2022 with higher use of alternative fuels due to the supply problems in natural gas and significant increase in natural gas prices

Tüpraş's Social & Governance Highlights

Strong Policies have been effectively implemented for years



Corporate Governance Rating **9.65**

Board of Directors' Composition

11 members
Four members are independent

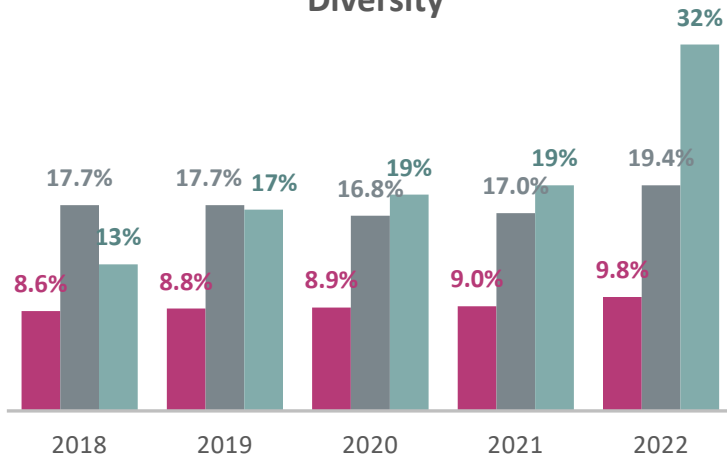
Committees under BoD

- Corporate Governance
- Risk Management
- Audit
- Executive Ethics

Health & Safety and Diversity are the Key Priorities

- Female Share in Total Employees
- Female Representation in Senior and Mid-Level Management
- Female Share in Recruitment

Diversity



Targets

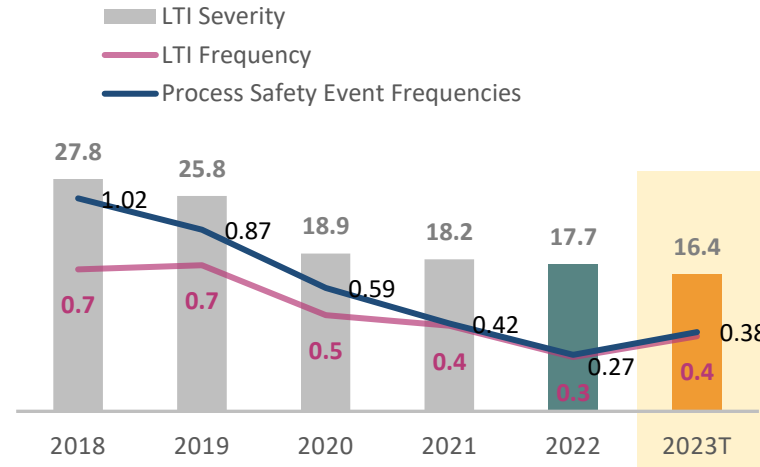
Female Representation in the Board of Directors in the next five years

25%

Targeted Rate of Women in New Recruitments

50%

Health & Safety



Targets	2024-2025	2030
Process Safety Event Freq.	0.30	0.25
LTI Frequency	0.30	0.15
LTI Severity	10.0	5.0

Tüpraş is taking place in these sustainability indices



FTSE4Good



A photograph of an industrial worker in a dark uniform, white hard hat, and green safety glasses. The worker is wearing yellow gloves and is operating a large, complex piece of machinery with a prominent handwheel. The machinery is metallic and has some handwritten markings, including "40w" and "P3-15". In the background, another worker in a dark uniform with reflective yellow stripes is visible, though out of focus. The scene is set in an industrial environment with various pipes and components.

