




Energy To the future

 **Tüpraş**

 **Koc** | April 2023

Investor Presentation

Disclaimer

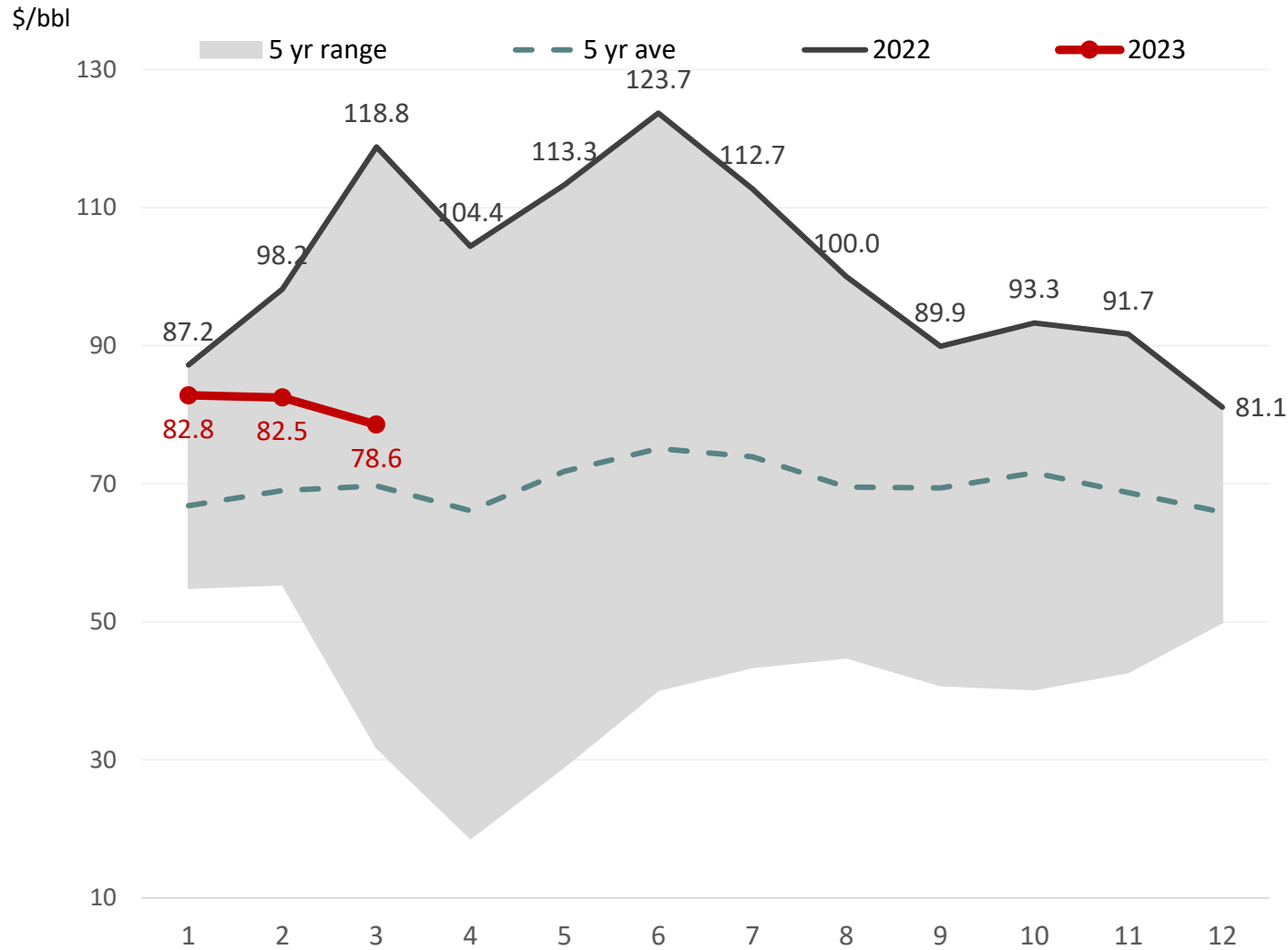
This presentation contains forward-looking statements that reflect the Company management's current views with respect to certain future events. Although it is believed that the expectations reflected in these statements are reasonable, they may be affected by variables and changes in underlying assumptions that could cause actual results to differ materially.

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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

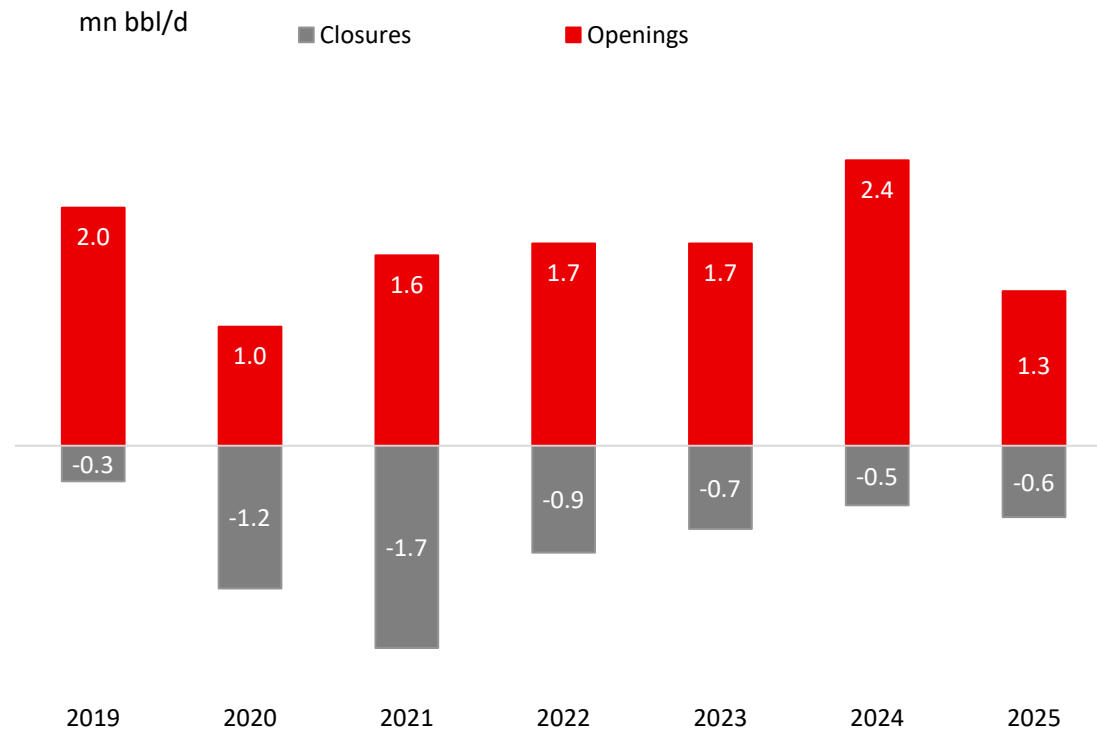
data as of 31 March 2023, 5 year range shows 2018-2022

Global Refinery Capacity Changes

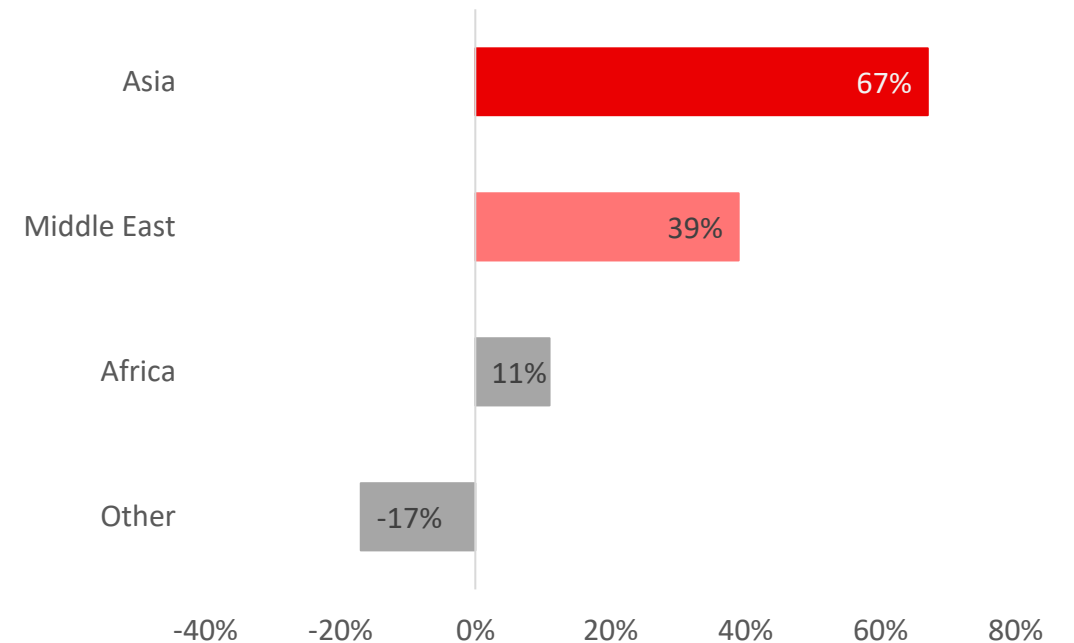
Expectations until 2025:

- 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.

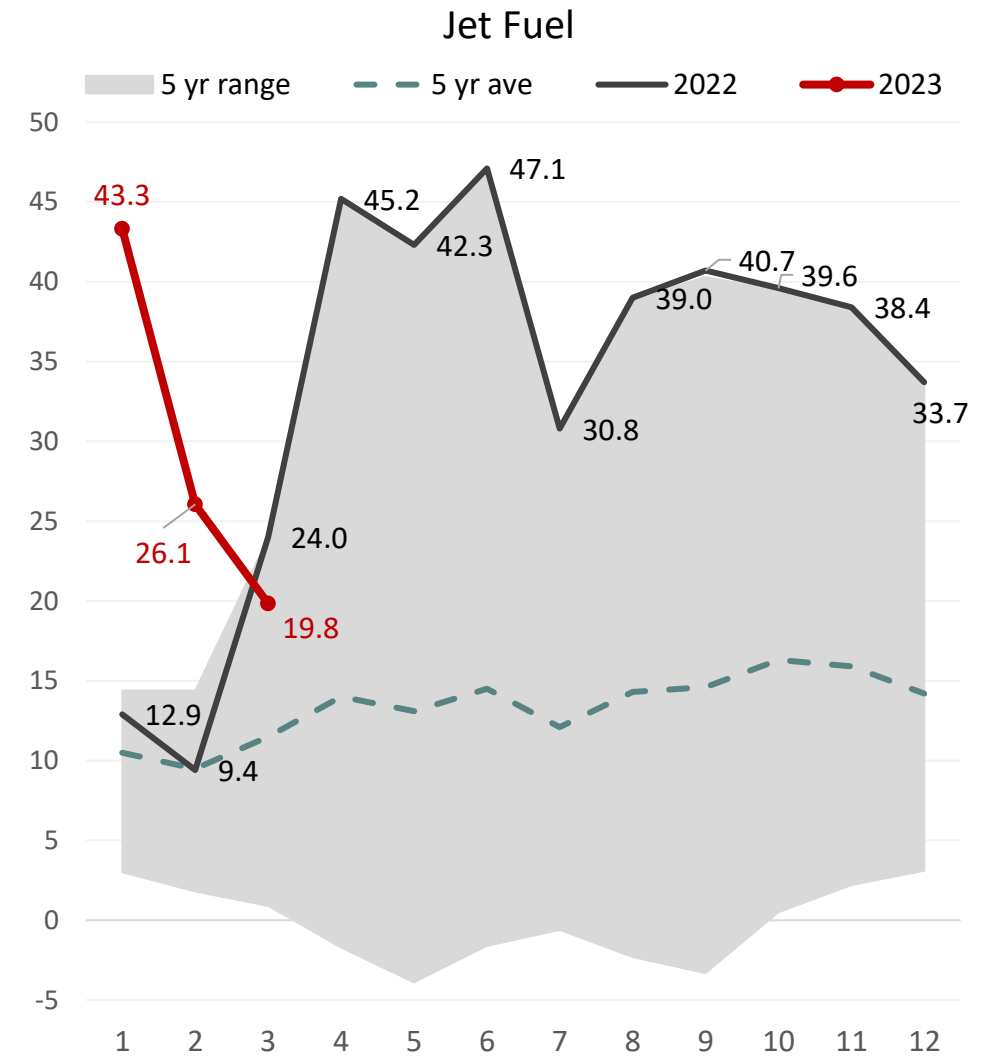
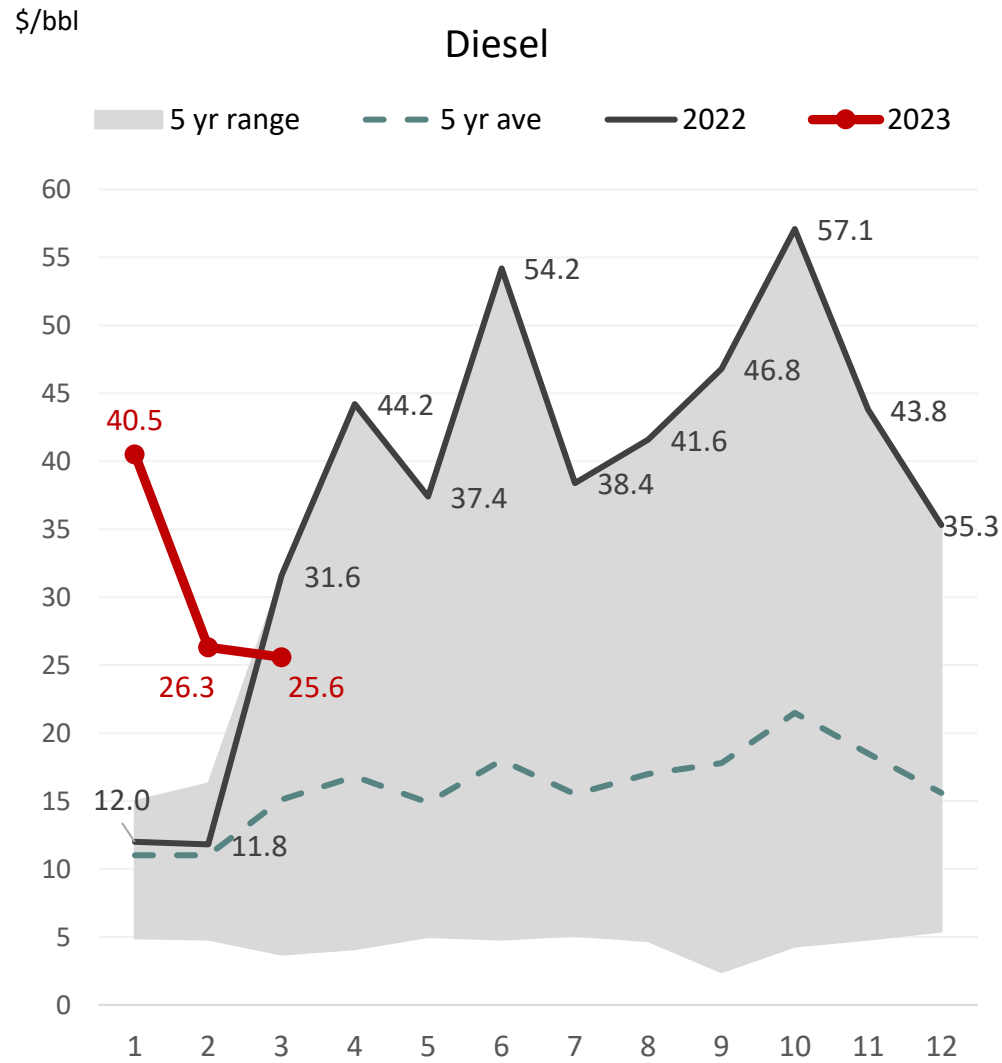
2019-2025 Net Capacity Additions



Capacity Additions by Region

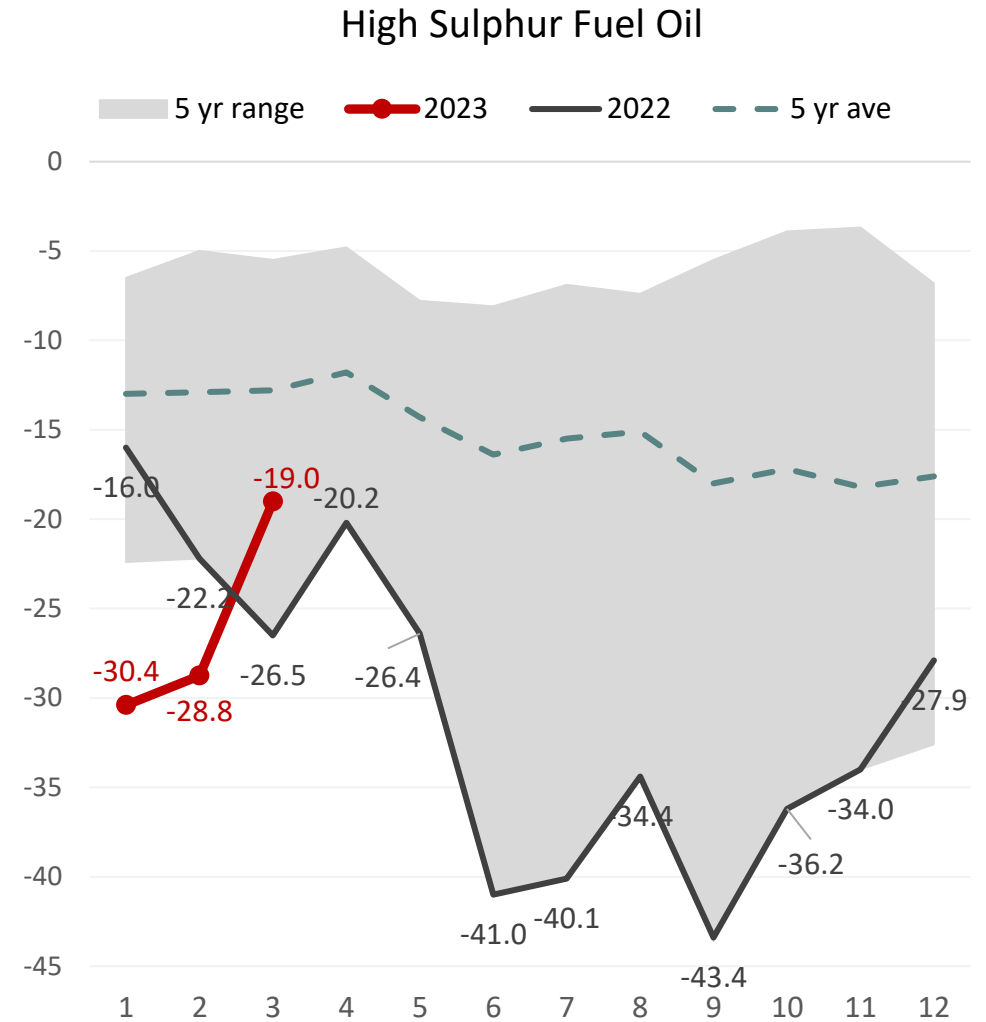
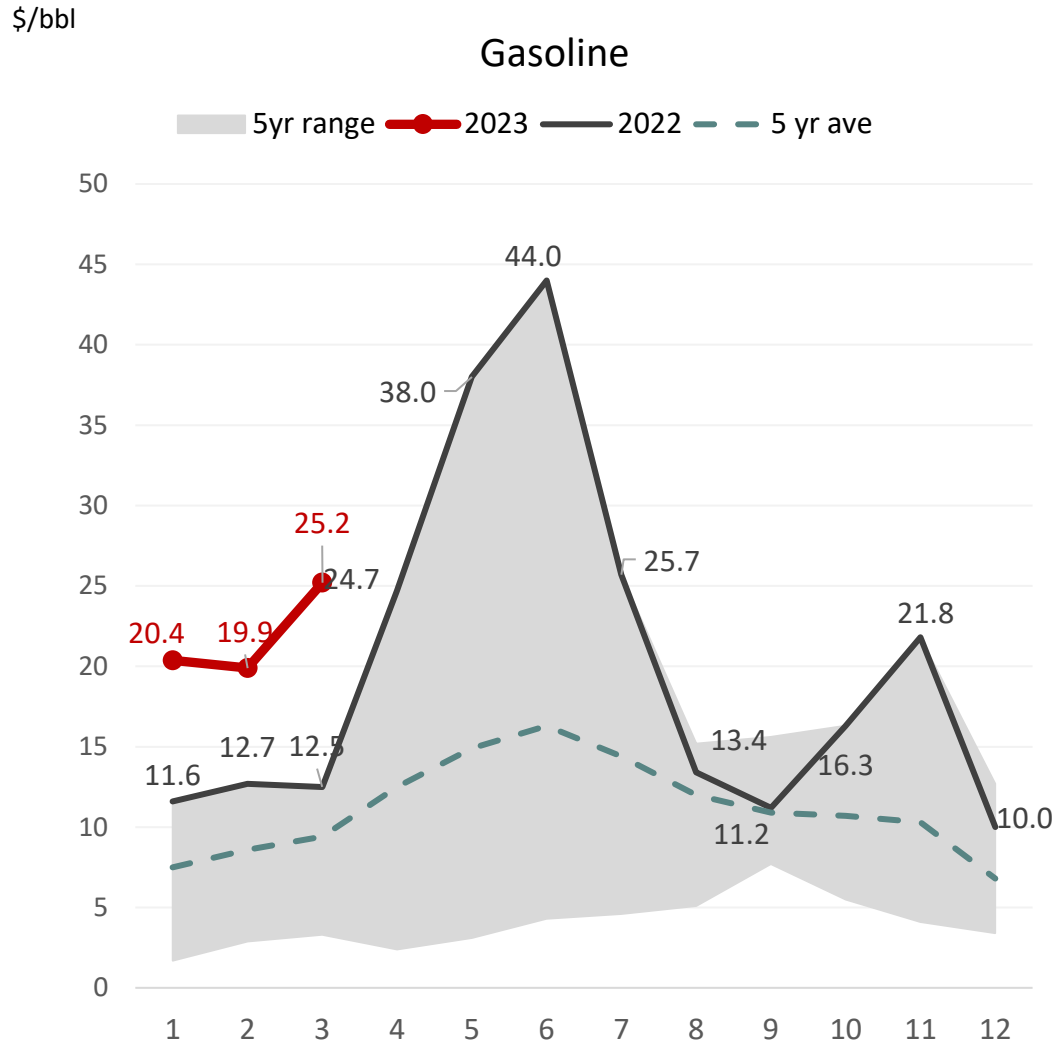


