




Energy To the future

 **Tüpraş**

 **Koc** | January 2023

Investor Presentation

Disclaimer

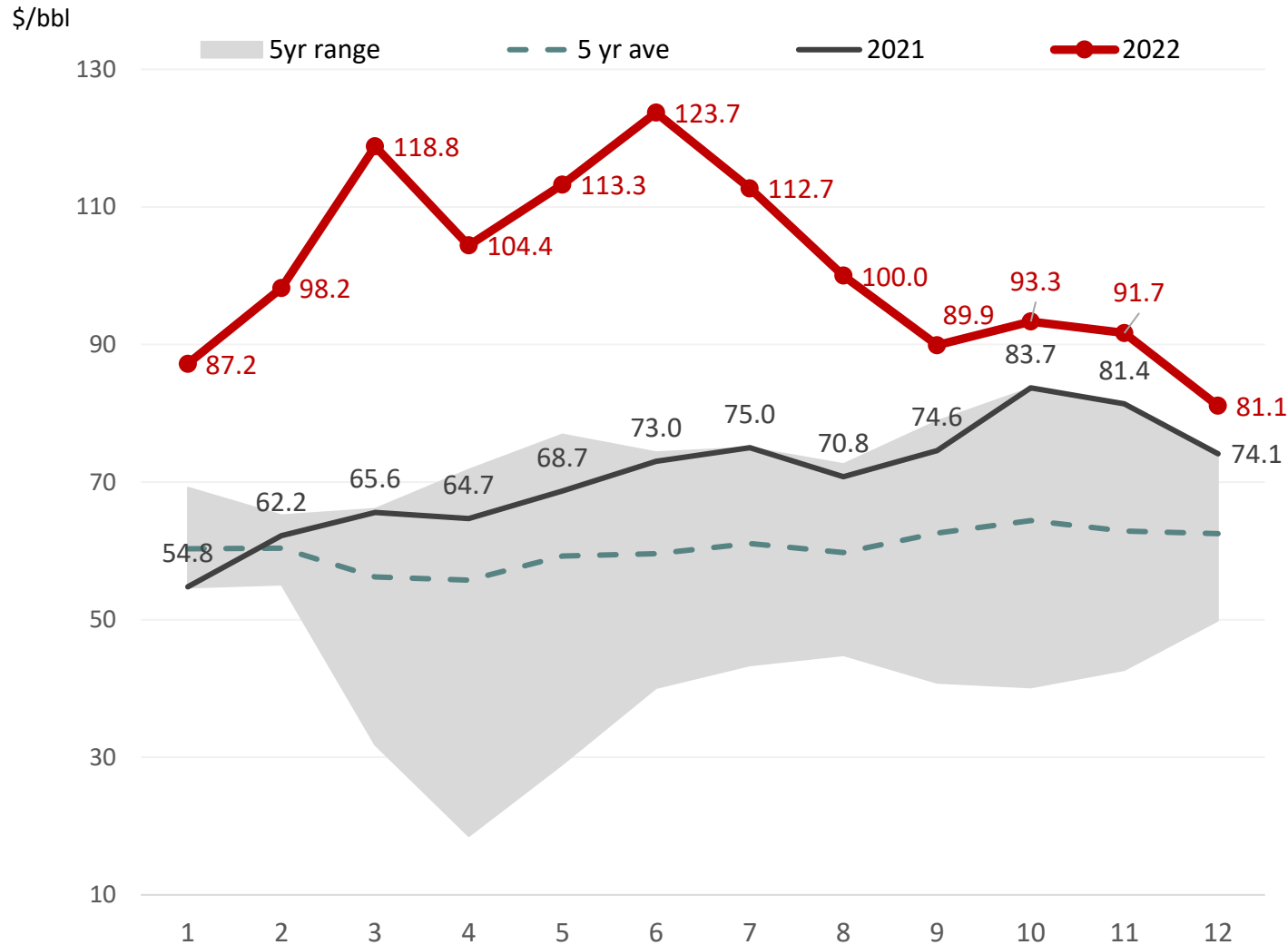
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Refining Market