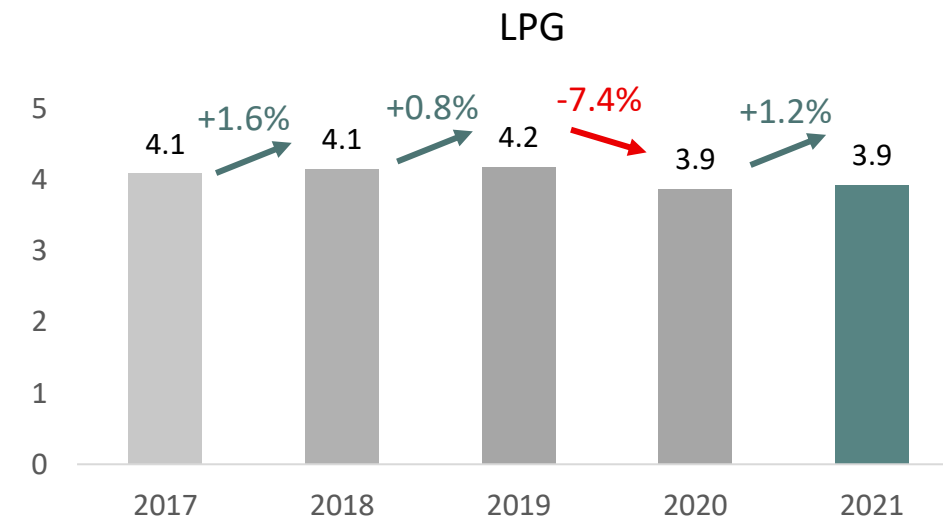
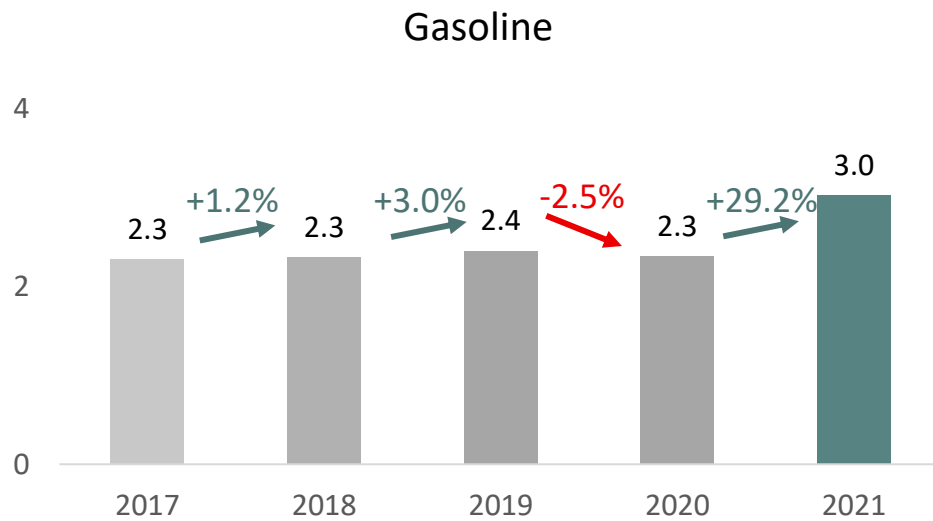
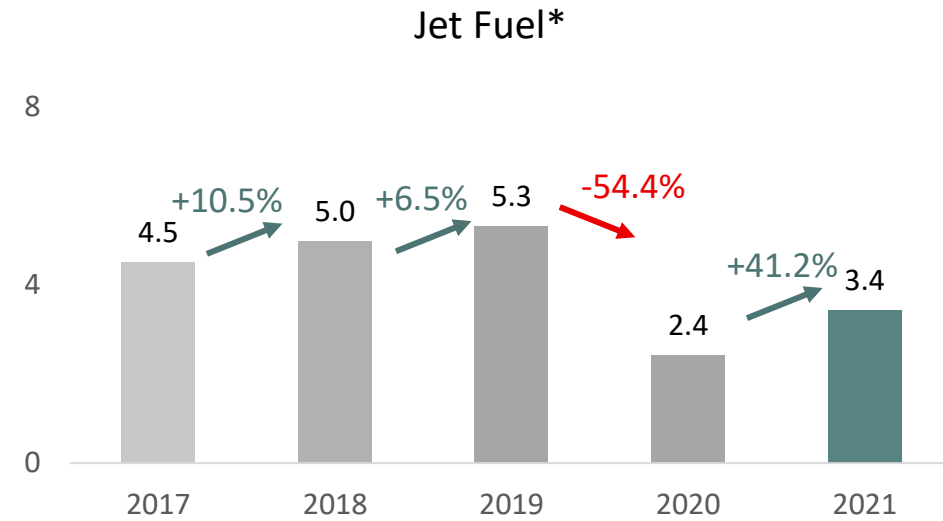
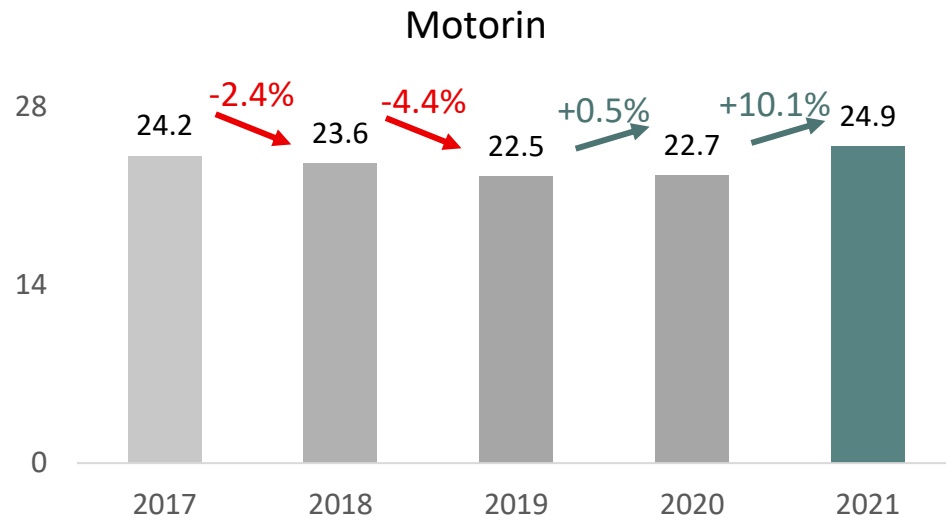
Appendix