Middle Distillate Cracks



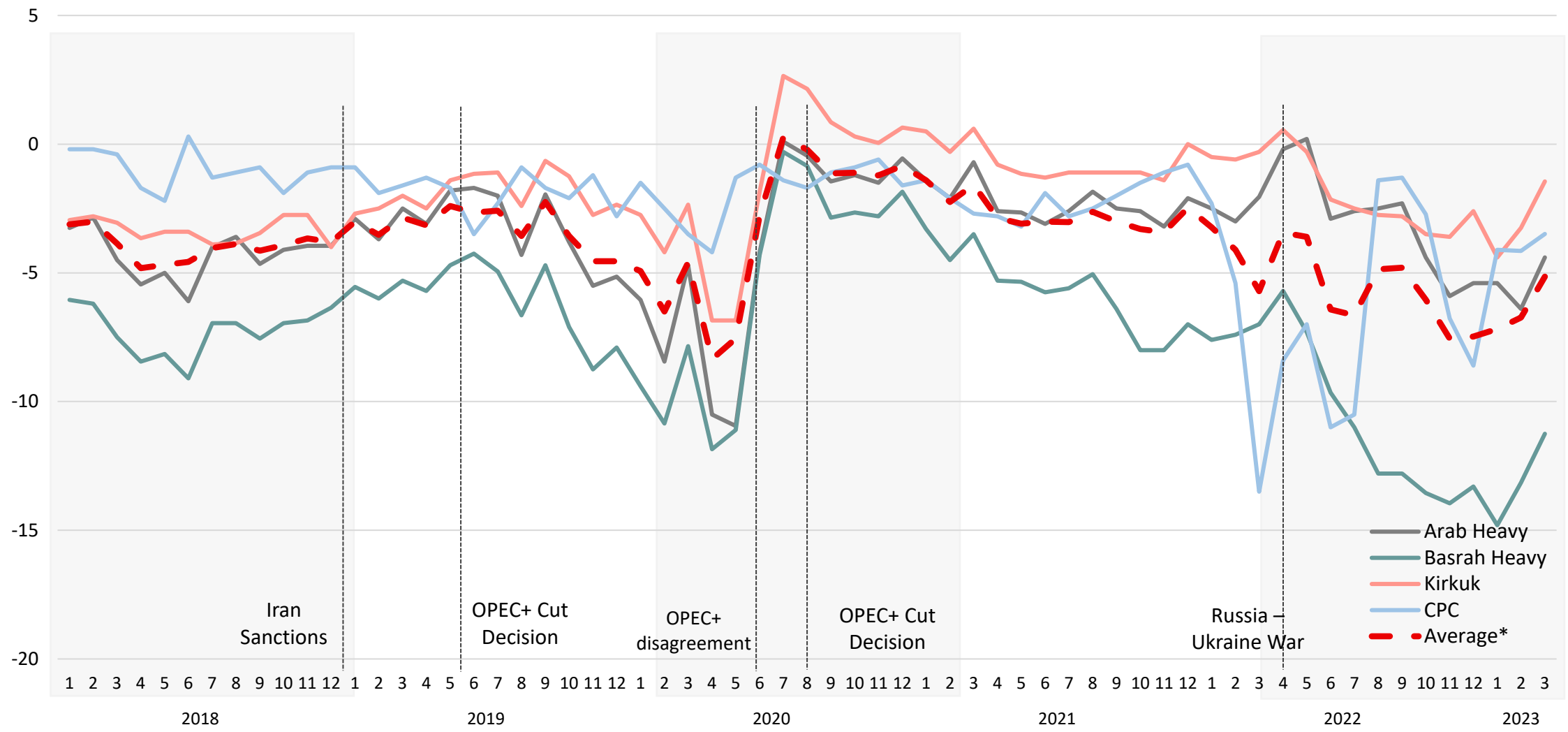
data as of 31 March 2023, 5 year range shows 2018-2022

Gasoline and High Sulphur Fuel Oil Cracks



data as of 31 March 2023, 5 year range shows 2018-2022

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



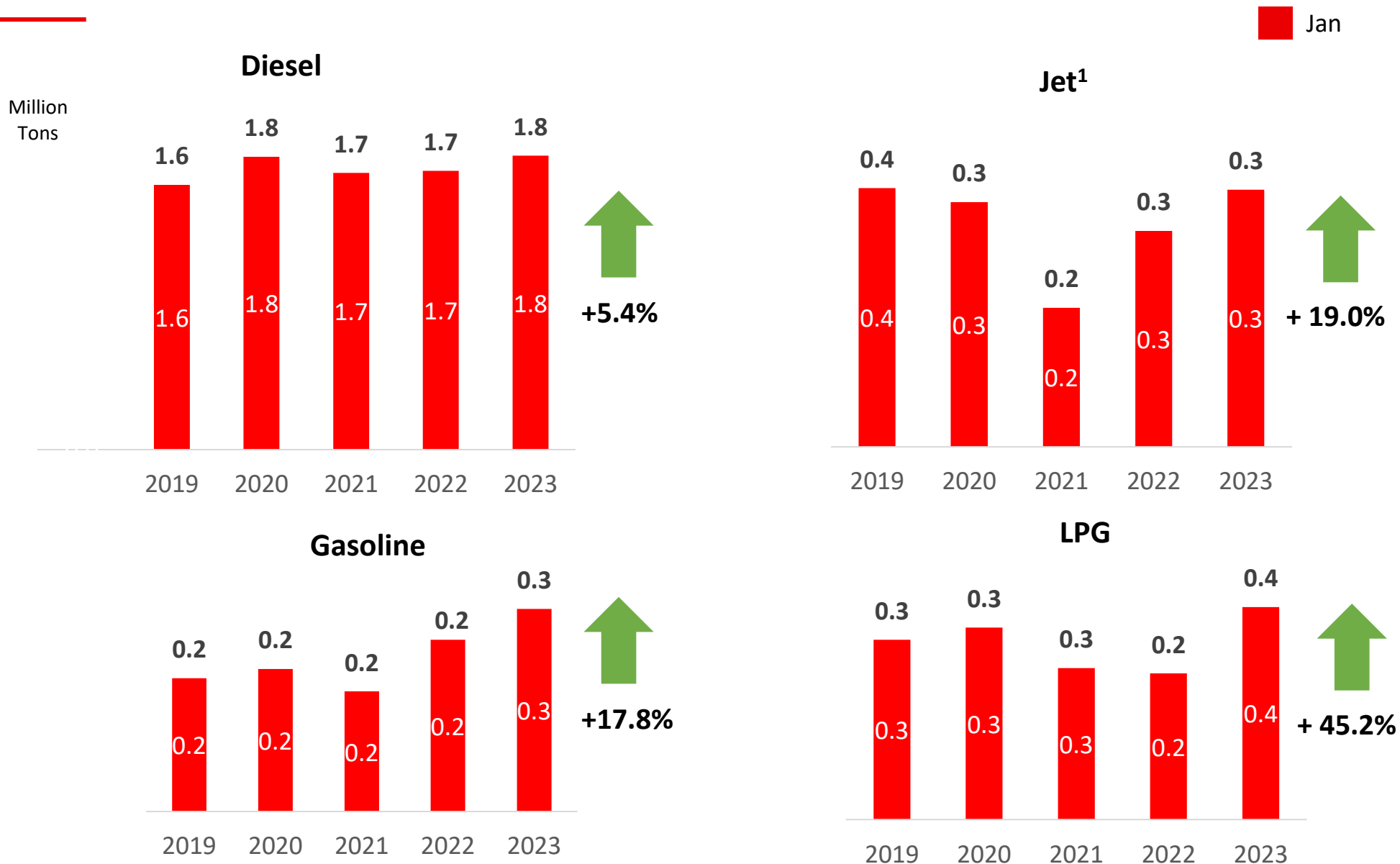
data as of 31 March

*Simple average of listed differentials



Turkish Market

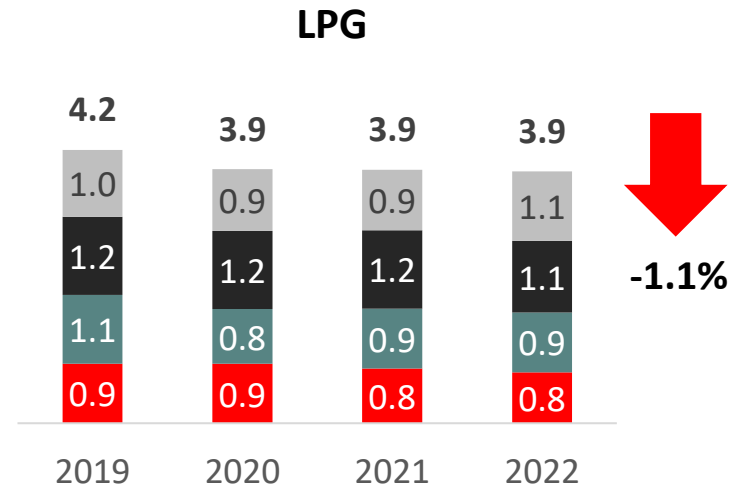
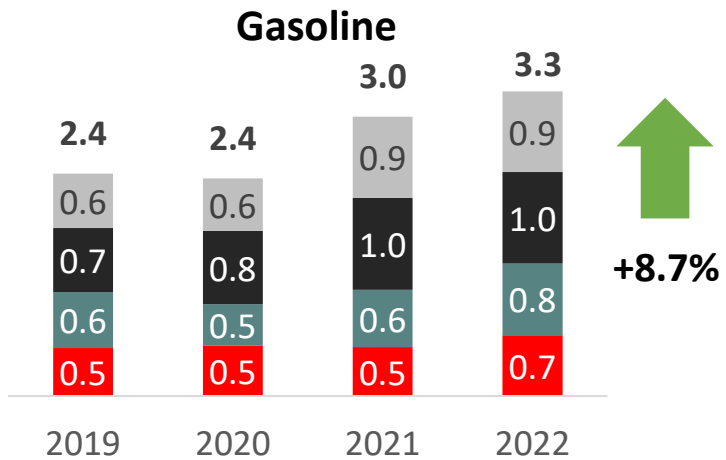
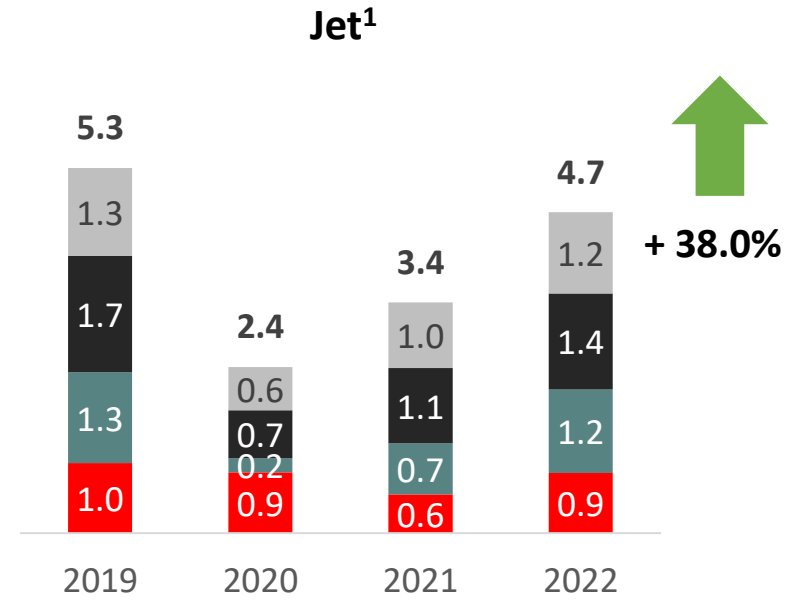
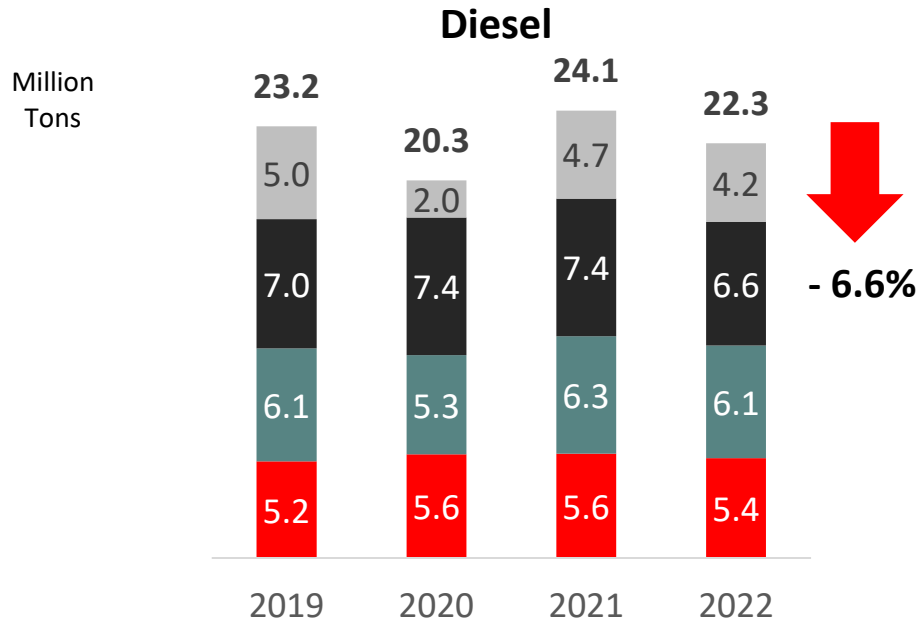
Turkish Market, 1M 2023