Brent Crude Prices



- + OPEC ++ production cuts
- + Impact of Iran & Venezuela sanctions
- + Improved mobility following vaccine deployments
- + Russia-Ukraine war

- Concerns on global economic development
- Uncertainties on new variants

Year	Average Brent Prices (\$/bbl)
2017	54.3
2018	71.0
2019	64.3
2020	41.7
2021	70.7

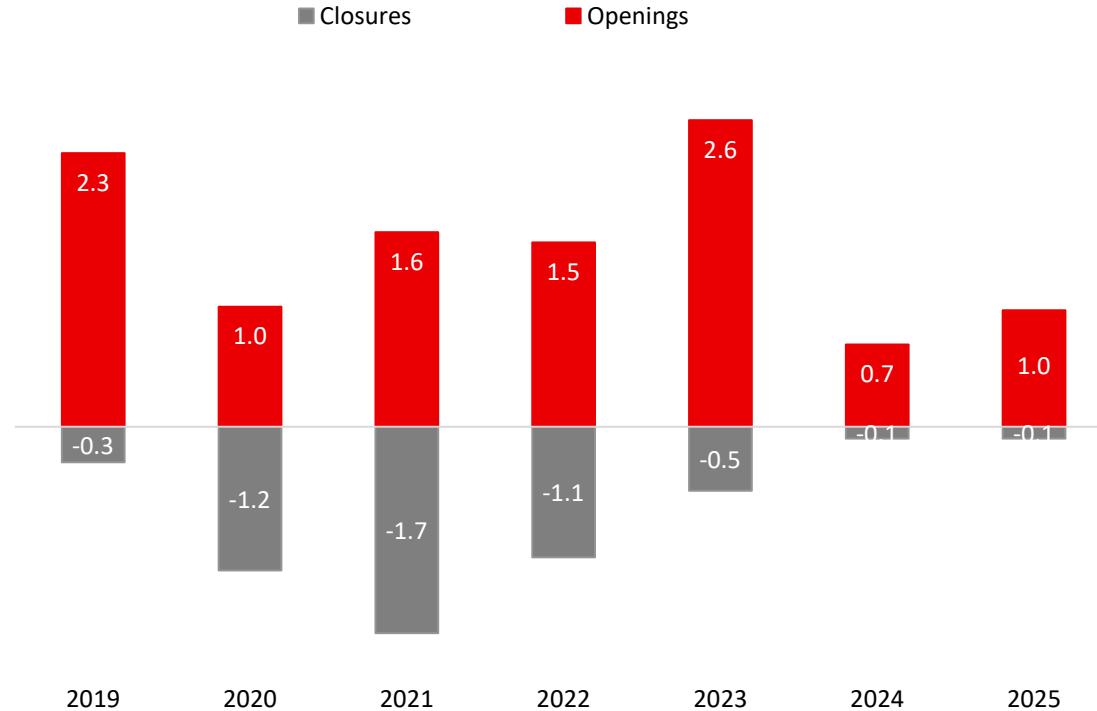
data as of 31 December 2022, 5 year range shows 2017-2021