2023 Refinery Maintenance Schedule

Refinery	Unit	Starting Quarter	Duration (weeks)	Purpose	Planned
Batman	Crude Oil & Vacuum	Q1	7	Seasonal	Completed
	Crude Oil & Vacuum	Q4	9		Planned
İzmir	FCC	Q1	7	Revamp	Completed
	Crude Oil, Vacuum, CCR, İsom.	Q1	9		Completed
	Lube Complex	Q1	9		Completed
	Crude Oil , Vacuum	Q4	5	Periodic Maintenance	Planned
	HYC	Q4	6		Planned
İzmit	Crude Oil & Vacuum	Q1	9	Periodic Maintenance	Ongoing
	Desulphurizer	Q1	9		Ongoing
	CCR	Q1	9		Ongoing
Kırıkkale	Battery Shut Down	Q1	7	Periodic Maintenance	Completed

Turkish Market Fuel Consumption 2017-2021

Million
Tons



Source: Tüpraş and EMRA
* Transit flight consumption included

Competition - STAR Refinery

Timeline



- Feasibility studies began in 2010 and construction kicked off in 2011
- Goldman Sachs has acquired a 13% stake in SOCAR Turkey for \$1.3 billion.
- Total investment size 6.3 bn USD, with 3.3 bn USD credit agreement.
- Following the completion of construction late 2018, reached full capacity utilization in August 2019

* Source: EMRA

Turkish Market Structure (mn tons)

Turkey Demand	Tüpraş	STAR	Total	Turkish Market Demand*	Balance
LPG	1.1	0.3	1.4	4.2	-2.8
Petchem F.	0.2	2.6	2.8		
Gasoline	6.1		6.1	2.4	3.7
Jet Fuel	5.2	1.6	6.8	5.3	1.5
Diesel	10.7	4.8	15.2	22.5	-7.3
Fuel Oil	1.8		1.8	0.3	1.5
Bitumen	3.1		3.1		
Pet coke	0.8	0.7	1.5		
Total	~30	~10	~40		

Competition - Regional Competition

- Tüpraş competes with 71 refineries in the Mediterranean and Black Sea markets.
- Mediterranean regional product balance is also affected from Middle East, North West Europe and Asia flows