¹Transit flight consumption included

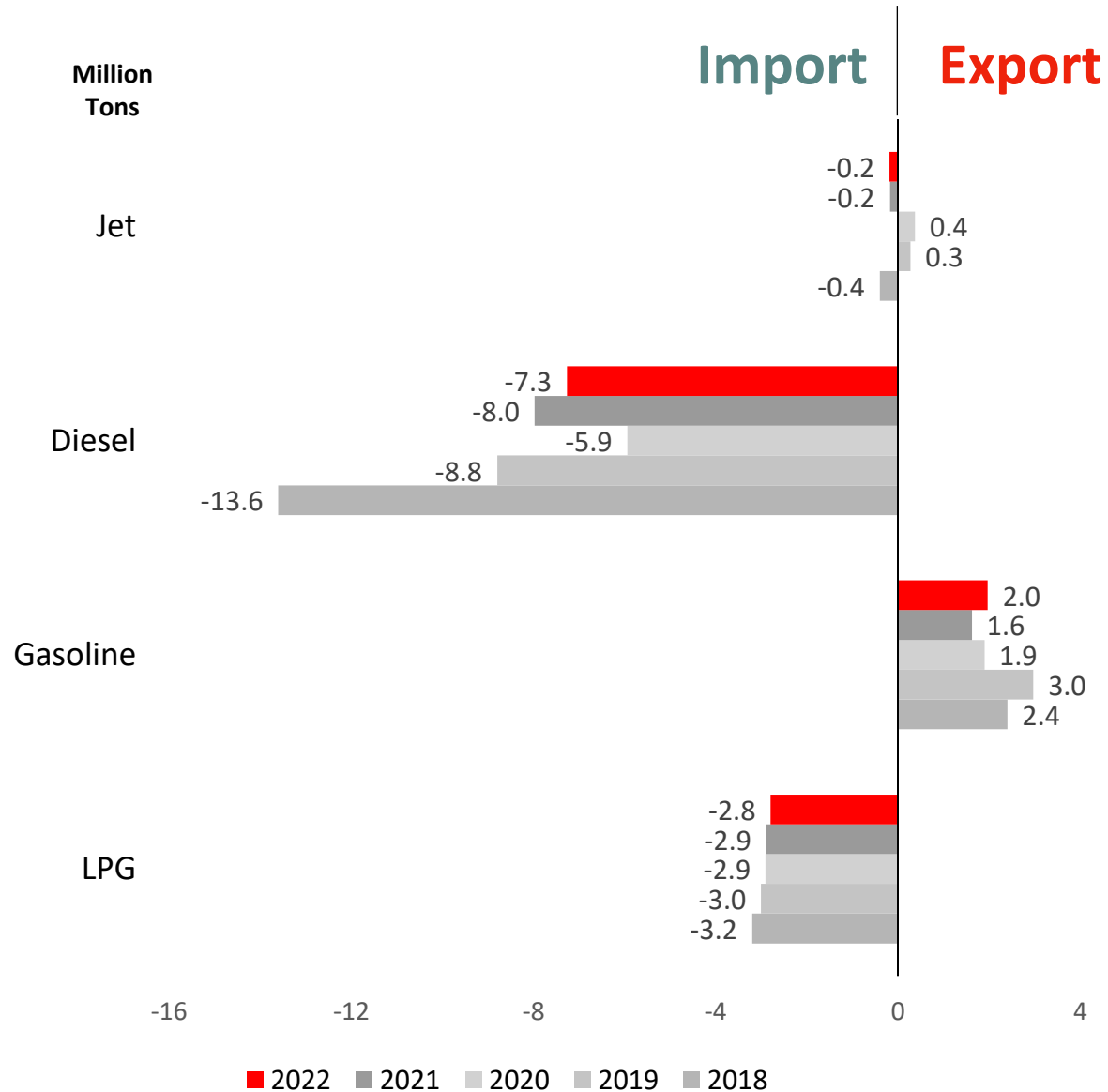
Turkish Market, 12M 2022

■ Q1 ■ Q2 ■ Q3 ■ Q4



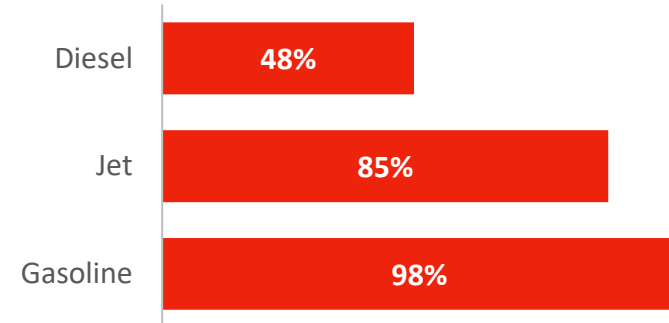
¹Transit flight consumption included

Turkey's Net Import / Export Balance

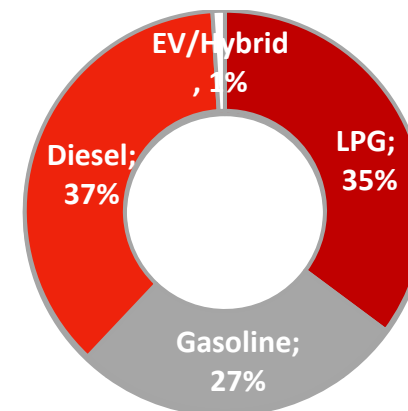


Market Share of Tüpraş

2022 12M



Fuel Choice of Passenger Cars 2022

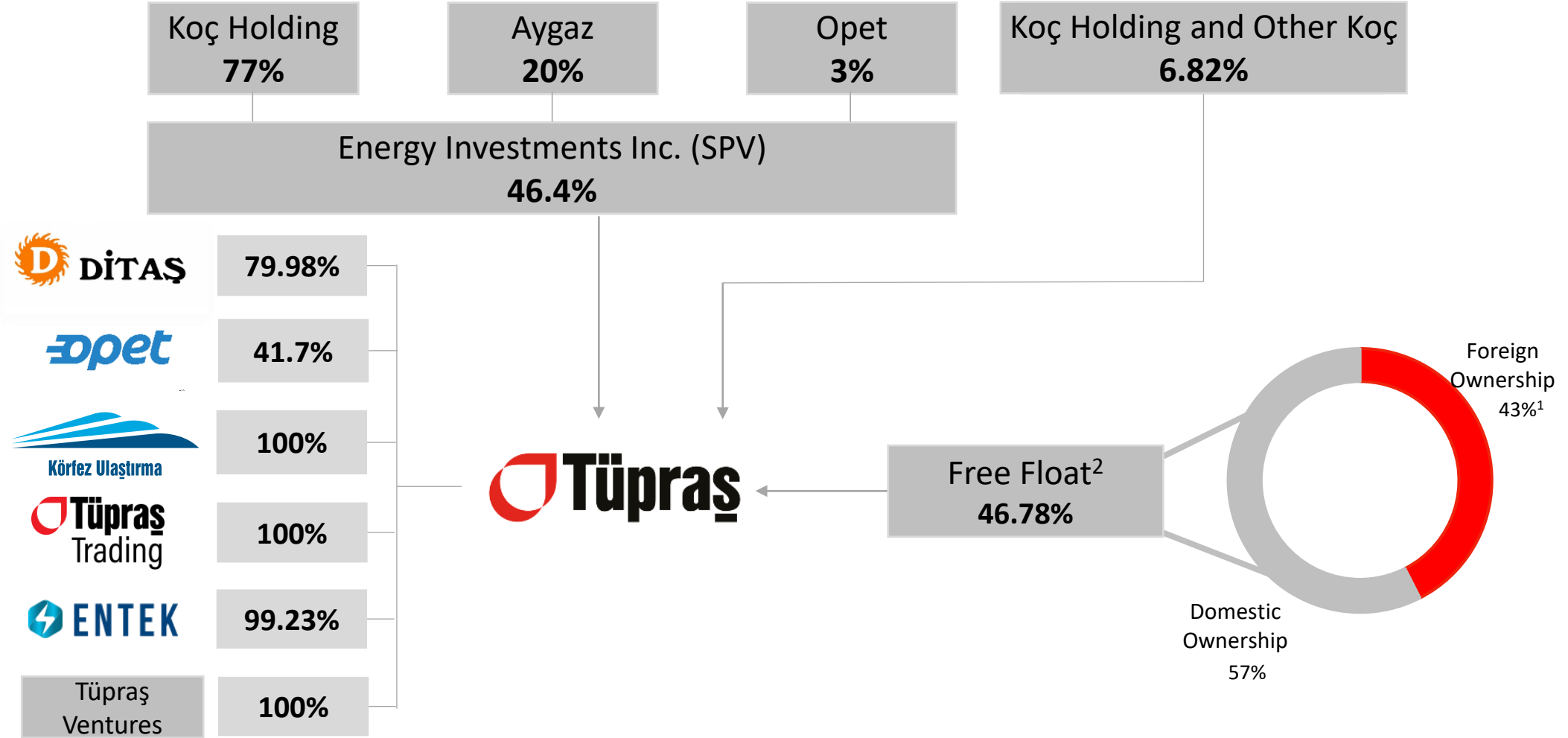




Company Overview

Tüpraş Shareholder Structure

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

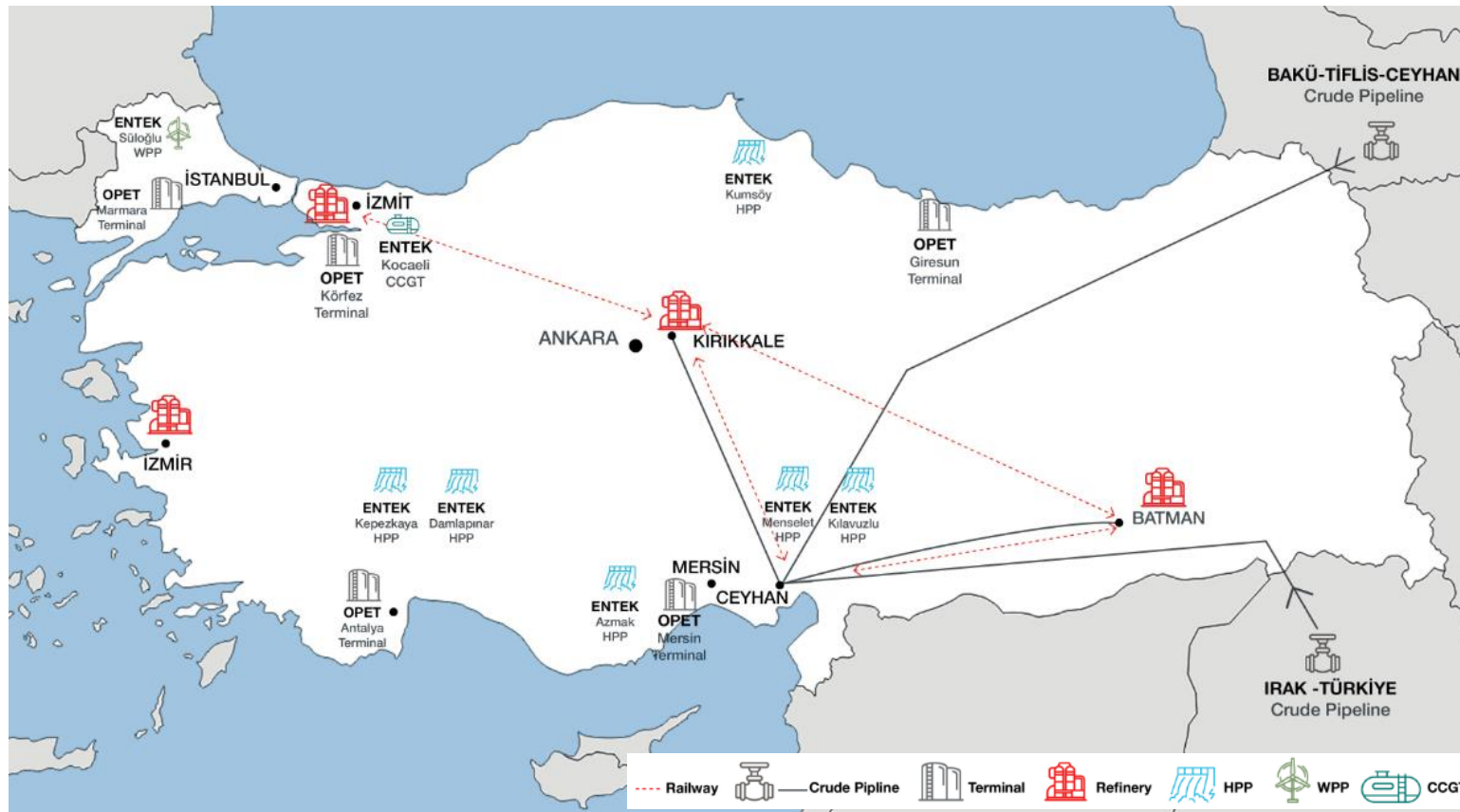


¹ As of December 31st, 2022

² Includes %1.11 shares of Liquid Petroleum Co.

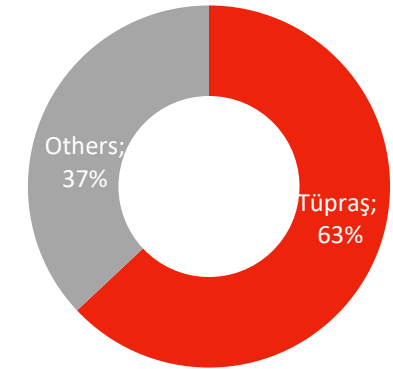
Tüpraş' Refining Assets & Distribution Network

	İzmit	İzmir	Kırıkkale	Batman	Total
Capacity (mn tons)	11.3	11.9	5.4	1.4	30
Nelson Complexity	14.5	7.66	6.32	1.83	9.5
Storage Capacity (mn m ³)	3.0	2.5	1.3	0.3	7.0
	CCGT	Wind Power Plant		Hydro Power Plant	Total
Electricity Production Capacity Entek (MW)	112	66	264		442

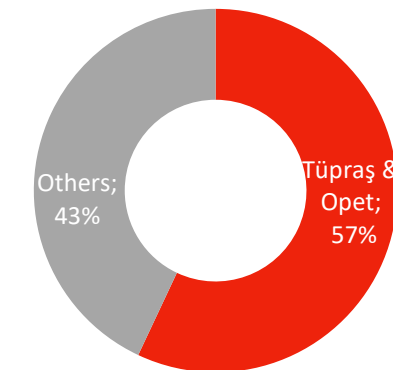


Integrated system optimization with high complexity, procurement & logistics flexibility

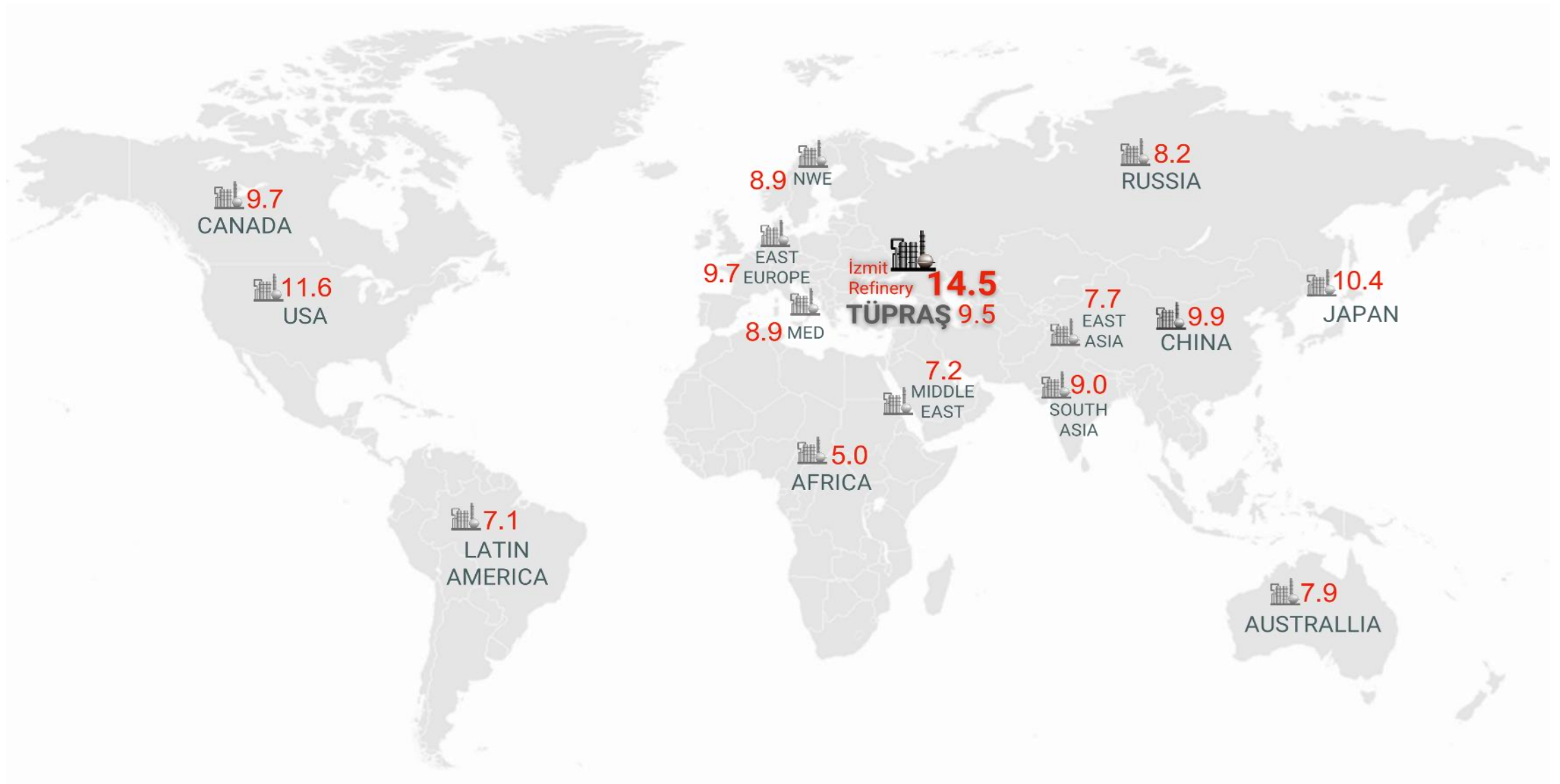
Turkey's petroleum product needs



Turkey's Storage Capacity



Nelson Complexity of Refining Companies



OPET - Distribution



Tüpraş Share: 41.7%

- 1,857 stations as of 31 December 2022.
- As of December 2022 Market share: 18.9% in white products; 31.4% 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%

- 2 Crude Oil Tanker: 314,906 DWT
- 8 Product Tanker: 166,523 DWT
- 4 Bitumen Tanker: 61,450 DWT

Körfez Ulaştırma - Railway Transport

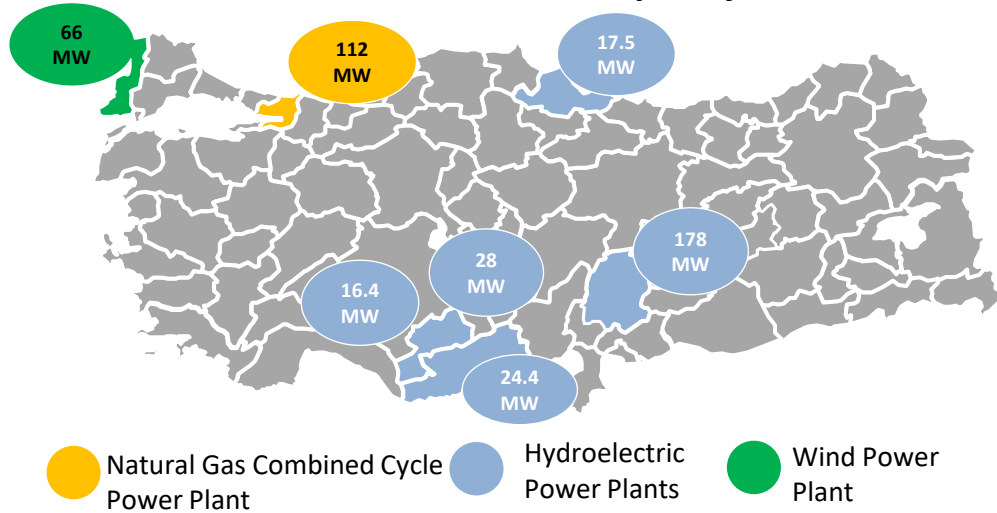


Tüpraş Share: 100%

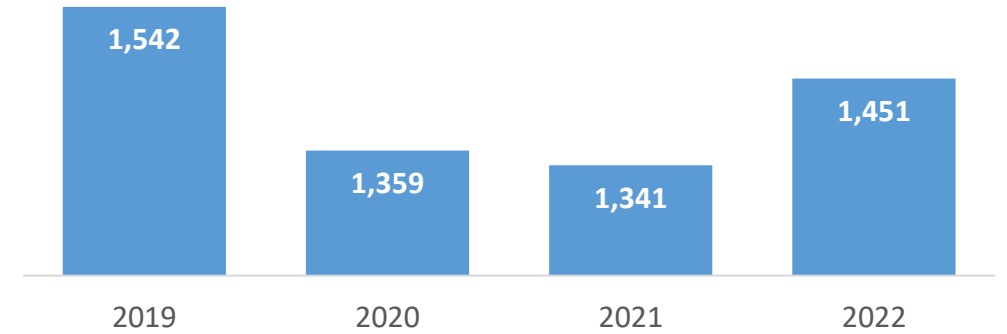
- ~5% share in Turkish rail freight market
- ~2.5 mn ton of product and semi-product carried in 2022
- Operates with 12 locomotives (7 of them are hybrid) and 519 cistern wagons

Entek - Electricity (Tüpraş Share: 99.23%)

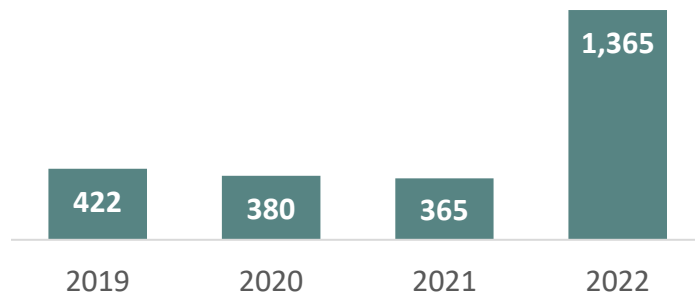
Entek's Installed Capacity



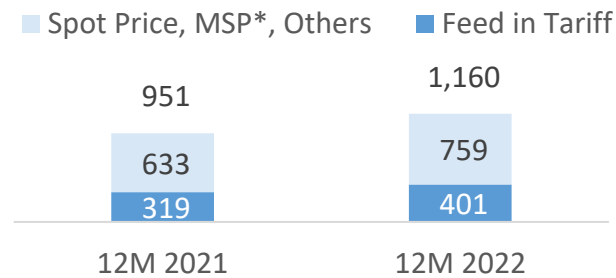
Production (000 MWh)



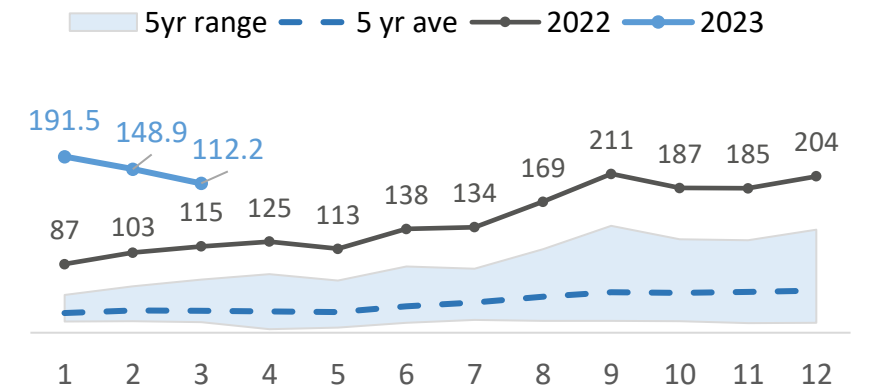
EBITDA (million TL)*



Total ZCE Sales from Production (GWh)



PTF Price (\$/MWh)