Global Refinery Capacity Changes

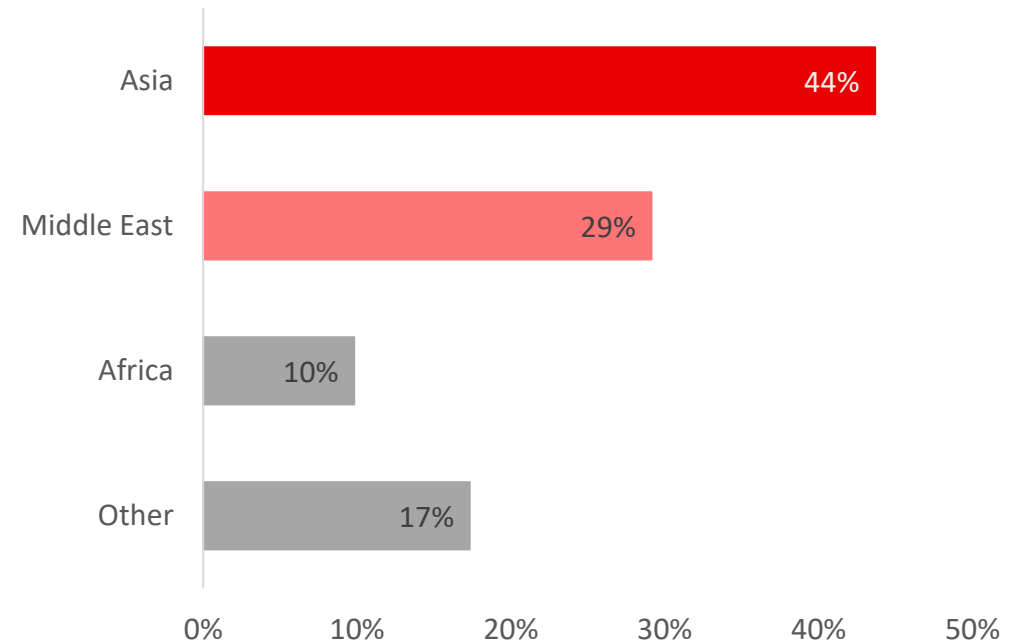
Expectations until 2025:

- 73% of net capacity additions will come from Asia & Middle East
- Net capacity and demand in Europe will remain roughly unchanged