Mediterranean



54 Refineries ~7.8mbd

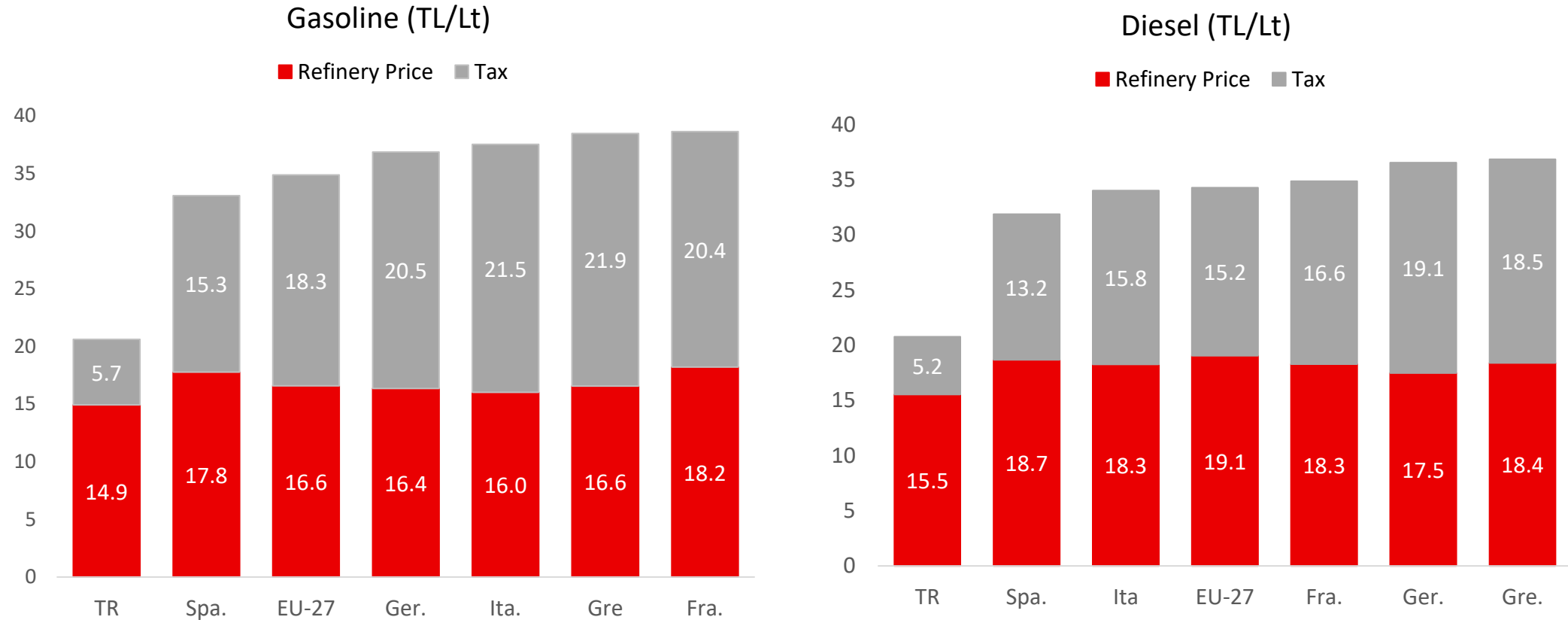
Black Sea



17 Refineries ~1.8mbd

European Pump Price Comparison

Turkish fuel prices are highly competitive with other European countries.



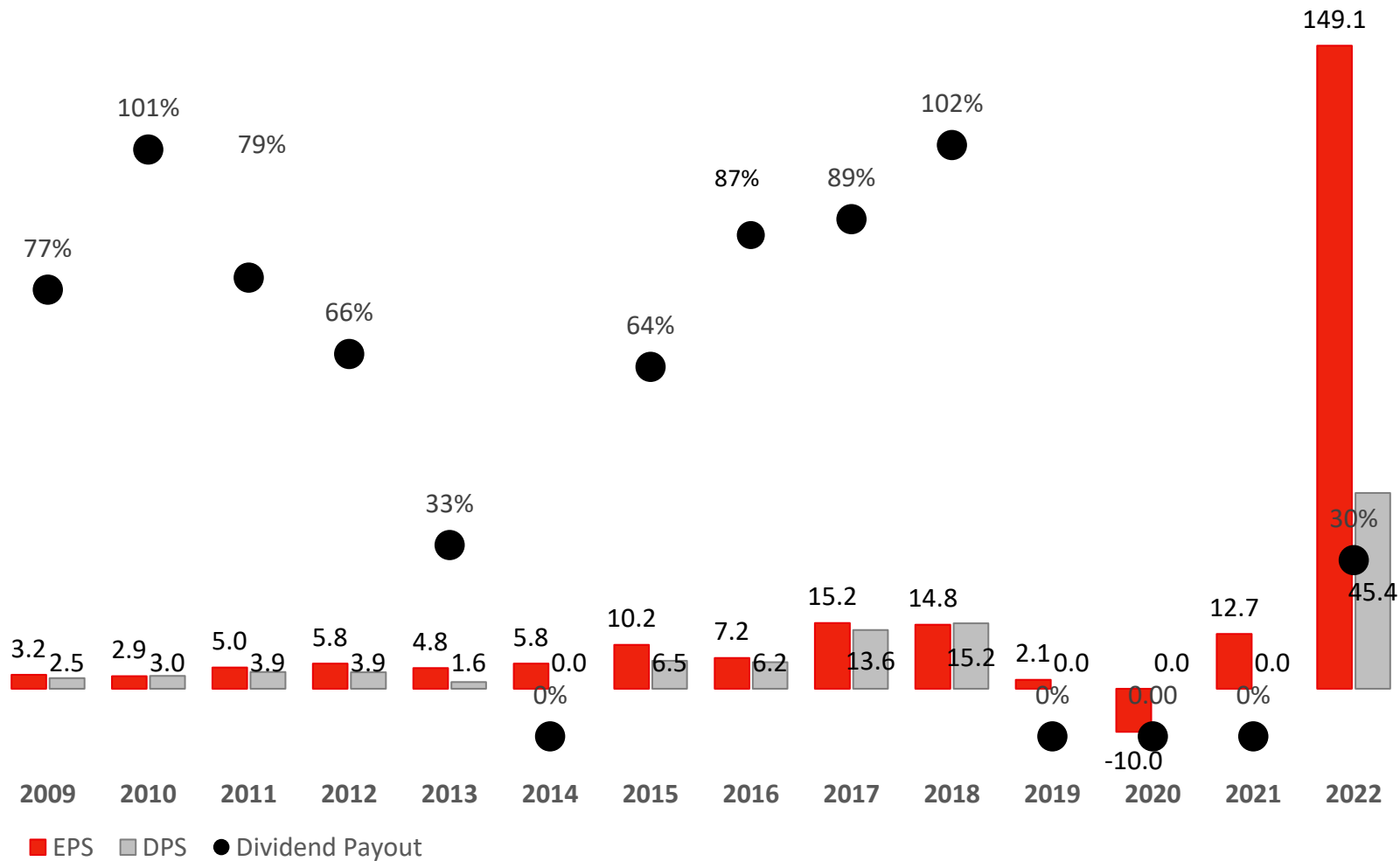
Prices of Europe and Turkey, as of March 31, 2023

Tüpraş Balance Sheet (Million TL)