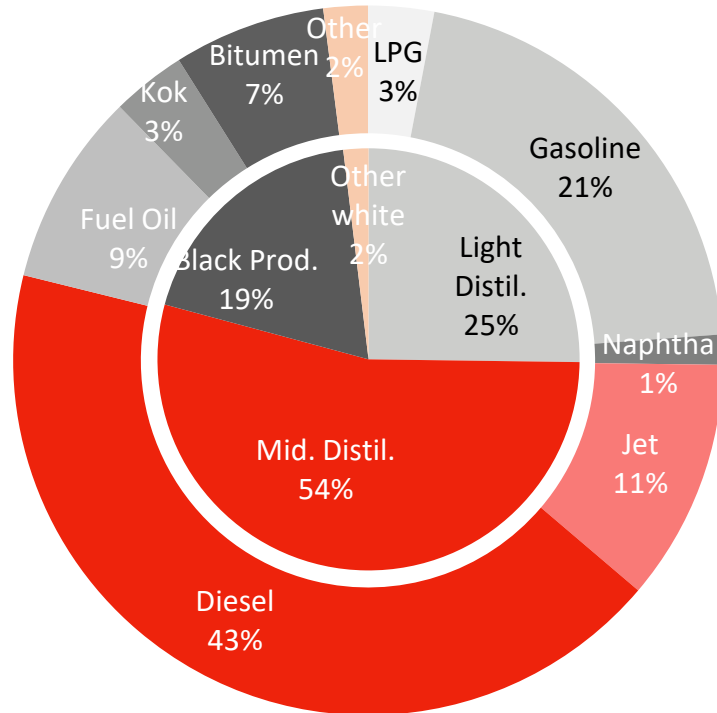




Operations

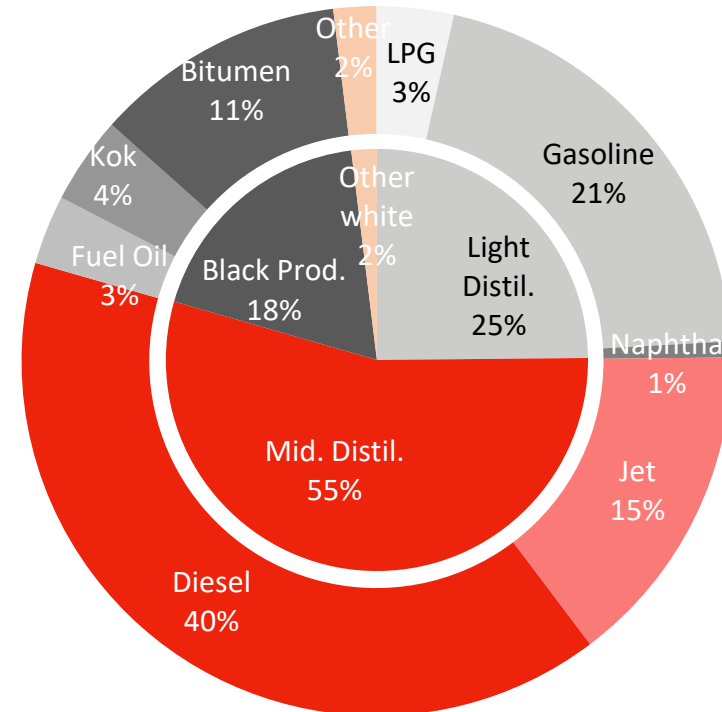
Q4 Product Yields

Q4 2021



White Product Yield (%)	80.0%
Production	7.0 mn tons
API	31.0

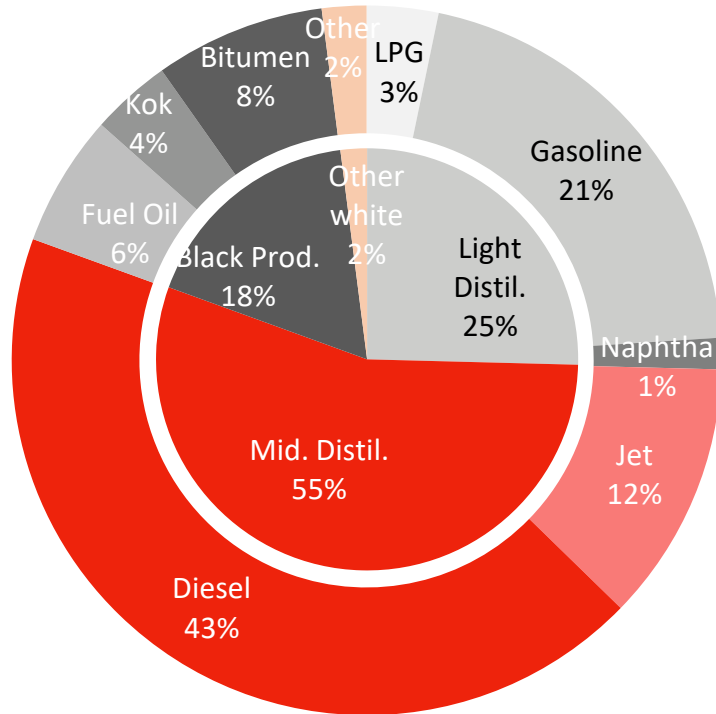
Q4 2022



White Product Yield (%)	80.2%
Production	6.0 mn tons
API	30.8

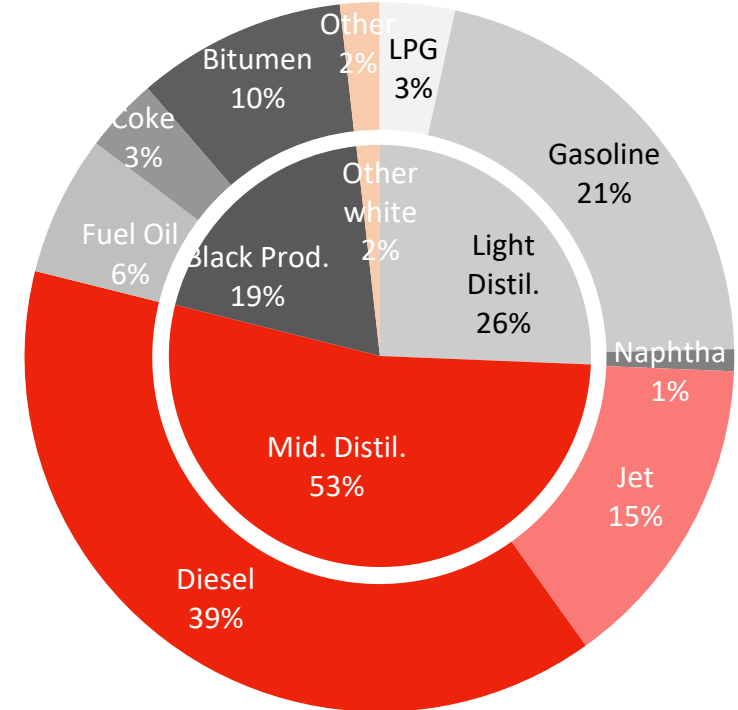
Annual Product Yields

12M 2021



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

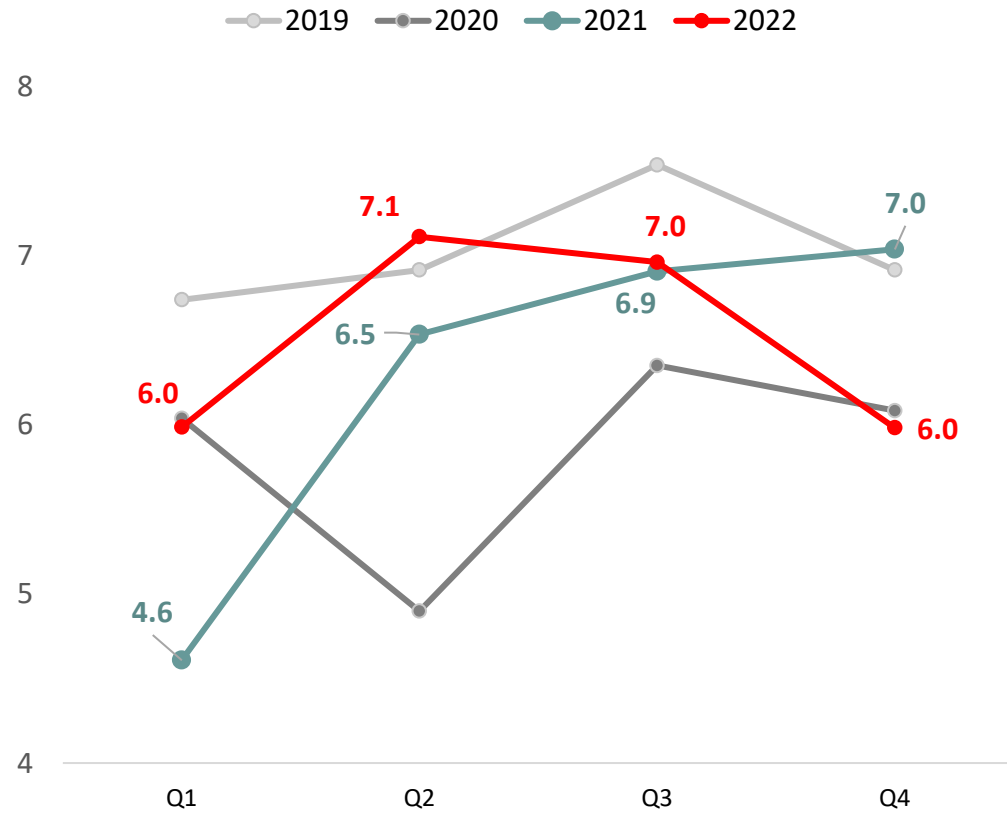
12M 2022



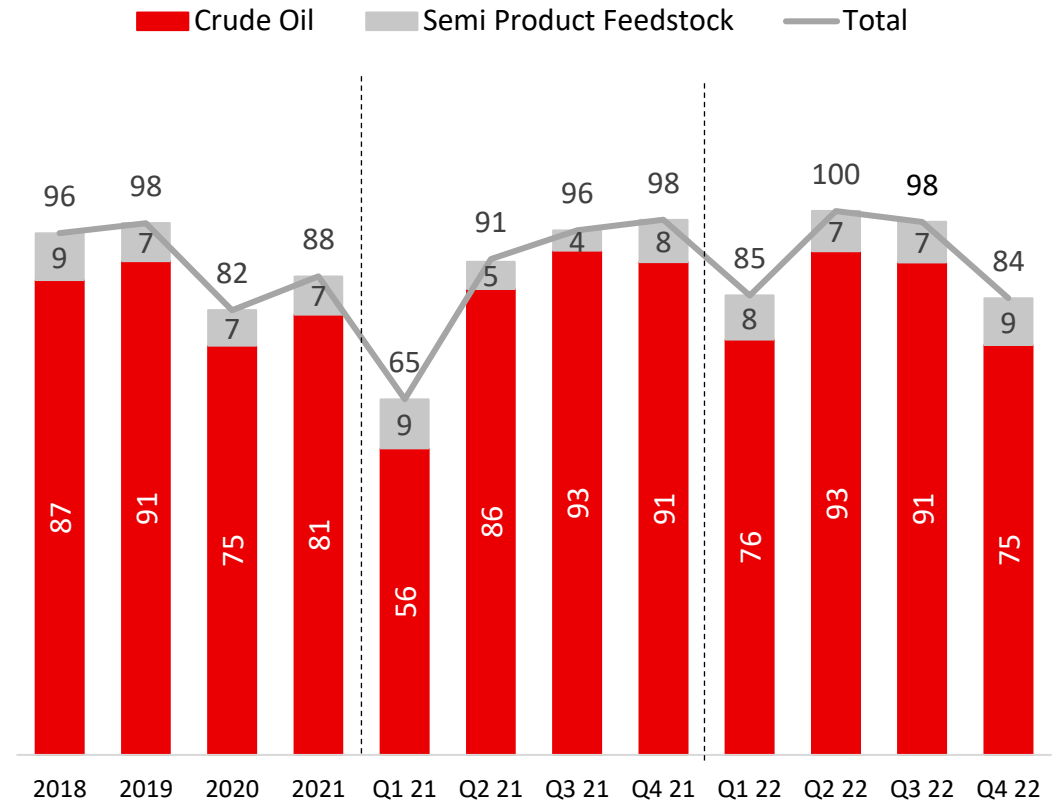
White Product Yield (%)	80.0%
Production	26.0 mn tons
API	31.1

Capacity Utilization and Quarterly Production Volume

Quarterly Production (Million Tons)



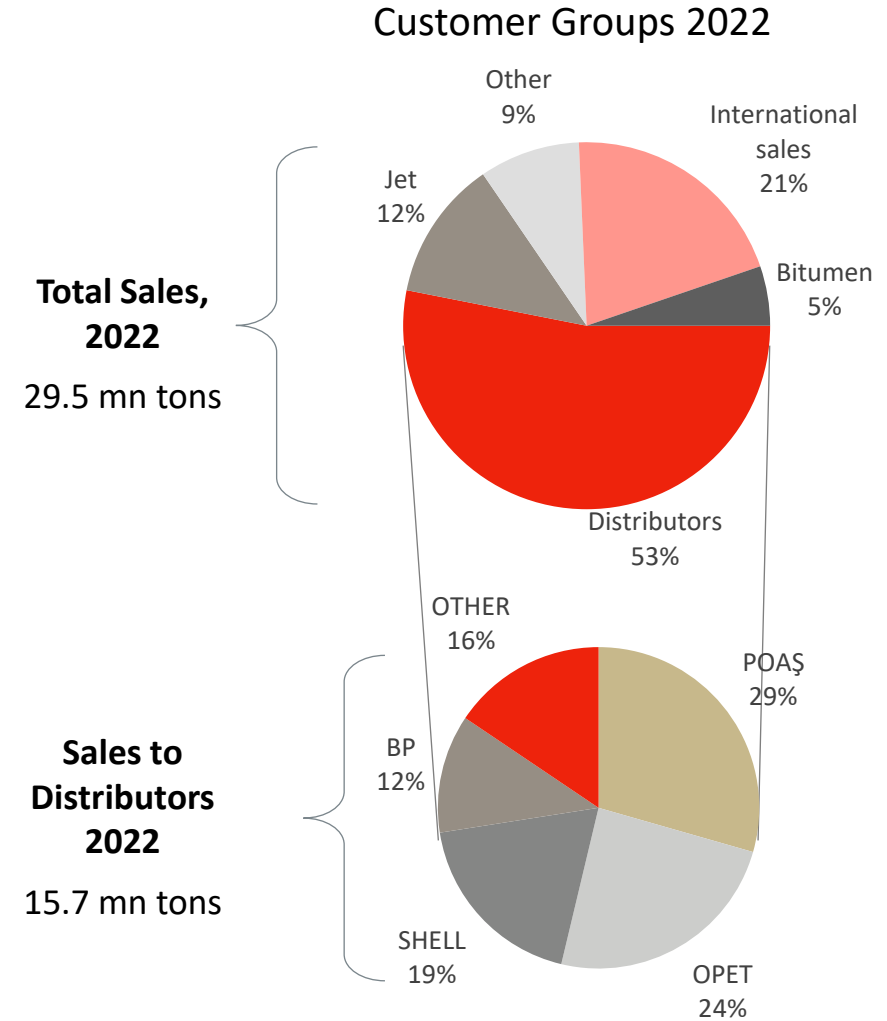
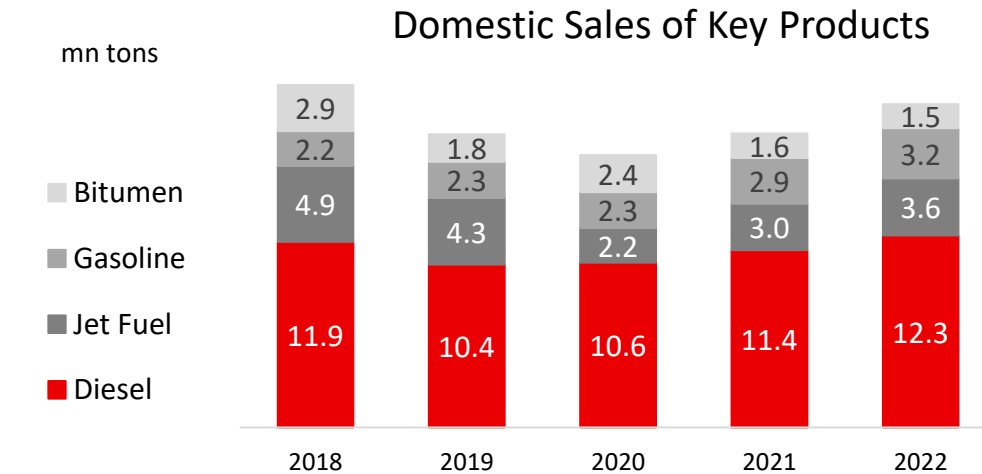
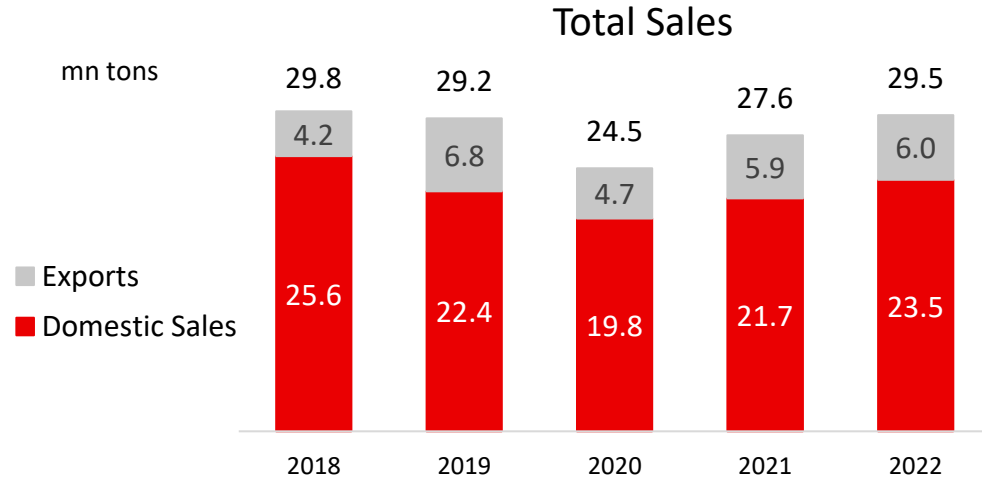
Capacity Utilization (%)



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

Sales

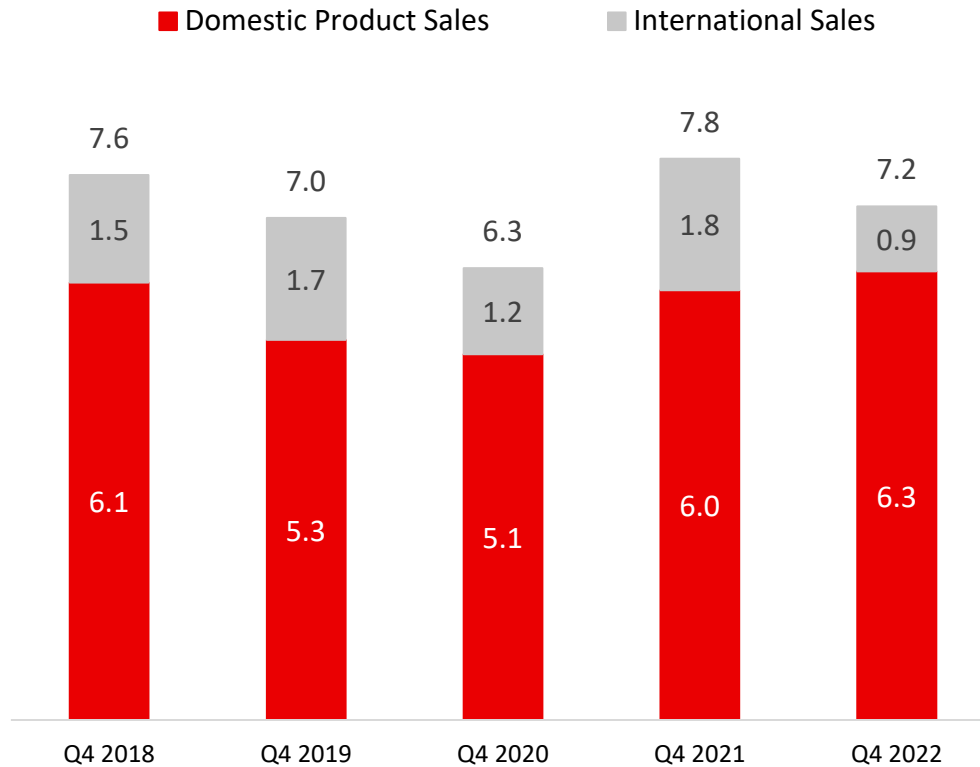
- Tüpraş generated 29.5 million tons of total sales in 2022.



Product Sales in Q4 2022 (Million Tons)

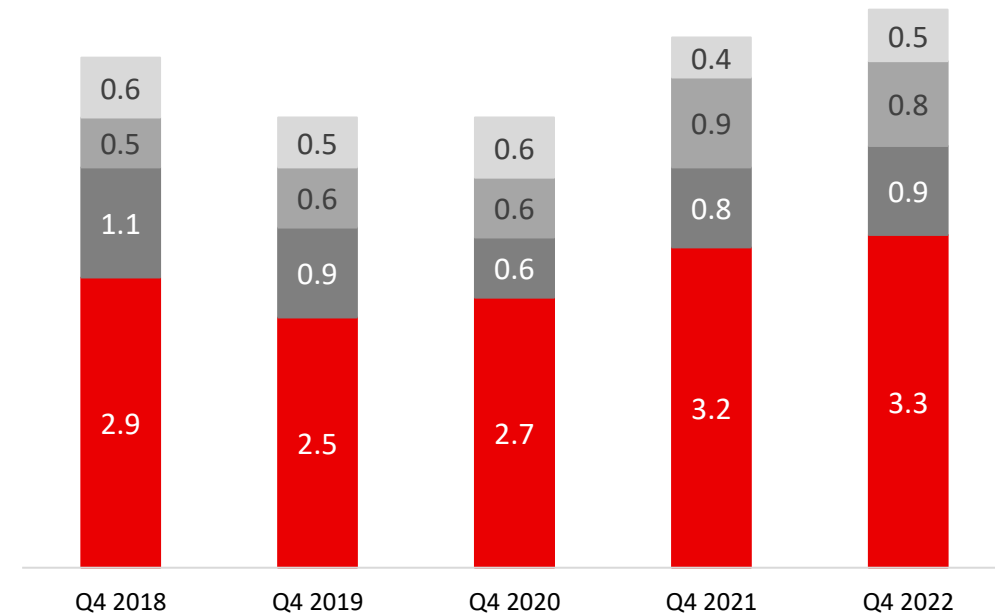
- Tüpraş generated 7.2 million tons of sales in Q4 2022, 9% lower y-o-y.
- Domestic sales were 4% higher y-o-y in Q4 2022 with better diesel, jet fuel and bitumen sales.