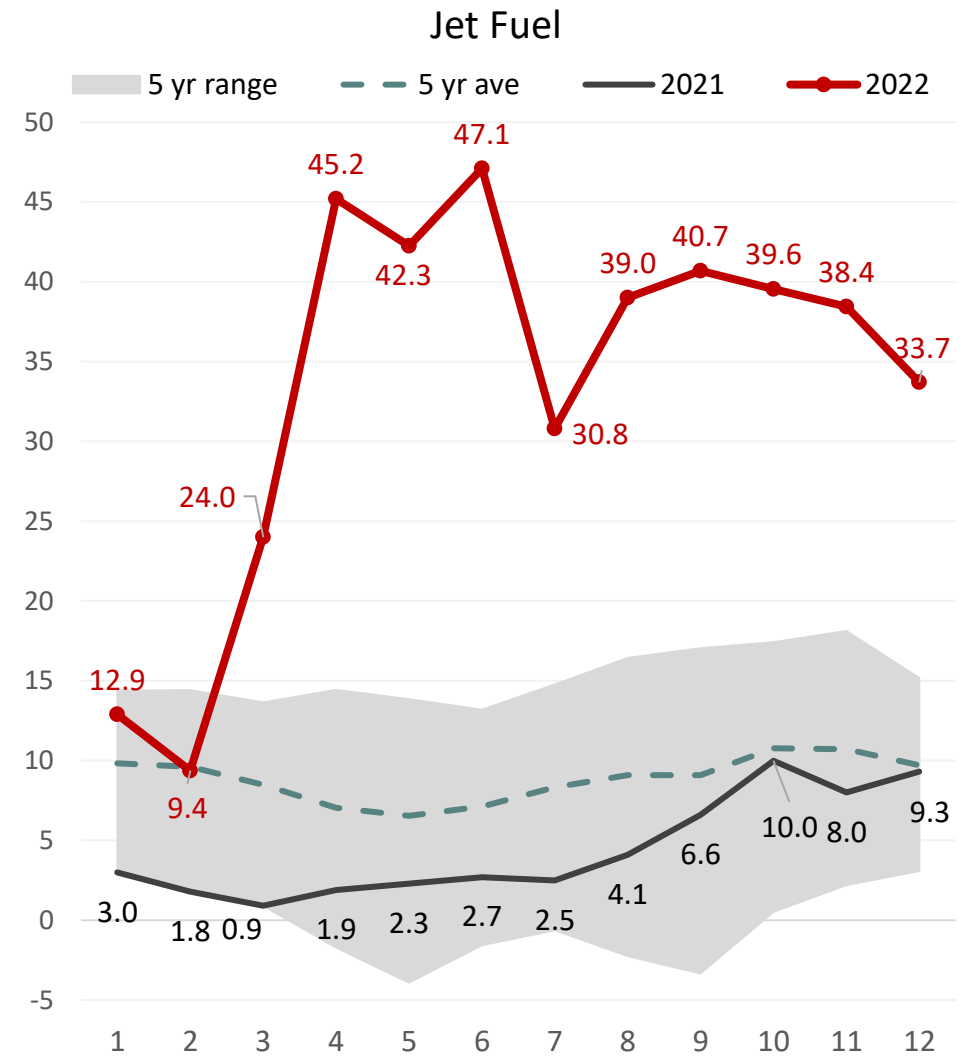
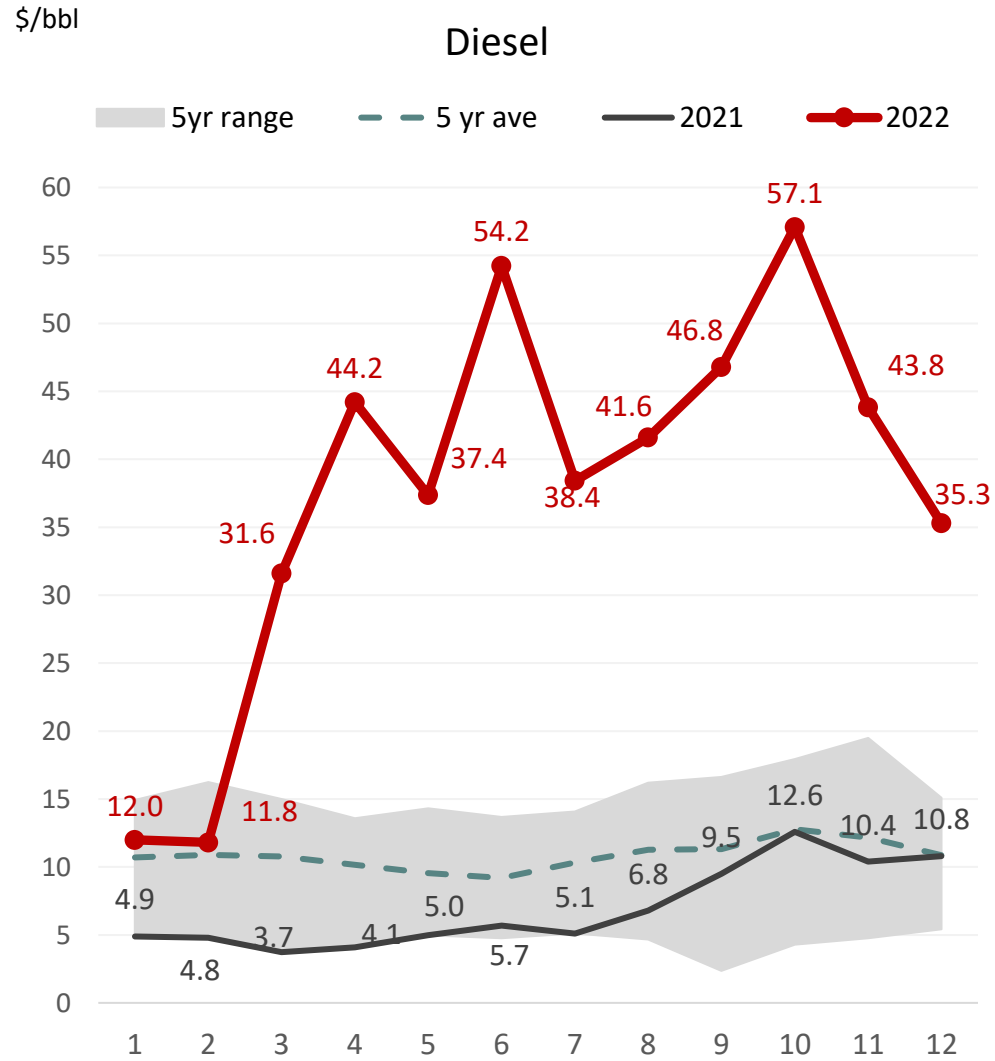
2019-2025 Net Capacity Additions