	31.03.2023	31.12.2022*	Diff.	Diff. (%)
Current Assets	100,818	119,711	-18,893	-16
Cash & C. Equivalents	39,147	49,770	-10,624	-21
Trade Receivables	17,067	21,418	-4,351	-20
Derivatives	2,410	3,597	-1,187	-33
Inventories	35,412	36,046	-634	-2
Pre-paid expenses	360	749	-389	-52
Other Current Assets	6,423	8,131	-1,708	-21
Long Term Assets	50,278	49,182	1,096	2
Financial Assets & Subsidiaries	3,057	3,029	28	1
Tangible & Intangible Fixed Assets	35,417	33,680	1,736	5
Derivatives	18	57	-39	-69
Pre-paid expenses	642	618	24	4
Deferred Tax	8,360	9,196	-836	-9
Other Longterm Assets	2,784	2,601	183	7
Total Assets	151,096	168,892	-17,797	-11
Short Term Liabilities	68,596	78,895	-10,670	-14
Financial Loans	10,506	11,994	-1,489	-12
Trade Payables	40,623	52,699	-12,076	-23
Derivatives	714	995	-280	-28
Provisions	1,175	531	644	121
Other ST Liabilities	15,207	12,677	2,530	20
Long Term Liabilities	21,378	22,811	-1,434	-6
Financial Loans	20,033	21,274	-1,242	-6
Payables & Provisions	1,288	1,190	98	8
Derivatives	0	298	-298	NA
Other LT Liabilities	57	48	8	17
Total equity attributable to equity holders of the parent	60,998	66,743	-5,746	-9
Minority Interests	496	442	53	12
Total Liabilities & Equity	151,096	168,892	-17,797	-11

Dividend (TL)

Avg. Payout Ratio: 90%*



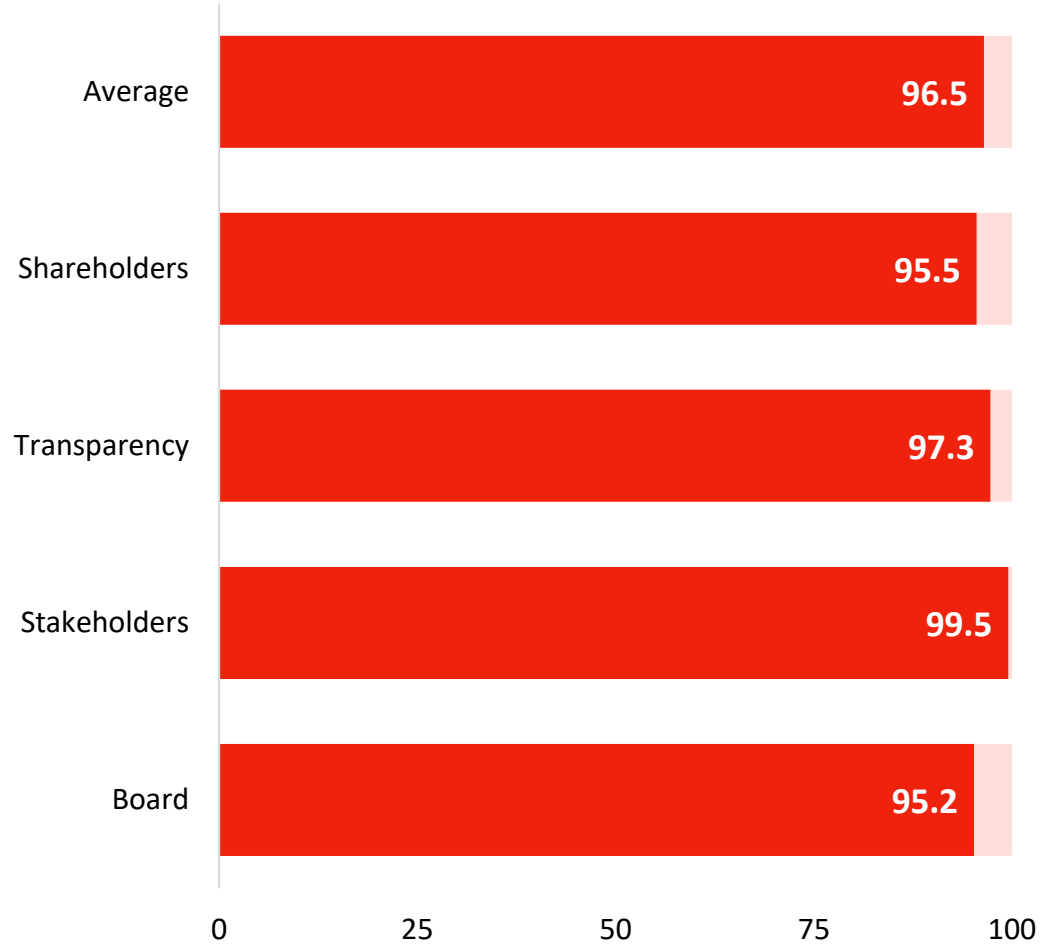
Strategic Transition Dividend Plan

Our new business model enables us to pay ~80% average dividends and we will remain as a high dividend payer

*2009-2018 dividend payout ratio, which is calculated according to distributable net income based on statutory accounts