Total Product Sales



Domestic Sales of Selected Products

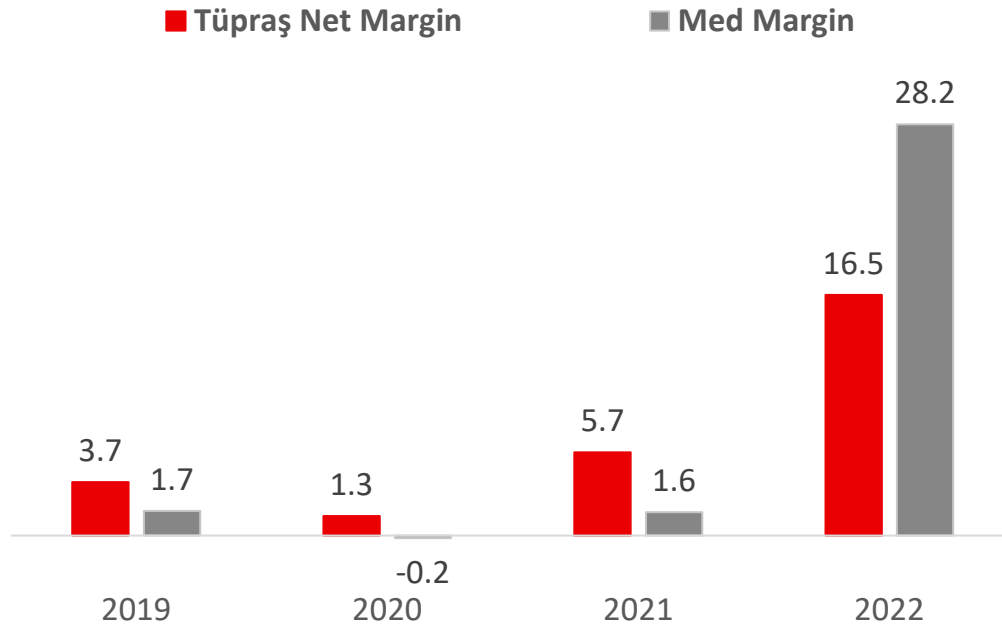
■ Diesel ■ Jet Fuel ■ Gasoline ■ Bitumen





Financials

Tüpraş and Med Refining Margins



(\$/bbl)	Gross Margin	Inventory Effect	Clean Gross Margin	Clean NET Margin	Net Margin	Med Margin	Processed bbl (mn)
Q4 2022*	30.0	0.0	30.0	19.0	19.0	29.0	45.5
12M 2022	23.9	0.7	23.2	15.8	16.5	28.2	198.8
Q4 2021	14.0	3.7	10.4	5.5	9.1	3.6	52.2
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

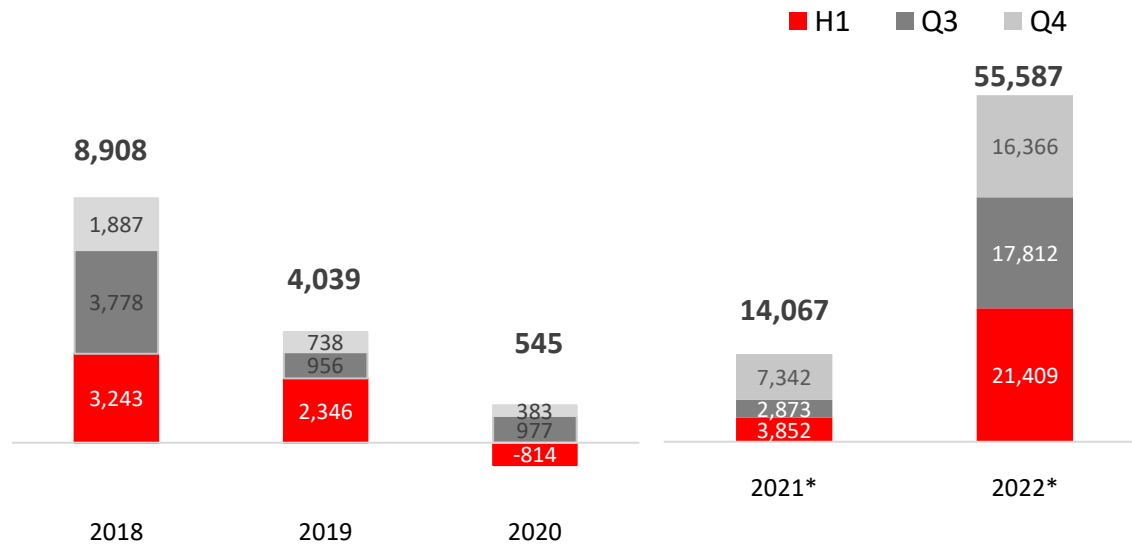
* Med Margin is higher than Tüpraş's Net Margin in Q2 2022 after the significant widening in Urals due to Russia-Ukraine war. Weight of Ural crude oil is 100% for crude oil supplies in the theoretical calculation of Med Margin.

Income Statement (Million TL)

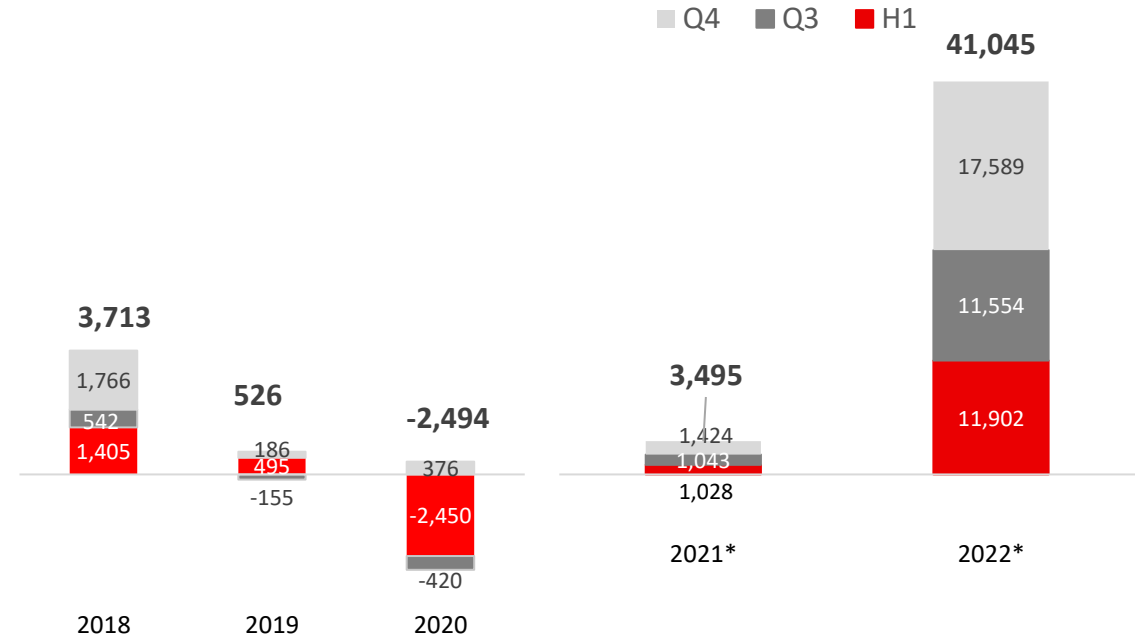
Million TL	Q4 2022	Q4 2021	%	2022	2021	%
Net Sales	116,026	56,892	104%	481,765	152,492	216%
COGS	-96,560	-48,919	-97%	-418,988	-136,632	-207%
Gross Profit	19,466	7,974	144%	62,777	15,860	296%
Operating Expenses	-3,084	-1,237	-149%	-8,235	-3,318	-148%
Income/Loss from other operations	-100	-9,730	99%	-8,935	-11,766	24%
Operating Profit	16,282	-2,993	644%	45,607	777	5773%
Inc./Loss from Equity pick ups	-311	395	-179%	365	701	-48%
Operating Profit Before Fin. Income/Loss	15,971	-2,598	715%	45,972	1,477	3012%
Financial Income /Expense	-1,854	3,278	-157%	-6,096	881	-792%
Profit Before Tax	14,116	679	1978%	39,876	2,358	1591%
Net Profit (excluding minority interest)	17,589	1,424	1135%	41,045	3,495	1074%
EBITDA* (mn. TL)	16,366	7,342	123%	55,587	14,067	295%
Inventory Gain/Loss (mn. TL)	-176	5,223	-103%	7,274	8,659	-16%
EBITDA* (mn. TL) CCS	16,542	2,118	681%	48,313	5,409	793%

Financial Highlights

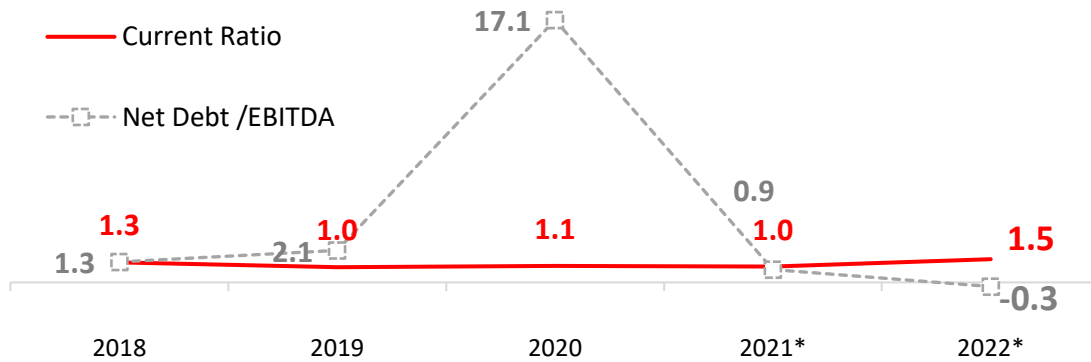
EBITDA (mn TL)



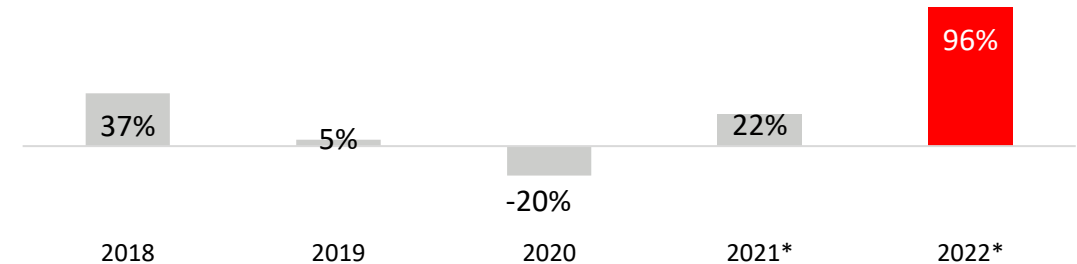
Net Income¹ (mn TL)



Current Ratio & Net Debt / EBITDA

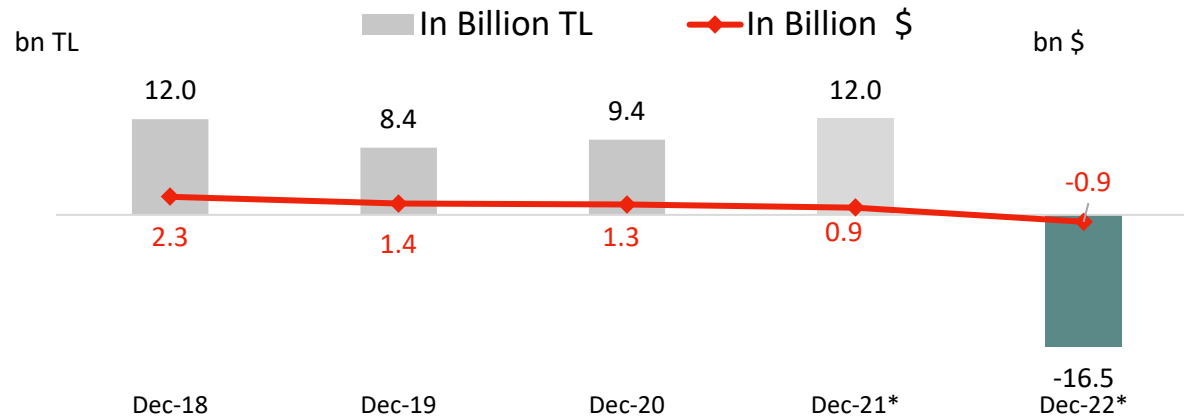


Return on Average Equity (%)

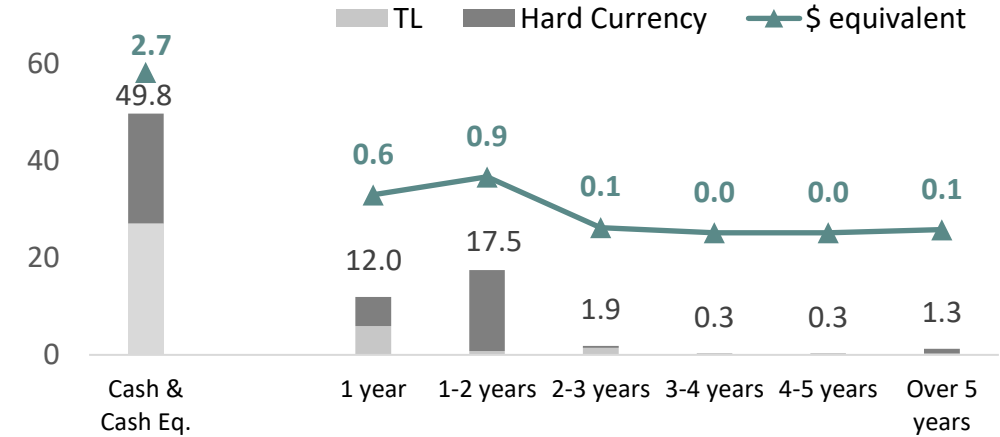


Balance Sheet Analysis

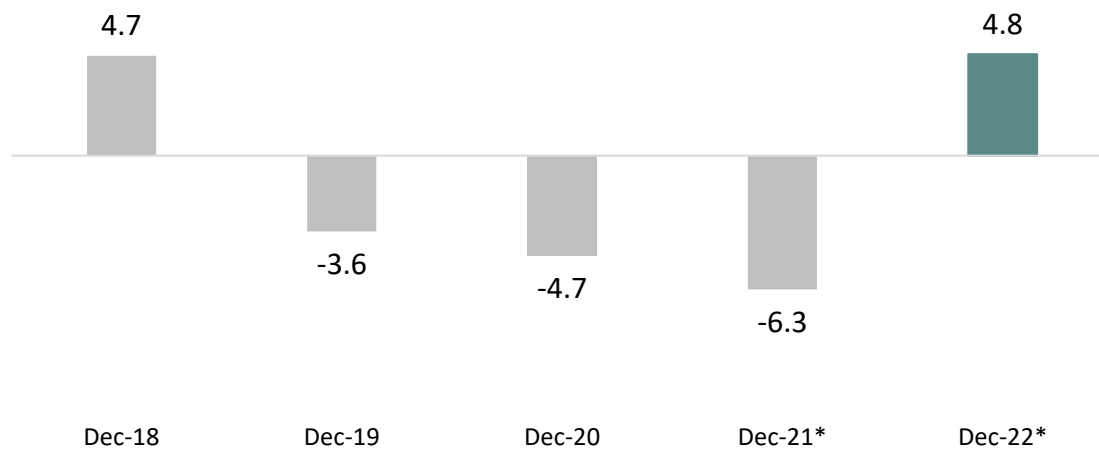
Net Debt



Redemption Schedule (Billion TL)



Working Capital Requirement (Billion TL)



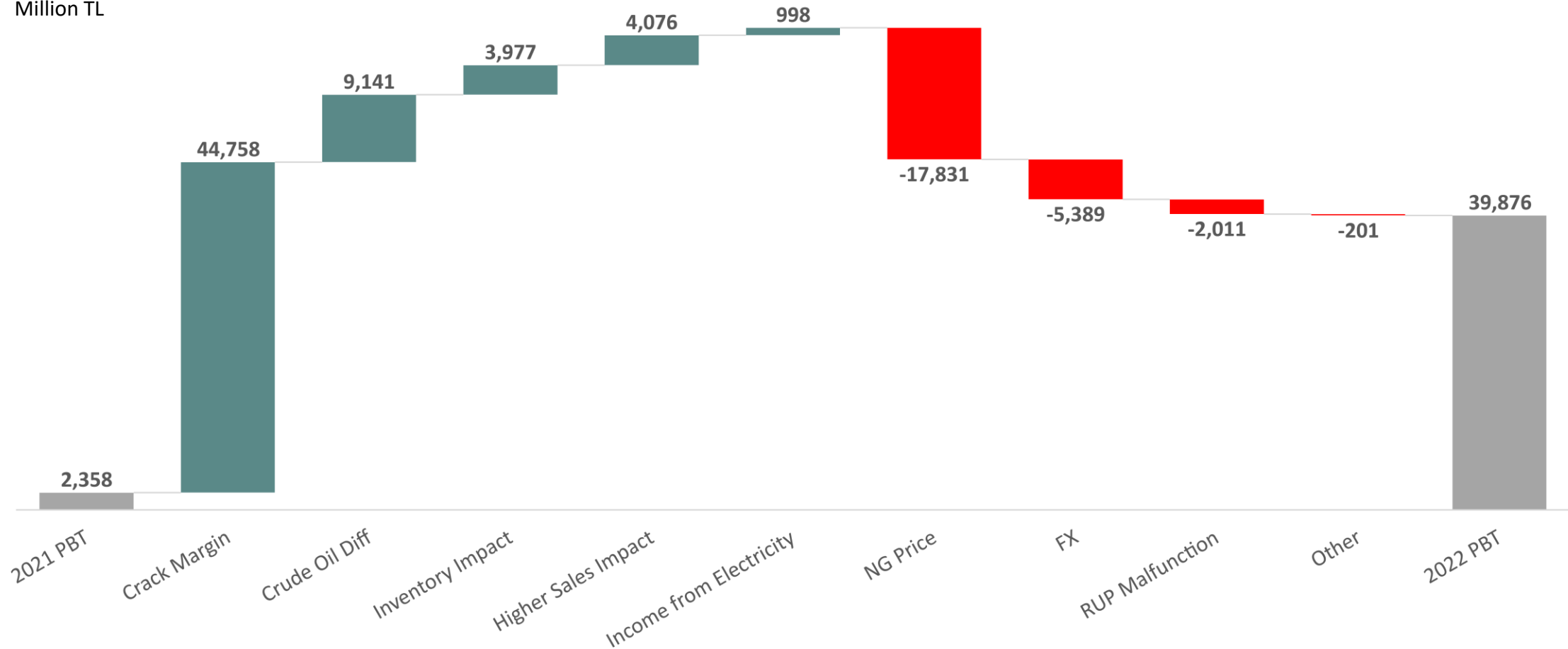
Financial Management

- Maintenances related change in crude diet, coupled with a sharp drop in Brent prices towards the end of Q4, resulted in lower trade payables and increase in WC.
- Net cash position continued with strong operating cashflow generation.