Capacity Additions by Region

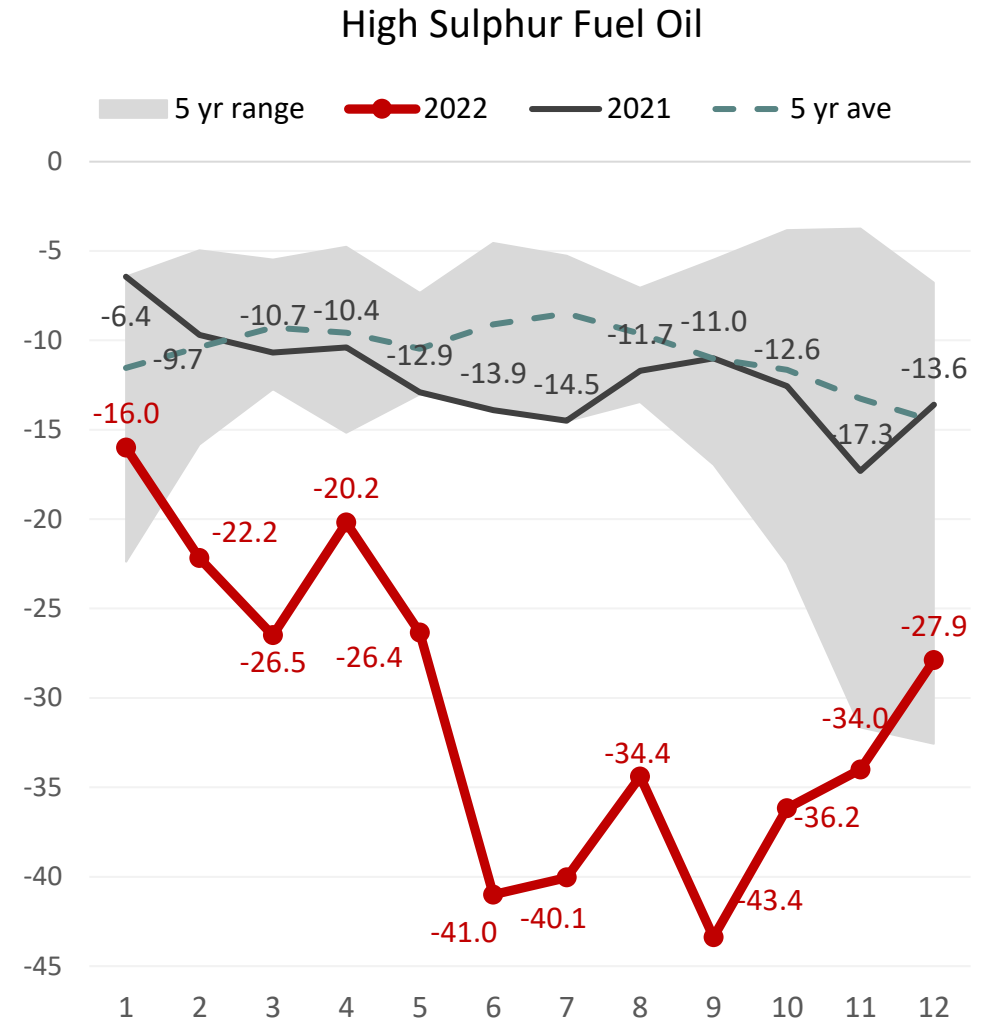