Tüpraş - Ratings

Tüpraş BIST Corporate Governance Rating Score

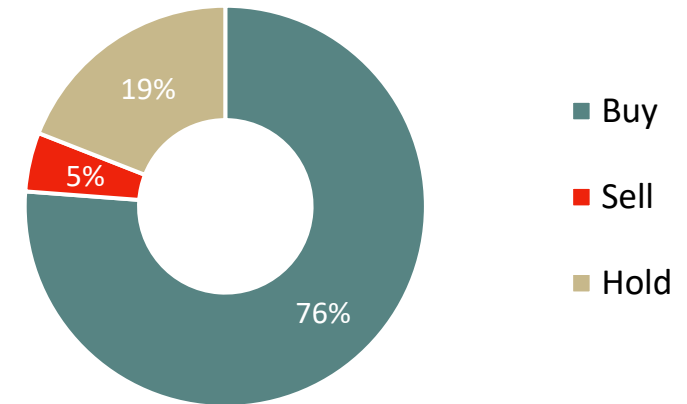


Source: SAHA Corporate Governance and Rating Services Inc. (October 2022)

Credit Rating Scores

Foreign Currency Long Term	FitchRatings	MOODY'S	S&P Global Ratings
Tüpraş	B (Stable)	B3 (Stable)	
Turkey	B (Negative)	B3 (Stable)	B+ (Negative)
Koç Holding		B3 (Stable)	B+(Negative)