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**

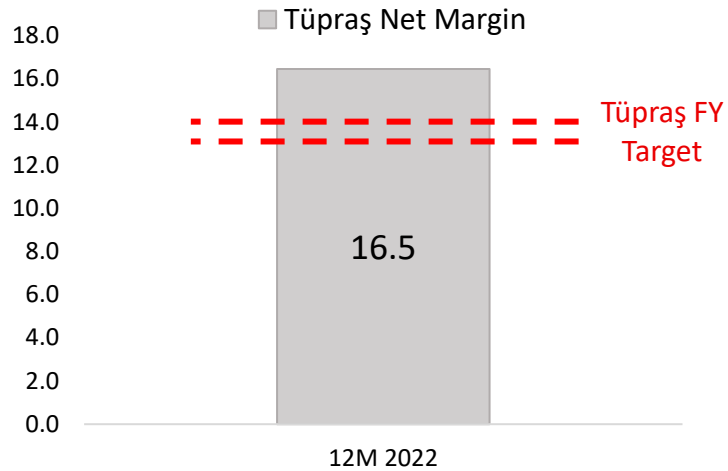
- 24-25 mn tons production, 28-29 mn tons sales and 85 - 90% capacity utilization

Consolidated Capex **~350 million \$**

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

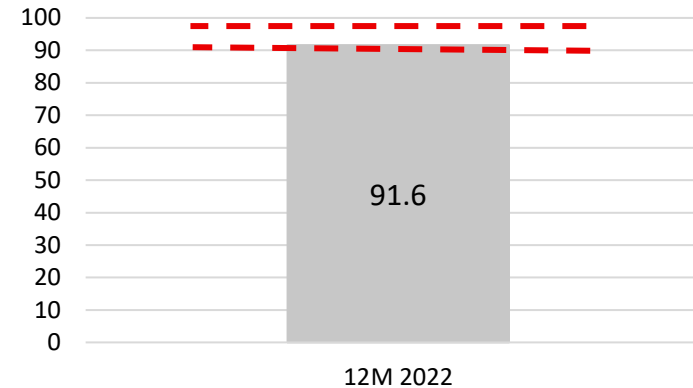
12M 2022 Results

Refining Margins (\$/bbl)



16.5 \$/bbl net refining margin in 12M 2022

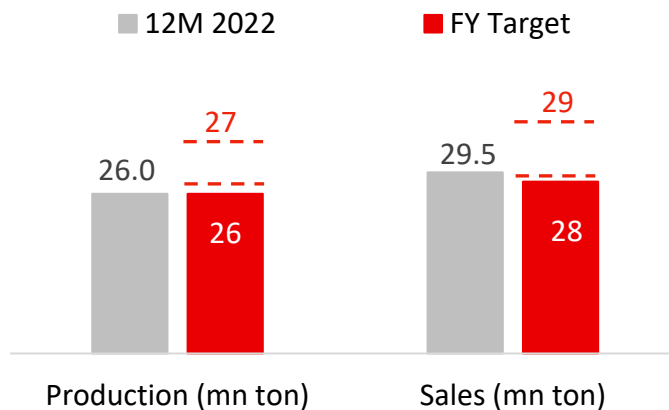
Capacity Utilization (%)



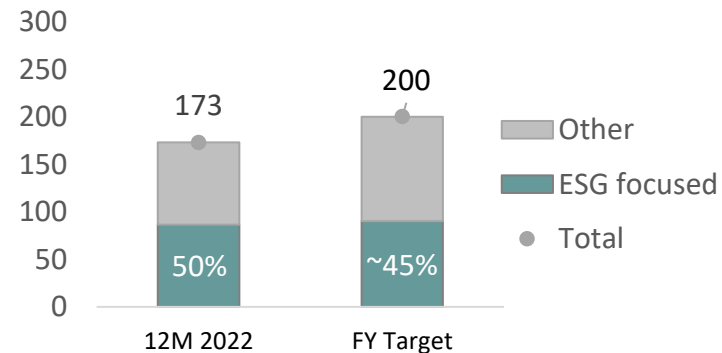
91.6 % total capacity utilization in 12M 2022

29.5 mn tons of sales and 26 mn tons of production in 12M 2022

Operationals



Total Capex (mn \$)^(*)



173 mn \$ total CAPEX in 12M 2022, with 50% spent on ESG related investments

Investments (Million \$)

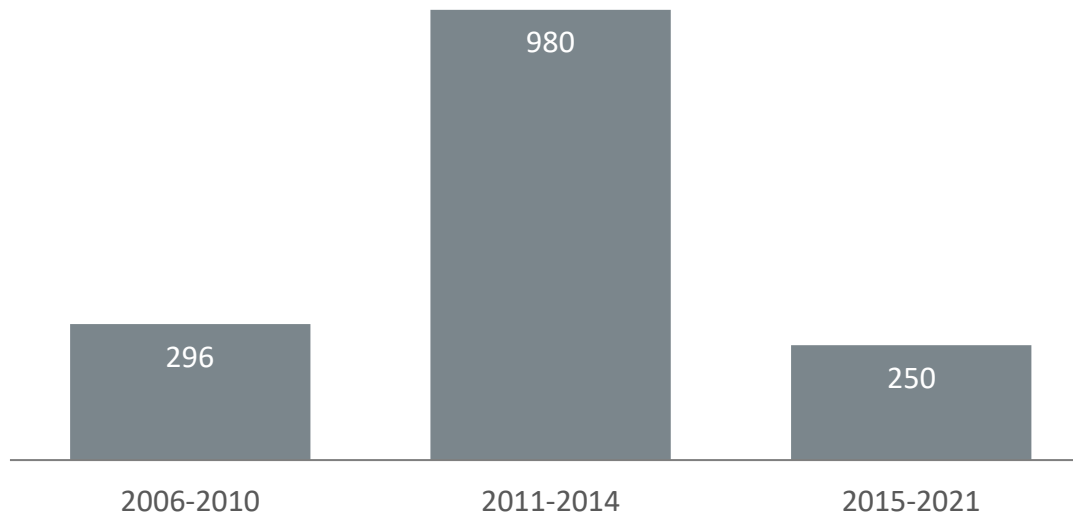
Achievements & Ongoing Projects

- 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

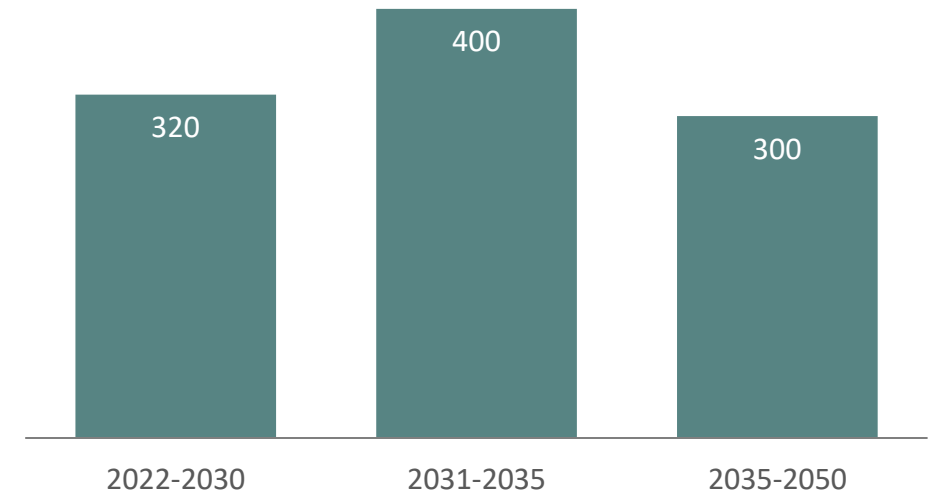
Strategic Transition - Investment Program

- 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. 460 Mn\$



Avg. 350 Mn\$



*Average Investment Amounts – 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:

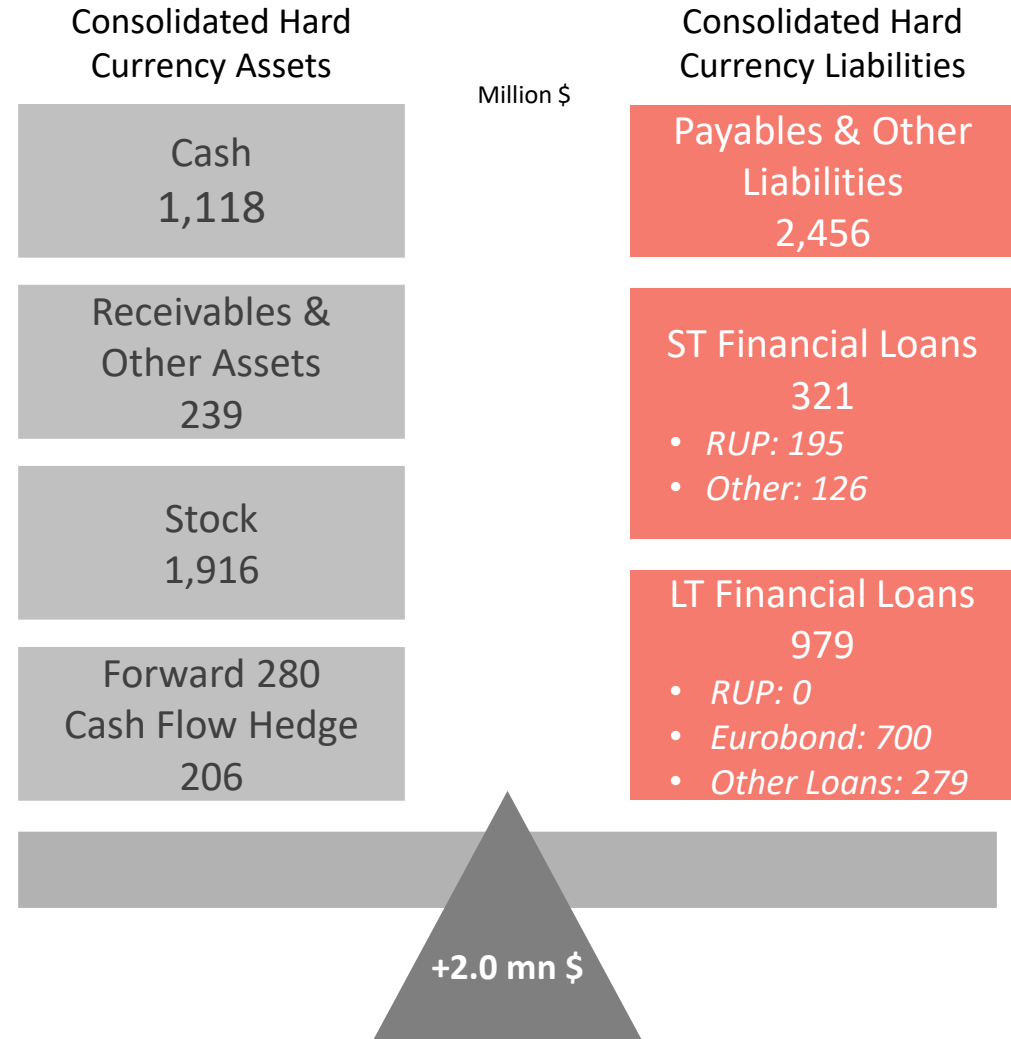
- Operational hedge: Optimum stock policy & forward pricing mechanism.
- Financial hedge: Expected inventory exposure for the year end is hedged by using derivatives.
- Hedging ratio increasing throughout the year.

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

FX Exposure Management (31 December 2022)

Tüpraş continues to employ strict FX policies to mitigate currency risks stemming from volatility.



*Cash Flow Hedge



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

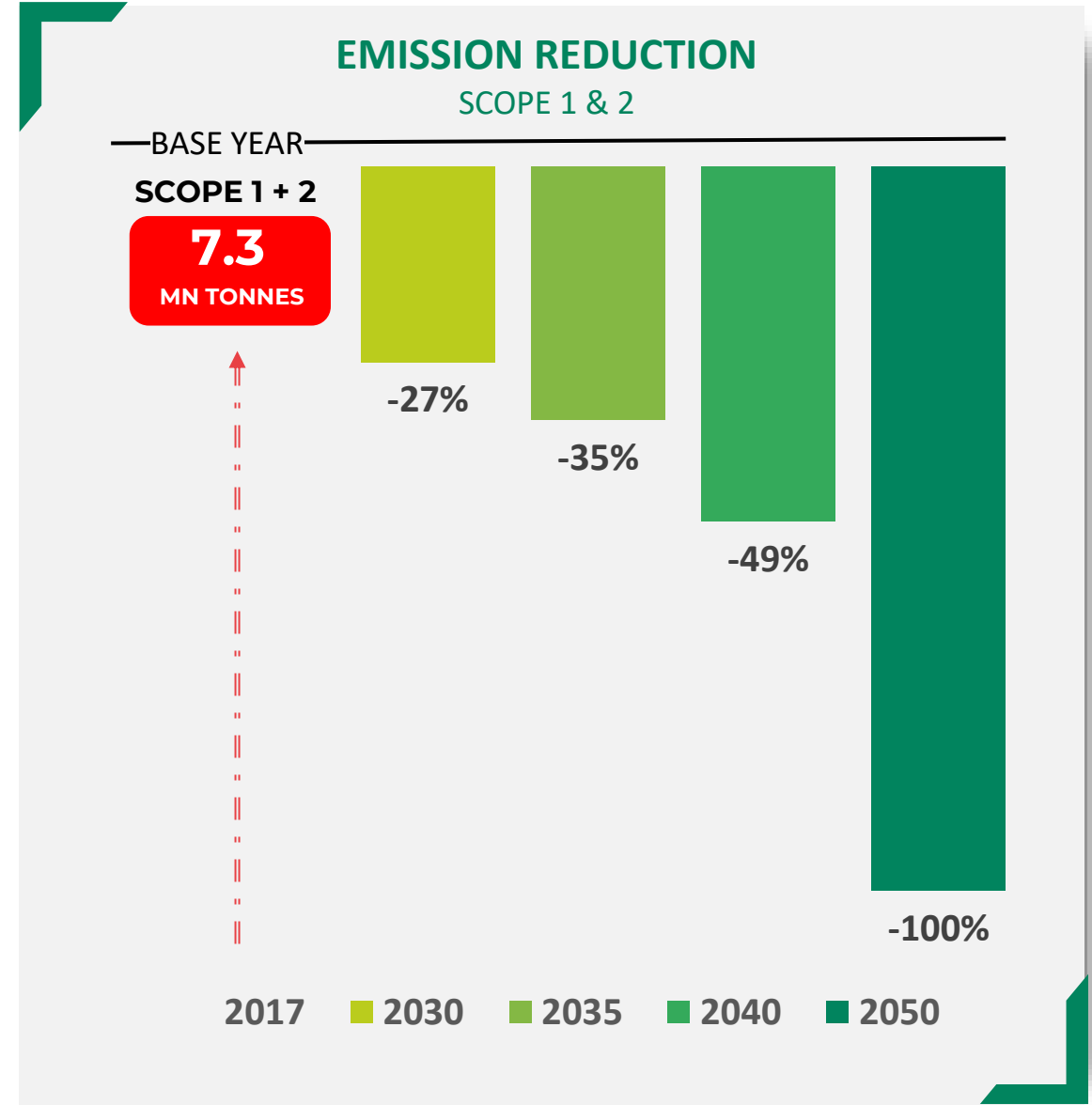
Reducing Refining Emissions

- 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.

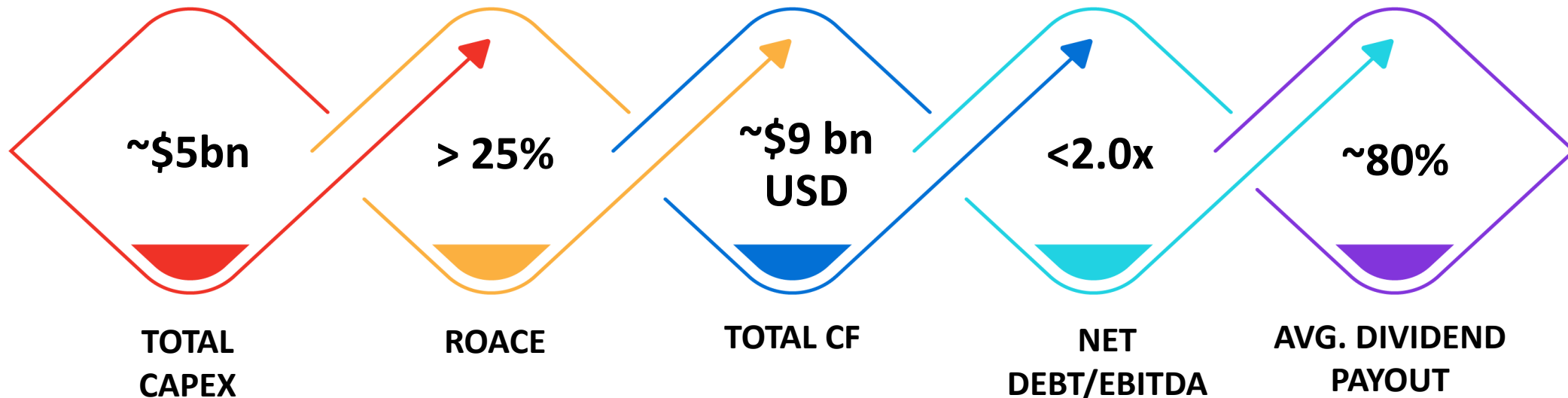
Will **eliminate our scope 1 & 2 emissions by 2050** while executing our plan and achieving these results.

\$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

İzmit

Solar - 12.48 MW (approved from EMRA)

Kırıkkale:

Solar - 12.58 MW (construction to be completed by Q2'23)

Solar – 16.72 MW (application made)

Solar – 23.3 MW (application made)

Solar – 51.3 MW (application made – with storage)

İzmir:

Wind - 12.6 MW (construction to be completed by Q3'24)

Solar - 1.24 MW (construction to be completed by Q2'24)

Batman:

Solar - 5 MW (application made)

Solar - 2 MW (already in service)



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 İzmir refinery.



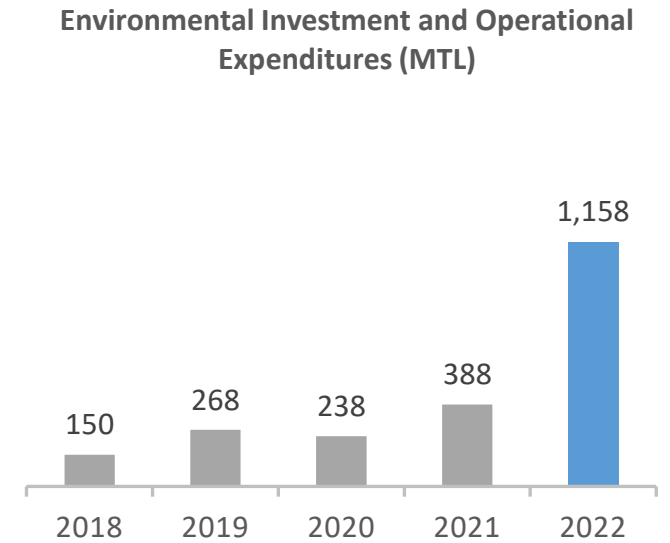
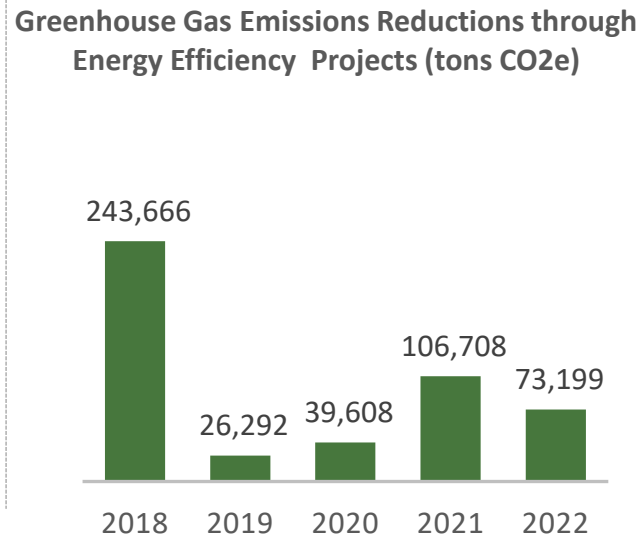
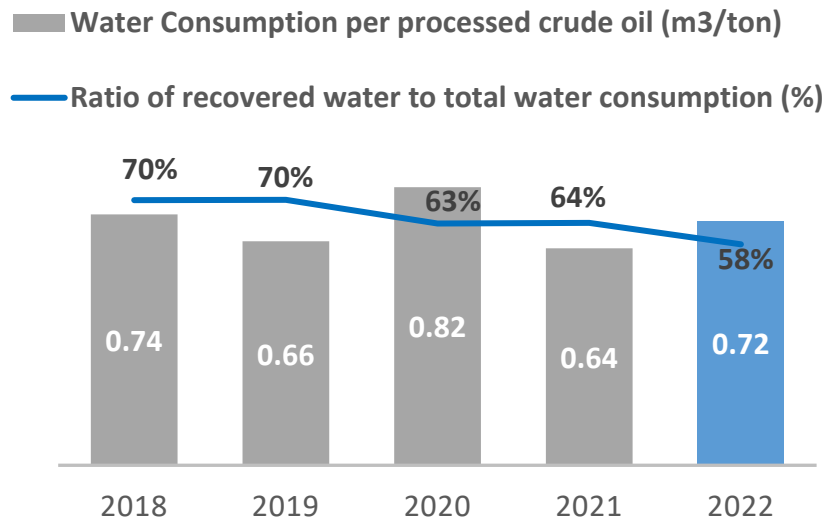
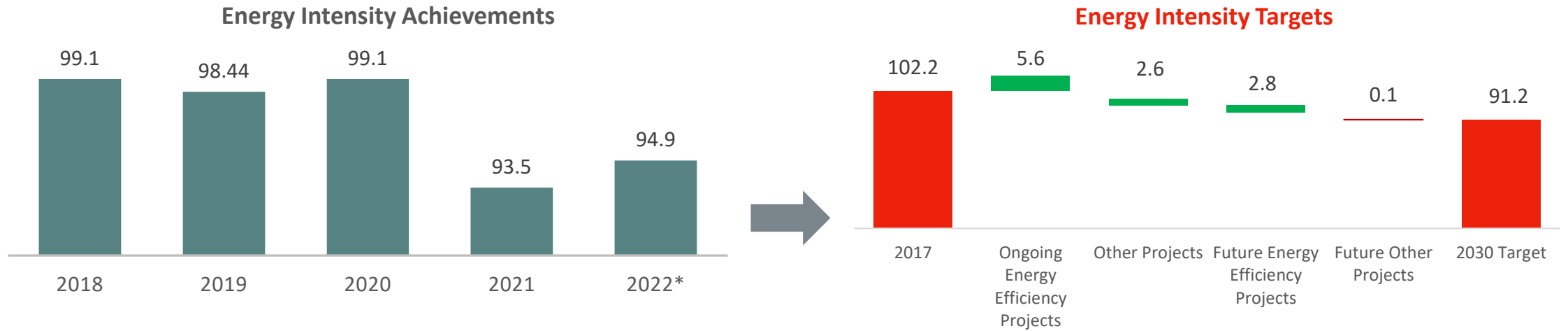
With this technology, we plan to produce sustainable aviation fuel (SAF), renewable diesel and other products with **400K ton capacity per year**

**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

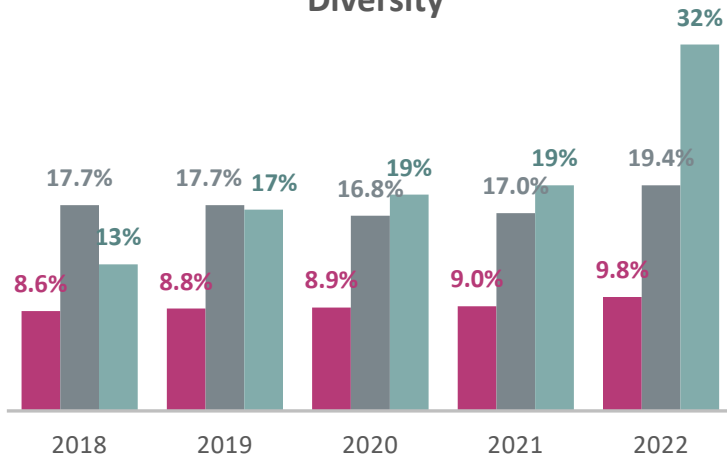
Committees under BoD

- 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

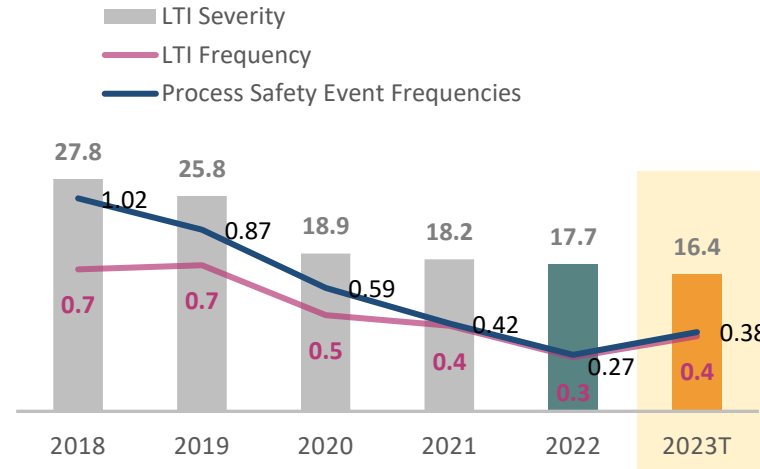
Female Representation in the Board of Directors in the next five years

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.