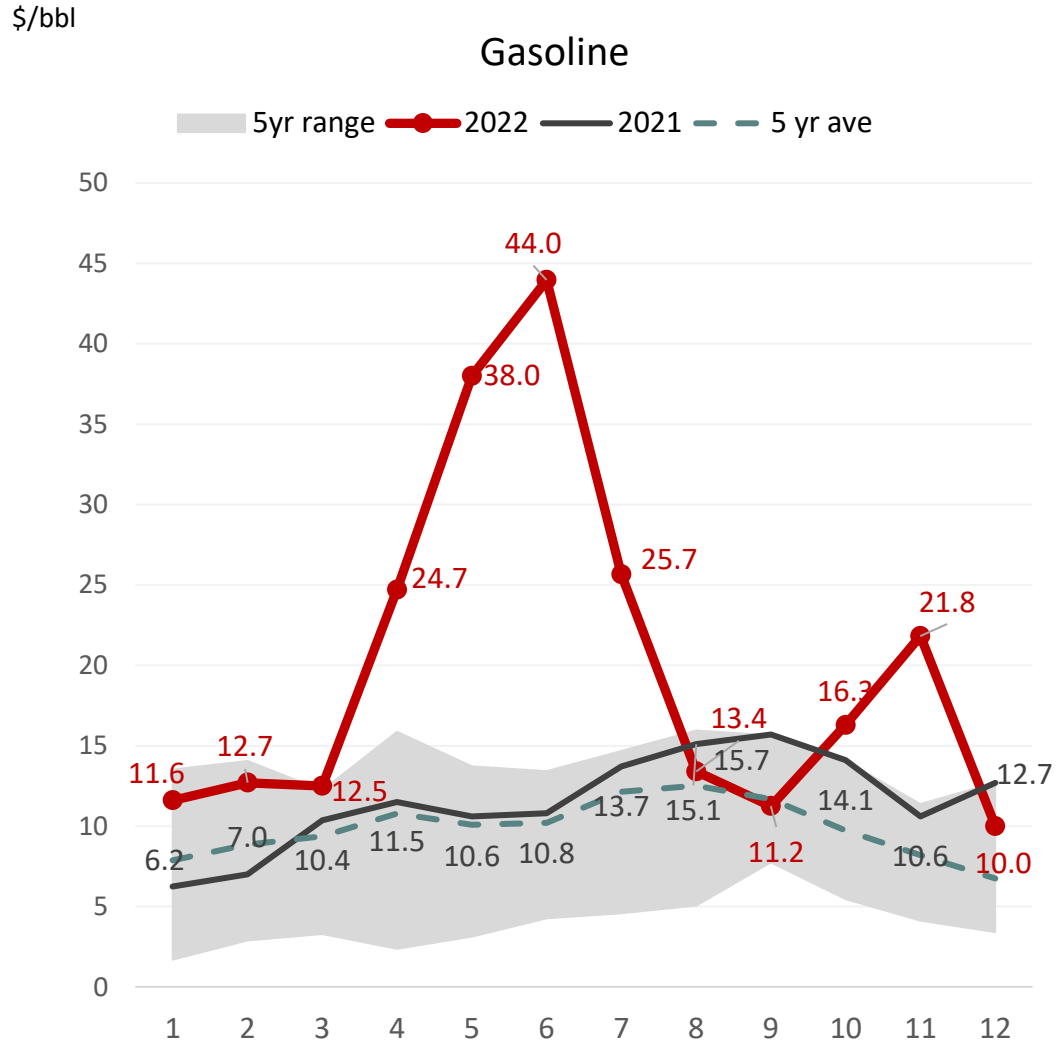