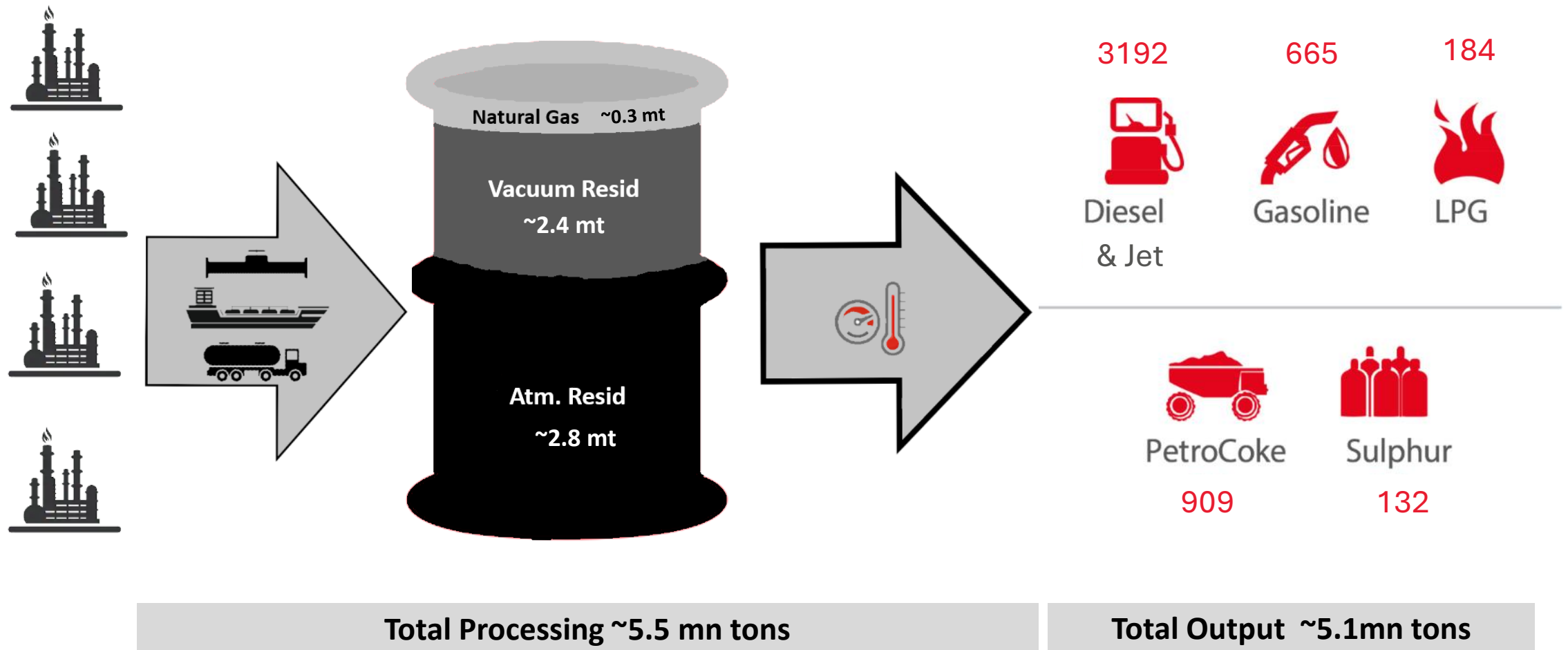
Analyst Recommendations



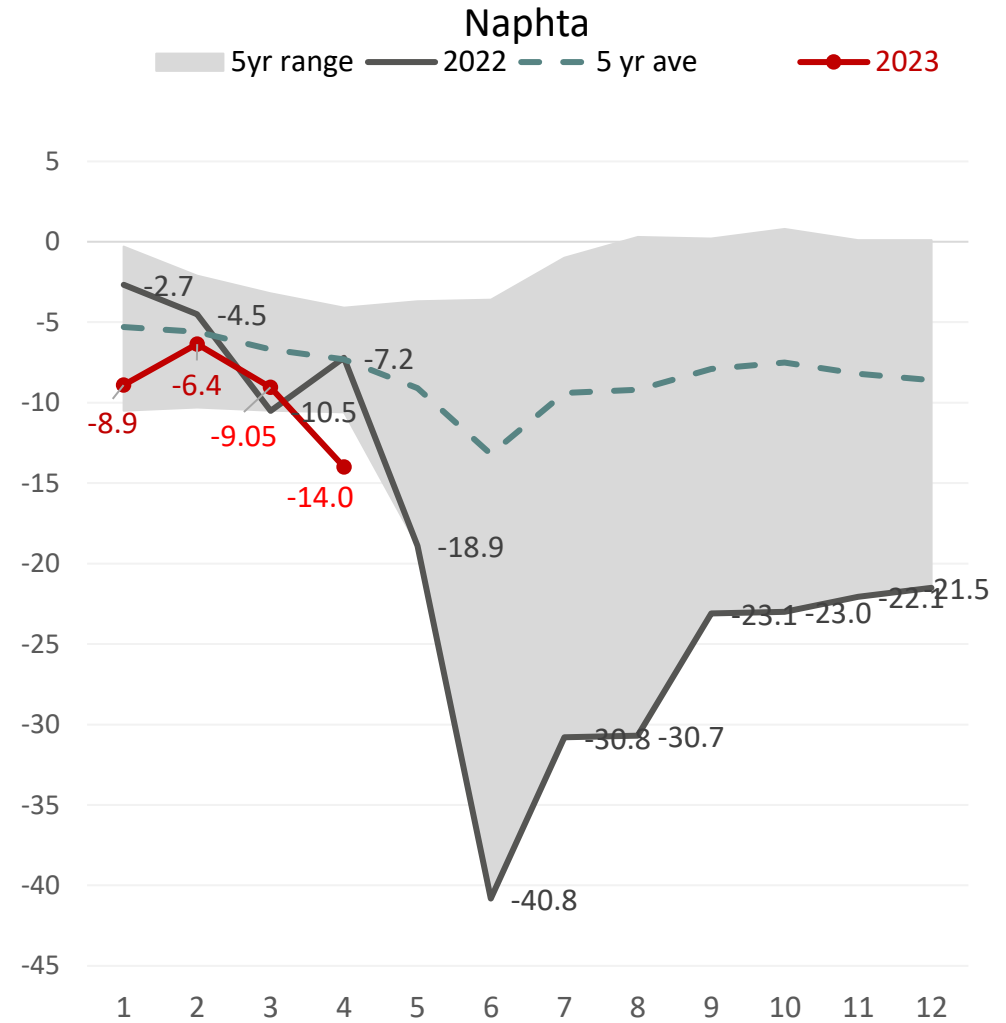
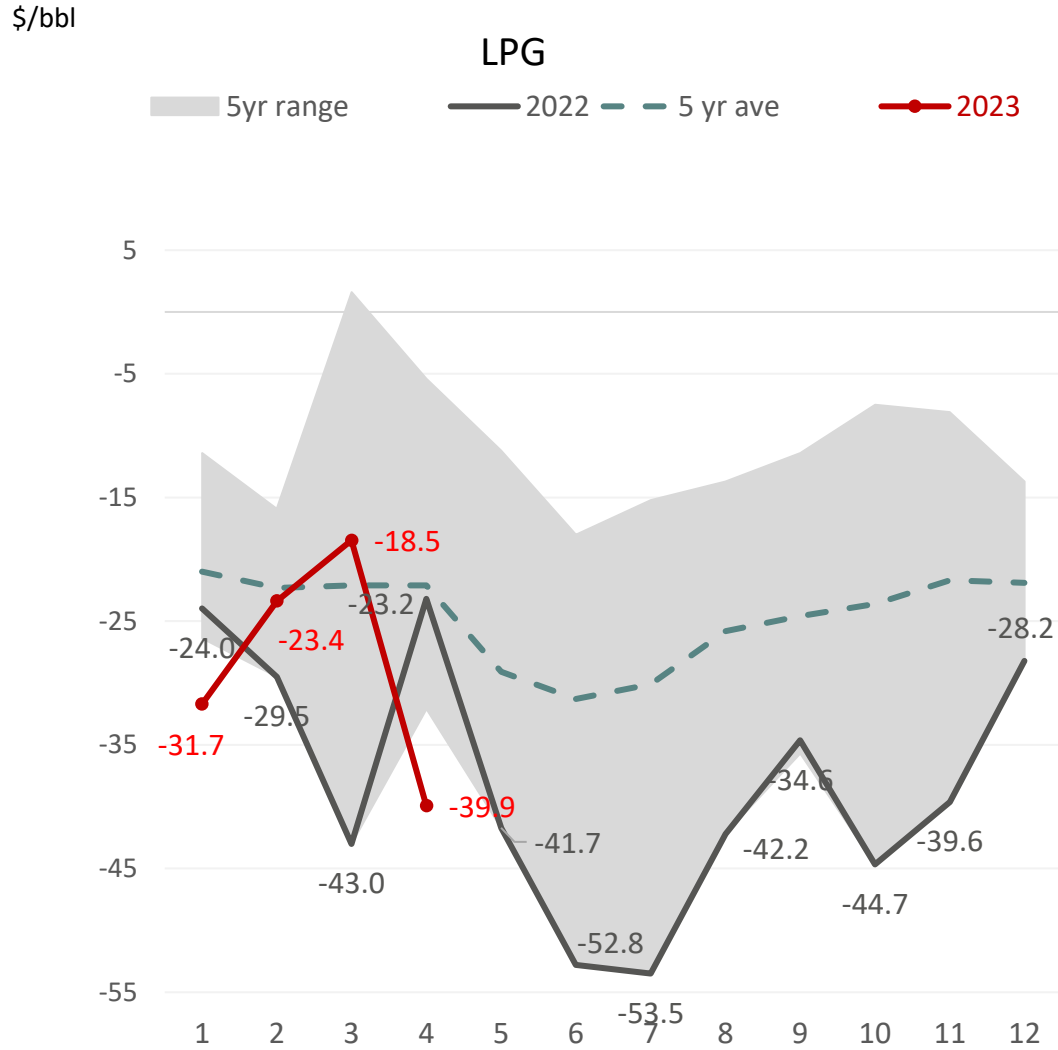
Source: Bloomberg*
*data as of Mar'23