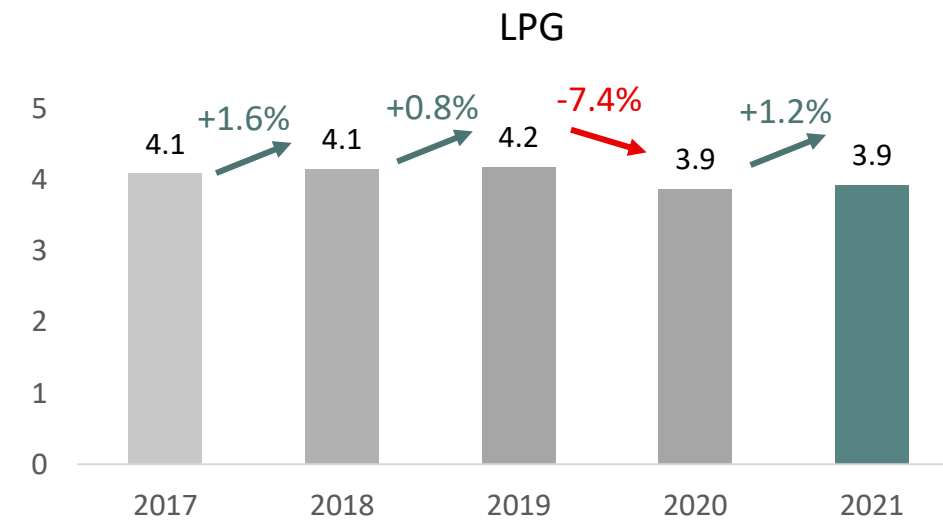
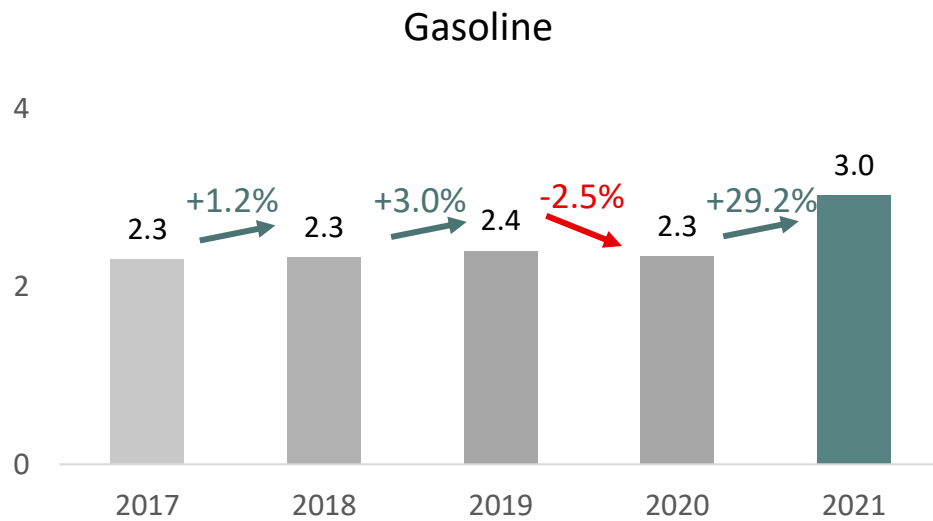
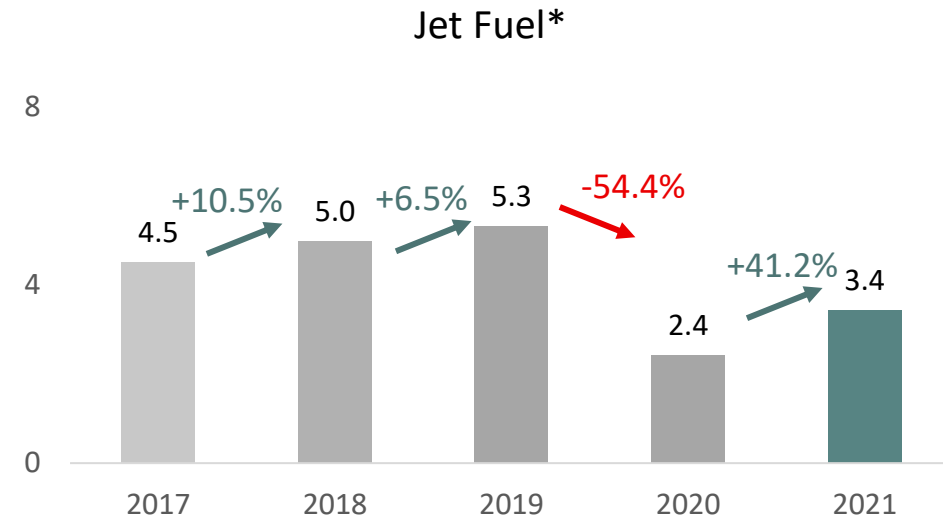
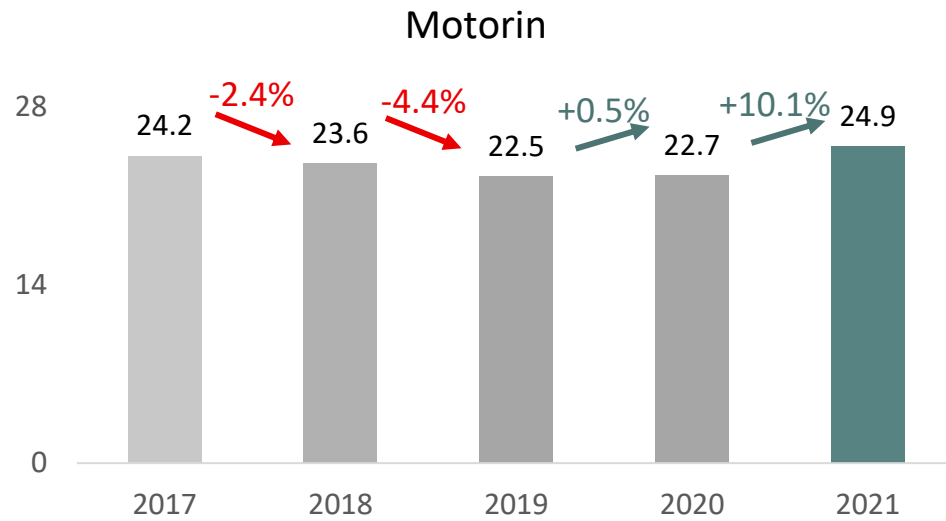
Appendix

2023 Refinery Maintenance Schedule

Refinery	Unit	Starting Quarter	Duration (weeks)	Purpose	Planned
Batman	Crude Oil & Vacuum	Q1	7	Seasonal	Ongoing
	Crude Oil & Vacuum	Q4	6		Planned
İzmir	FCC	Q1	7	Revamp	Ongoing
	Crude Oil, Vacuum, CCR, İsom.	Q1	8		Ongoing
	Lube Complex	Q1	8		Ongoing
	Crude Oil , Vacuum	Q4	5	Periodic Maintenance	Planned
	HYC	Q4	5		Planned
İzmit	Crude Oil & Vacuum	Q1	9	Periodic Maintenance	Planned
	Desulphurizer	Q1	9		Planned
	CCR	Q1	9		Planned
Kırıkkale	Battery Shut Down	Q1	6	Periodic Maintenance	Ongoing

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

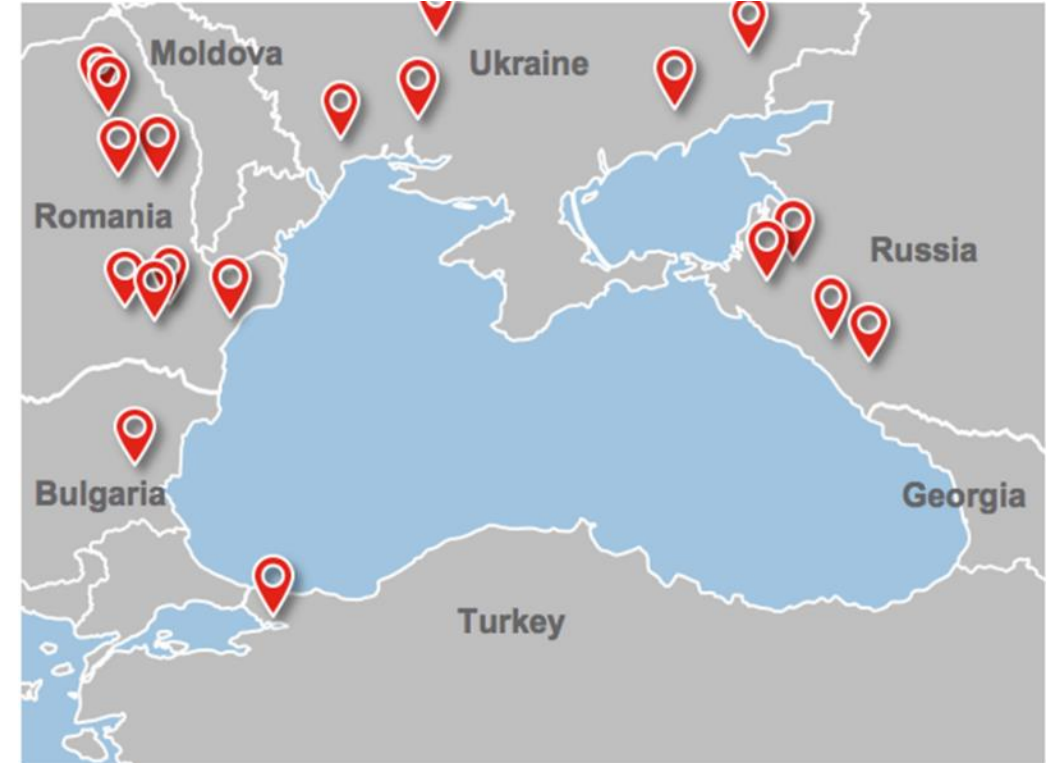
- Tüpraş competes with 71 refineries in the Mediterranean and Black Sea markets.
- Mediterranean regional product balance is also affected from Middle East, North West Europe and Asia flows

Mediterranean



54 Refineries ~7.8mbd

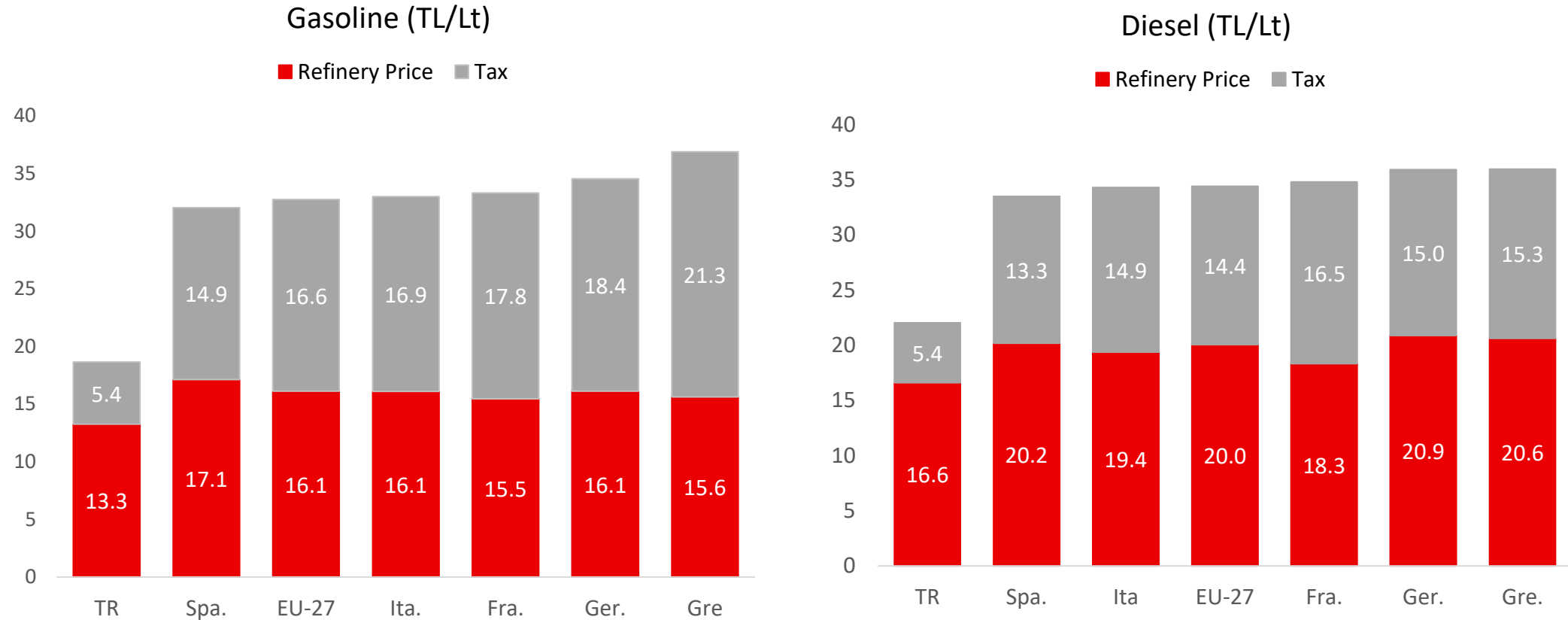
Black Sea



17 Refineries ~1.8mbd

European Pump Price Comparison

Turkish fuel prices are highly competitive with other European countries.



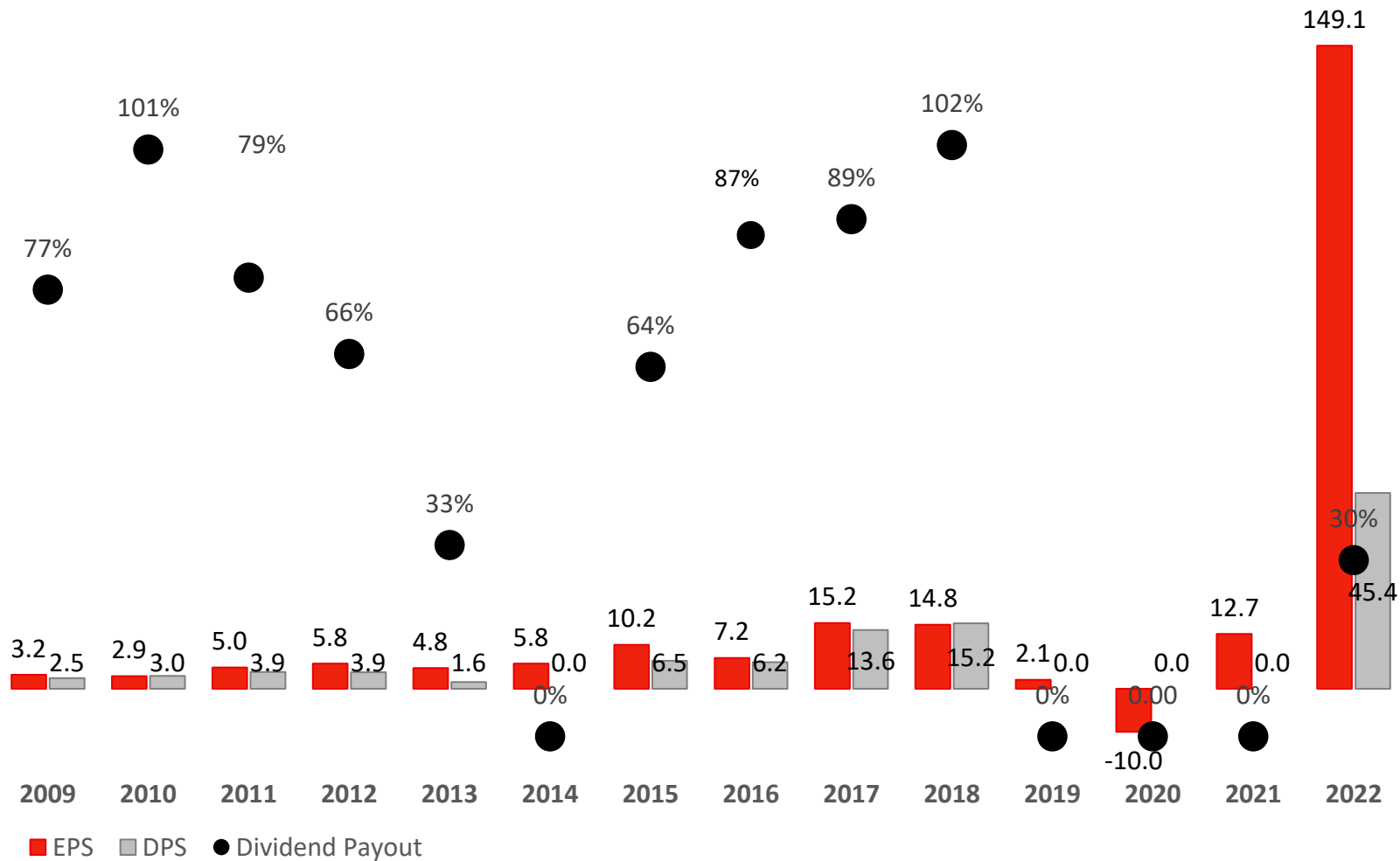
Prices of Europe and Turkey, as of Dec 31st, 2022

Tüpraş Balance Sheet (Million TL)

	31.12.2022*	31.12.2021*	Diff.	Diff. (%)
Current Assets	119,711	66,515	53,195	80
Cash & C. Equivalents	49,770	21,176	28,594	135
Trade Receivables	21,418	13,797	7,621	55
Derivatives	3,597	3,824	-227	-6
Inventories	36,046	23,758	12,288	52
Pre-paid expenses	749	193	555	287
Other Current Assets	8,131	3,768	4,363	116
Long Term Assets	49,182	39,742	9,440	24
Financial Assets & Subsidiaries	3,029	2,156	873	40
Tangible & Intangible Fixed Assets	33,680	29,064	4,616	16
Derivatives	57	44	13	29
Pre-paid expenses	618	123	495	401
Deferred Tax	9,196	6,436	2,759	43
Other Longterm Assets	2,601	1,918	683	36
Total Assets	168,892	106,257	62,635	59
Short Term Liabilities	78,895	64,829	14,067	22
Financial Loans	11,994	11,628	366	3
Trade Payables	52,699	43,837	8,861	20
Derivatives	995	3,467	-2,472	-71
Provisions	531	219	311	142
Other ST Liabilities	12,677	5,677	7,000	123
Long Term Liabilities	22,811	22,347	464	2
Financial Loans	21,274	21,565	-291	-1
Payables & Provisions	1,190	455	735	162
Derivatives	298	73	225	308
Other LT Liabilities	48	254	-206	-81
Total equity attributable to equity holders of the parent	66,743	18,809	47,934	255
Minority Interests	442	272	170	63
Total Liabilities & Equity	168,892	106,257	62,635	59