Middle Distillate Cracks



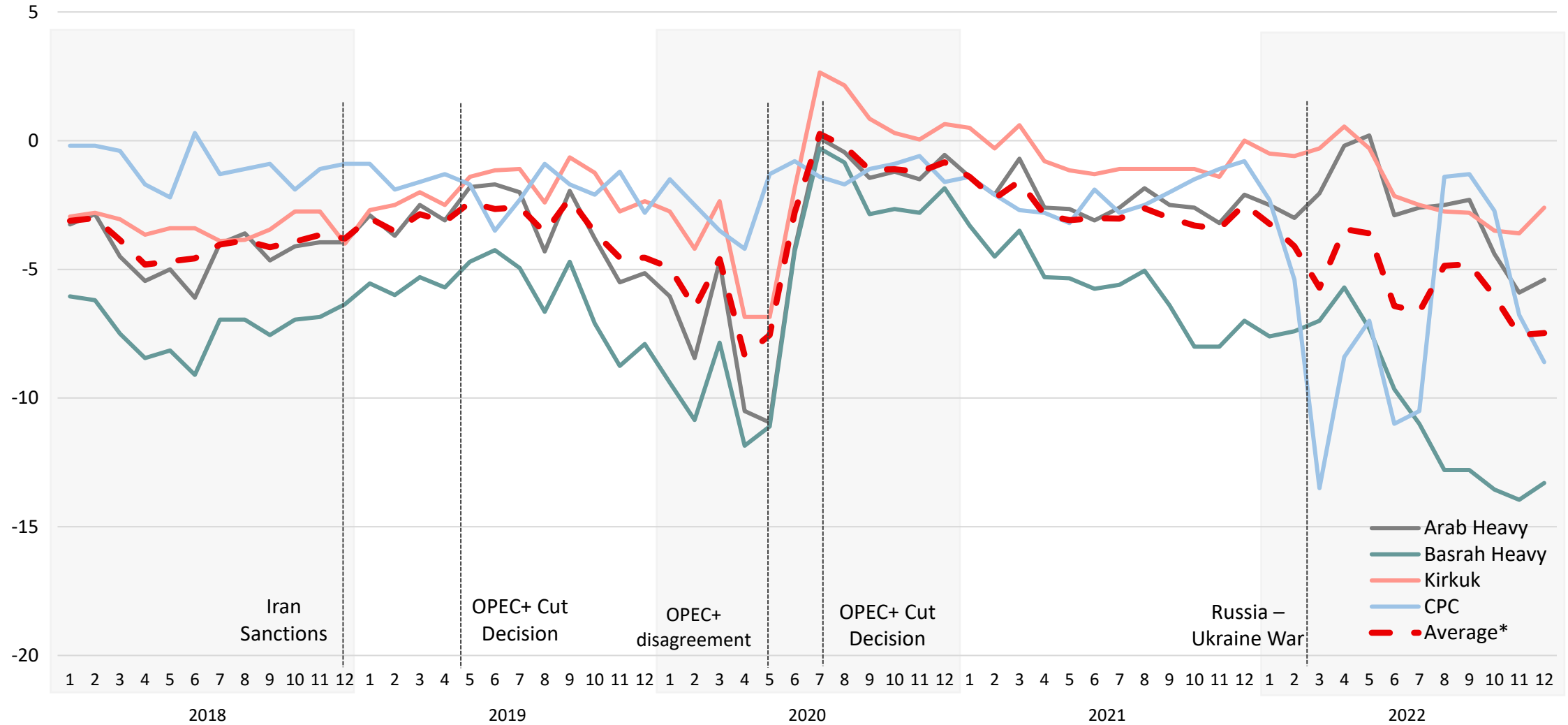
data as of 31 December 2022, 5 year range shows 2017-2021