RUP Feedstock and Production

- Residuum Upgrade Plant (RUP) was completed in 2015 and it is the main conversion unit of Tüpraş.
- First periodic maintenance was completed in Q2 2019.



LPG and Naphta Cracks



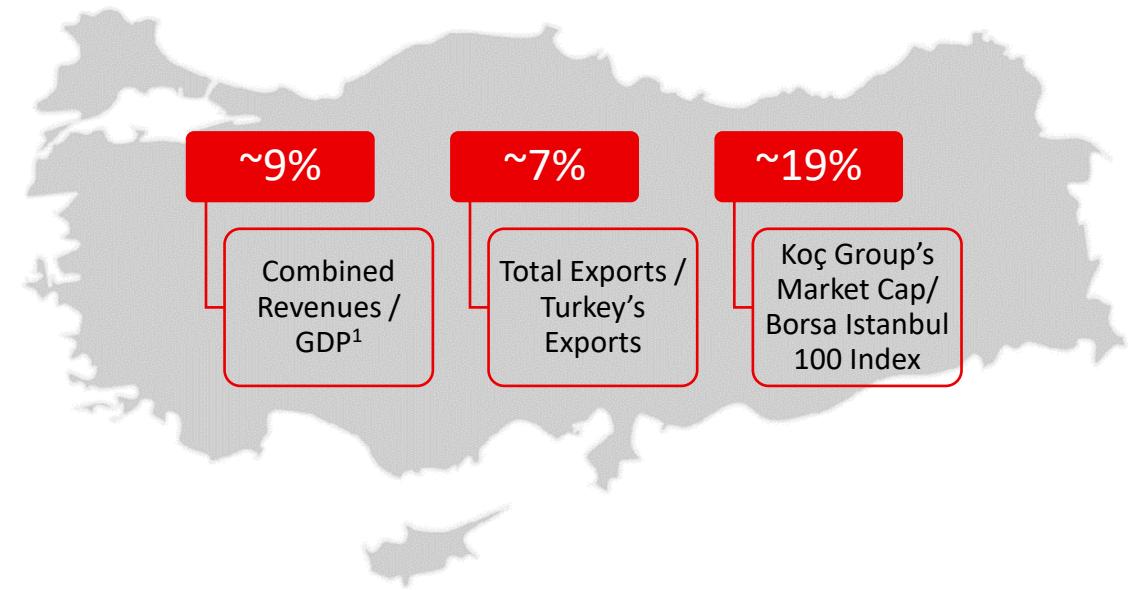
data as of 30 April 2023, 5 year range shows 2018-2022

Turkey's Leading Investment Holding Company

- Koç Holding is Turkey's largest industrial and services group
- The only Turkish company in Fortune Global 500².

Pioneer in its Sectors

- Leading positions with clear competitive advantages in sectors with long-term growth potential such as energy, automotive, consumer durables and finance.



Notes : Data as of YE22

(1) 2022 Report (based on consolidated revenues)

(2) 2022 report (based on consolidated revenues)

 **Tüpraş**

 **Koç**



Investor
Presentation

Latest
Webcast



Sustainability
Report



Strategic
Transition Plan



tuprasir@tupras.com.tr