Dividend (TL)

Avg. Payout Ratio: 90%*



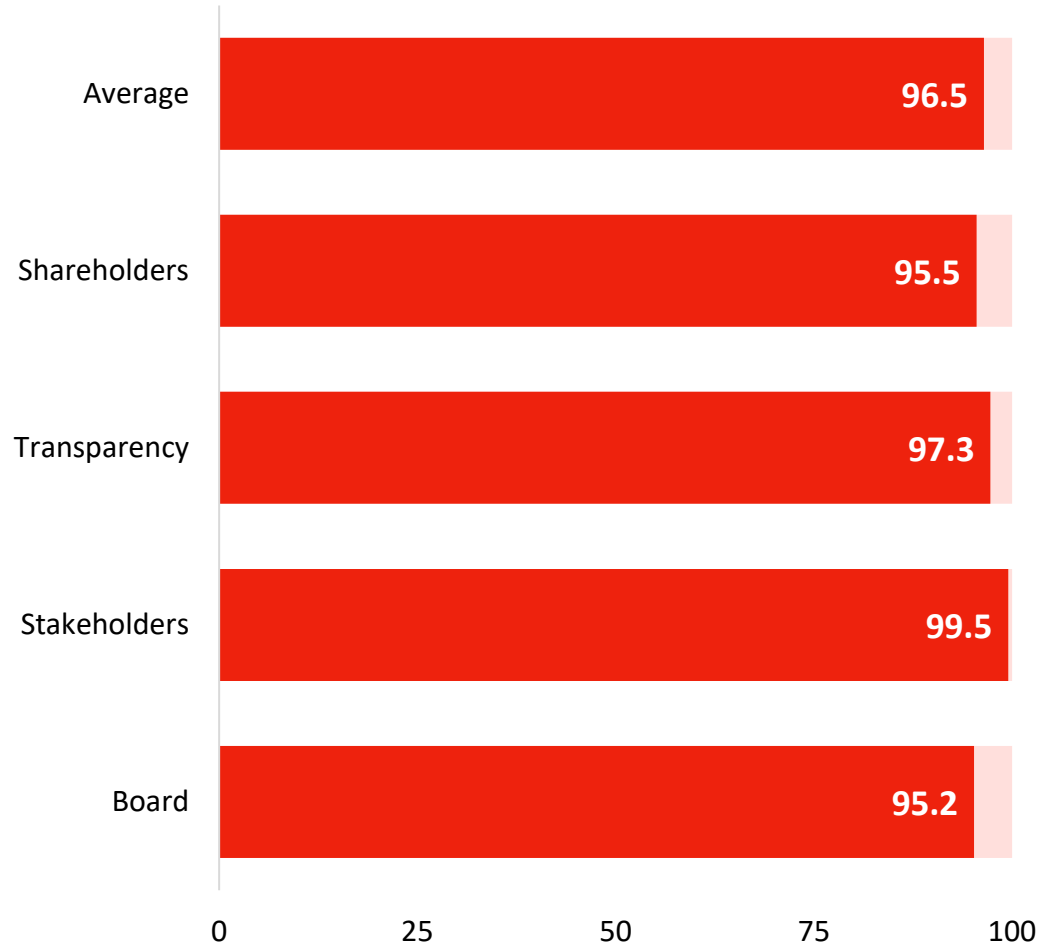
Strategic Transition Dividend Plan

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

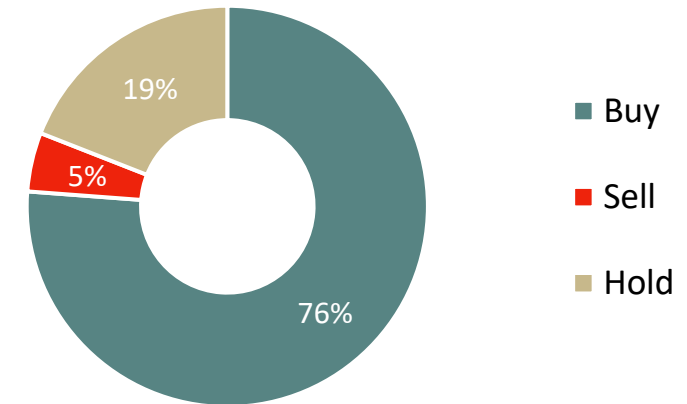


Source: SAHA Corporate Governance and Rating Services Inc. (October 2022)

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

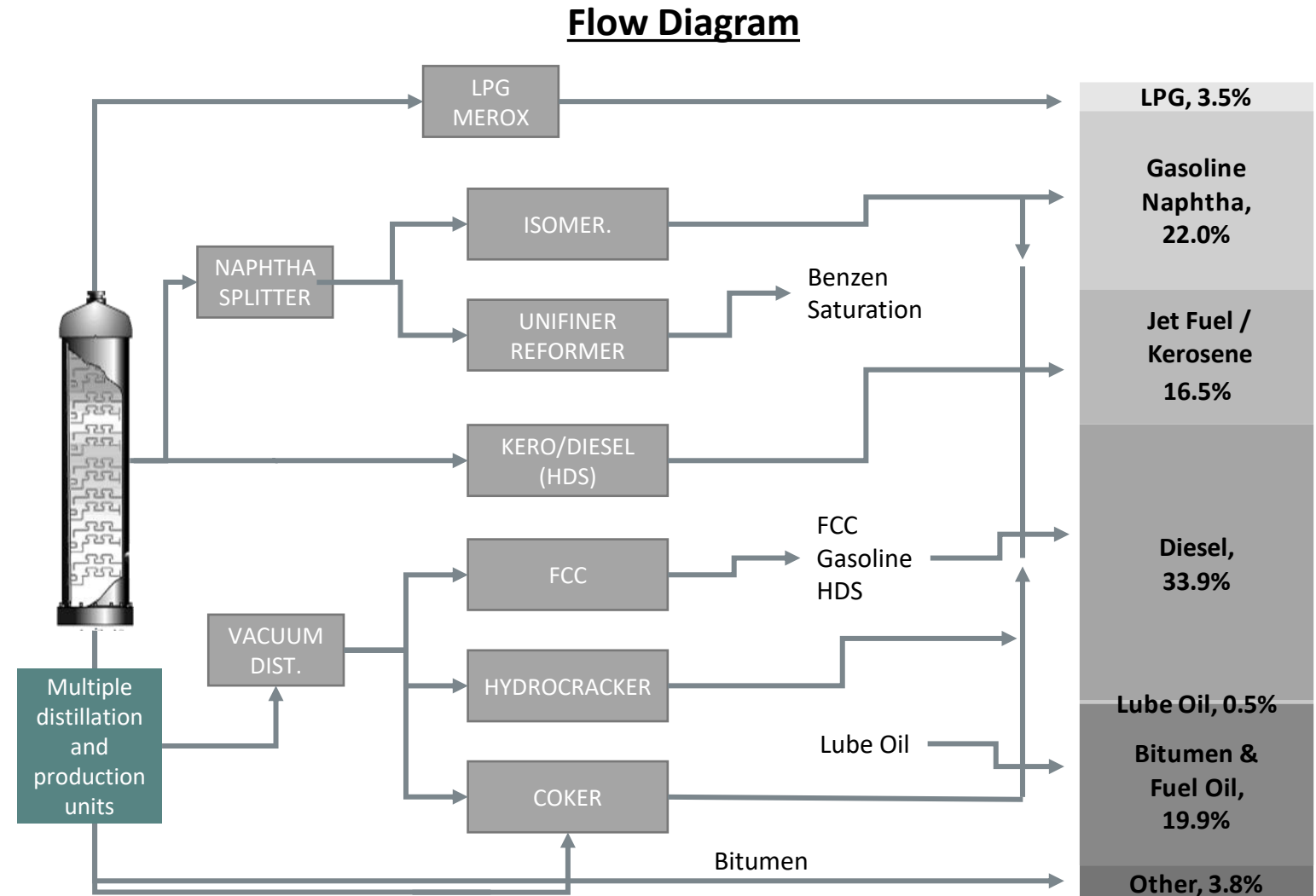


Source: Bloomberg*
*data as of Mar'23

Tüpraş Production Flow and Yield Breakdown

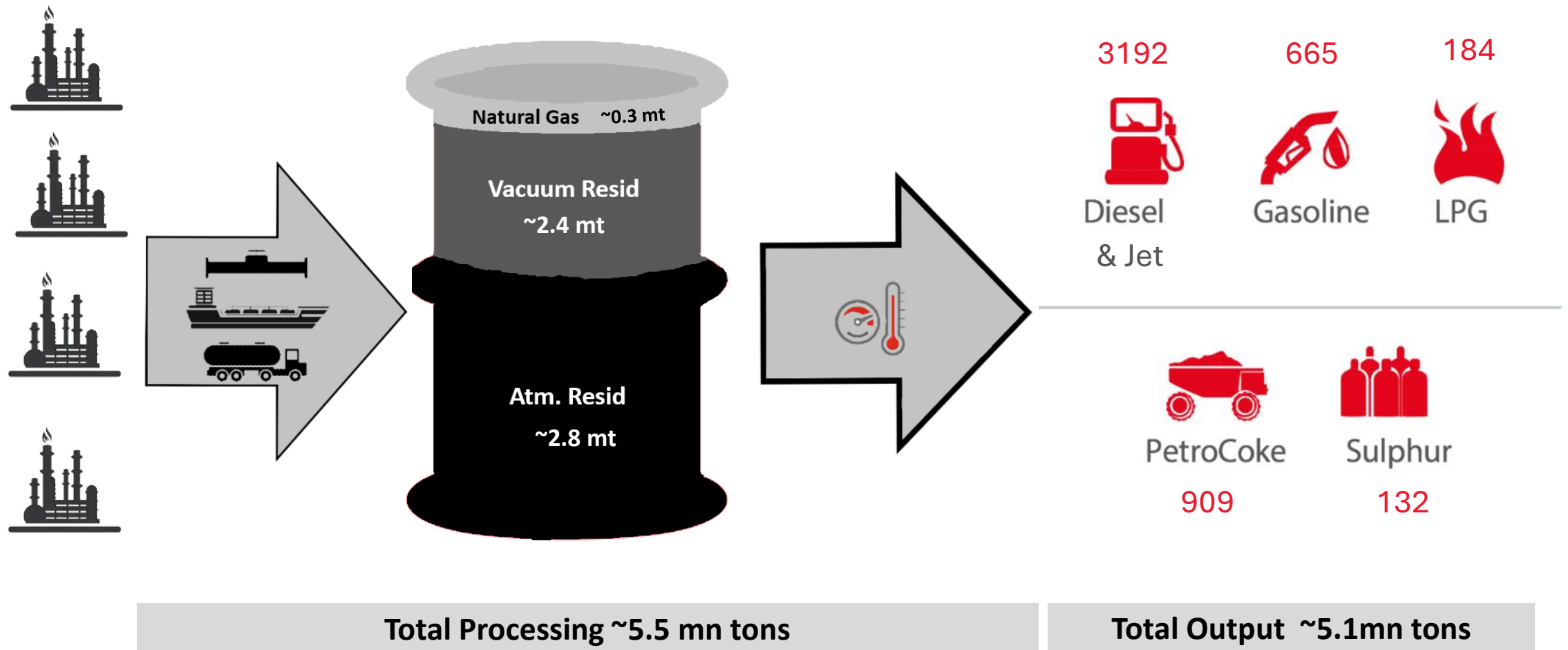
- Tüpraş has 30 million tons of production capacity
- Tüpraş operates 4 refineries with an integrated system optimization program

Key Units	# of Units	Capacity (m ³ /d)
CRUDE OIL	8	99,420
VACUUM DIST.	8	42,752
HYDROCRACKER	4	18,032
ISOMERATION	3	7,804
UNIFINER REFORMER	5	16,225
KERO/DIESEL (HDS)	9	37,265
FCC	2	4,650
COKER	1	9000
NAPHTA SPLITTER	8	
LPG MEROX	6	

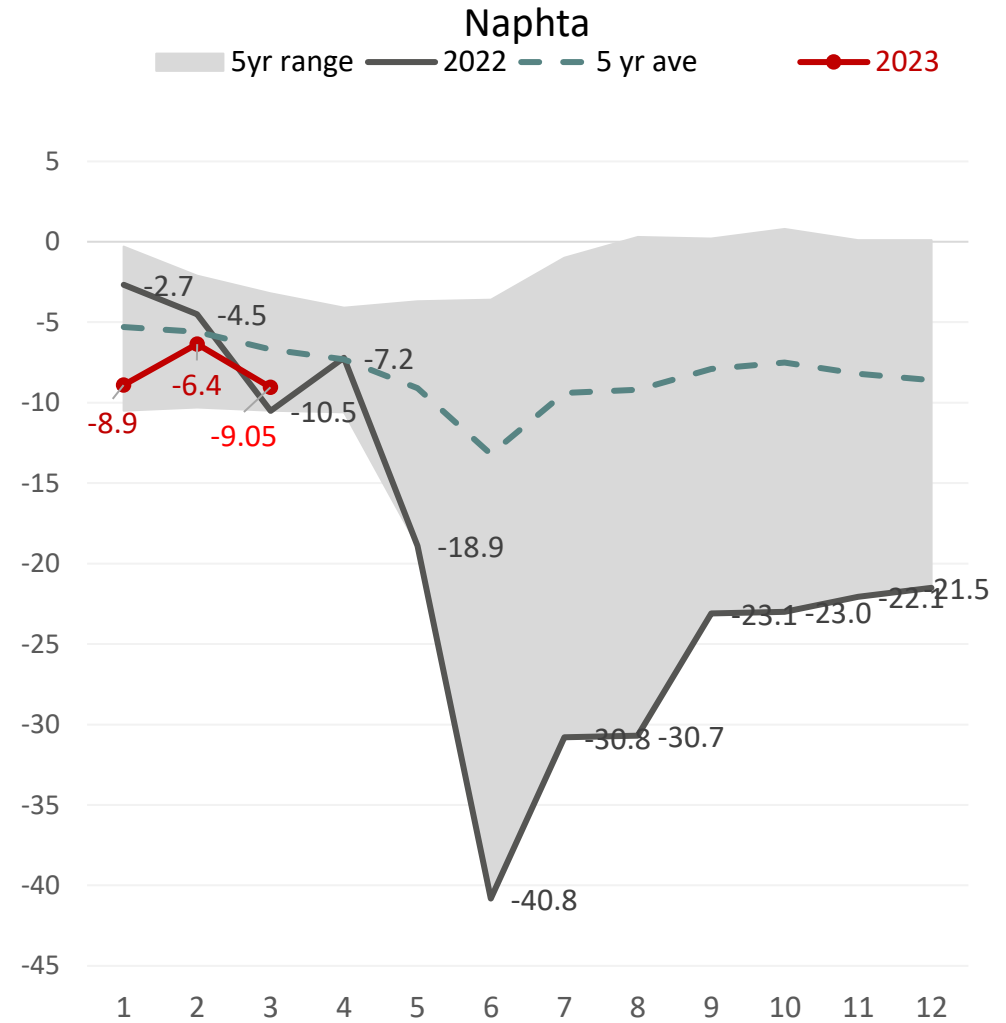
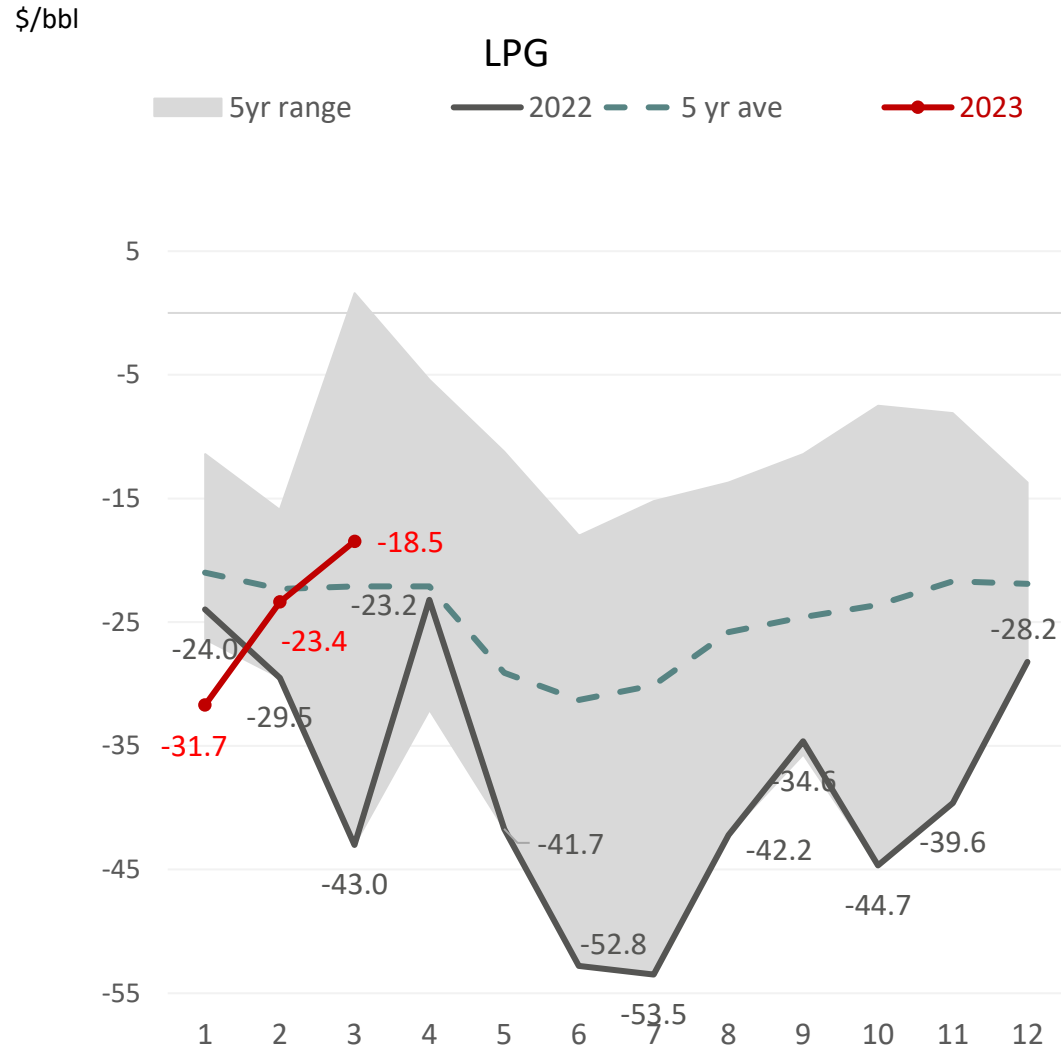


RUP Feedstock and Production

- 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



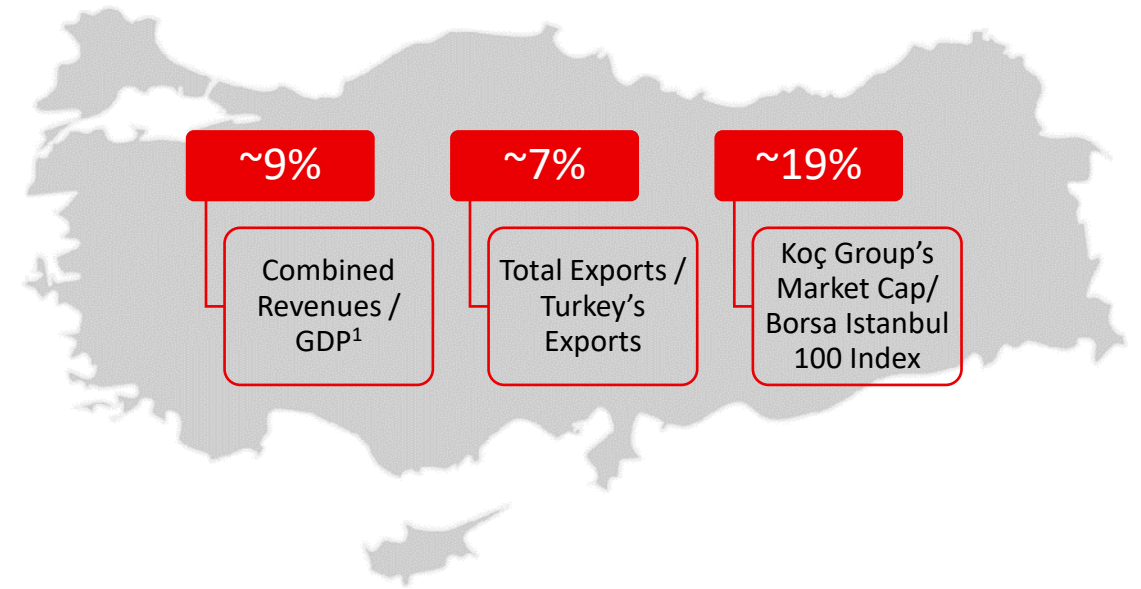
data as of 31 March 2023 and 5 year range refers to :2018-2022

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