Gasoline and High Sulphur Fuel Oil Cracks



data as of 31 December 2022, 5 year range shows 2017-2021

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



data as of 31 December

*Simple average of listed differentials

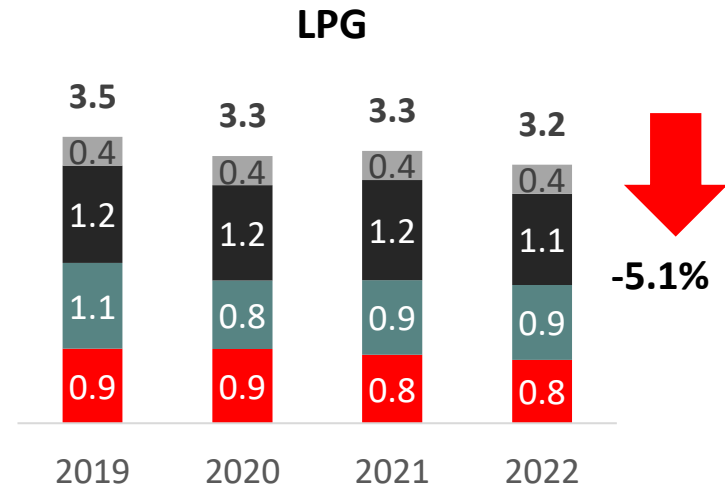
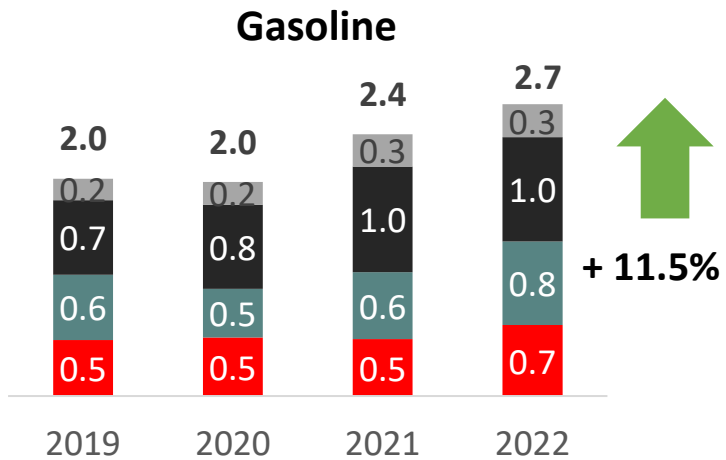
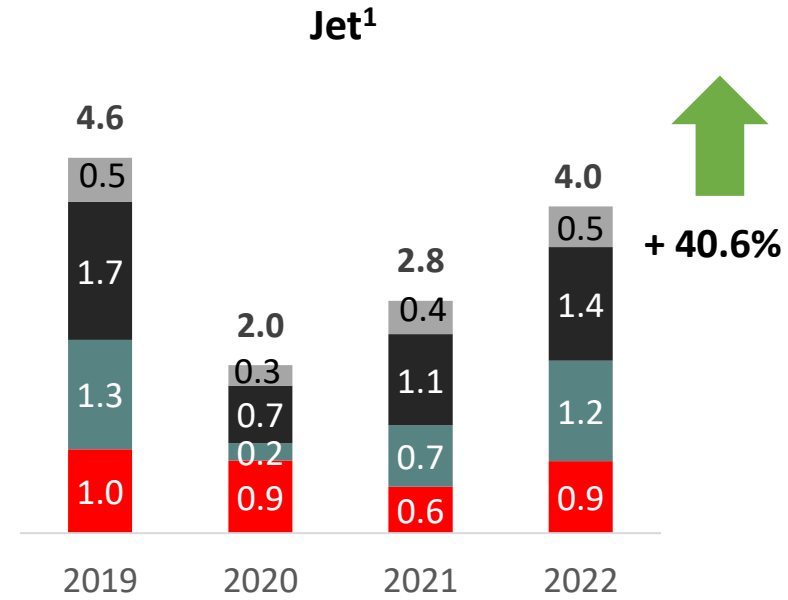
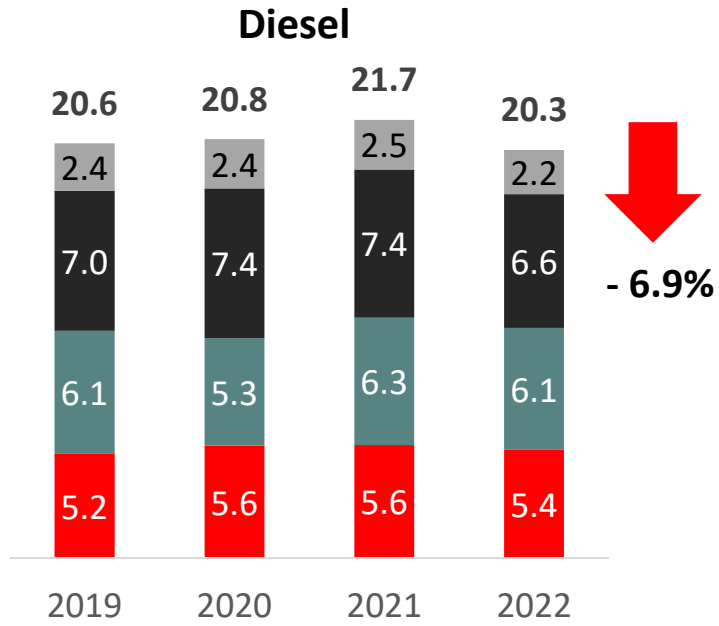


Turkish Market

Turkish Market, 10M 2022

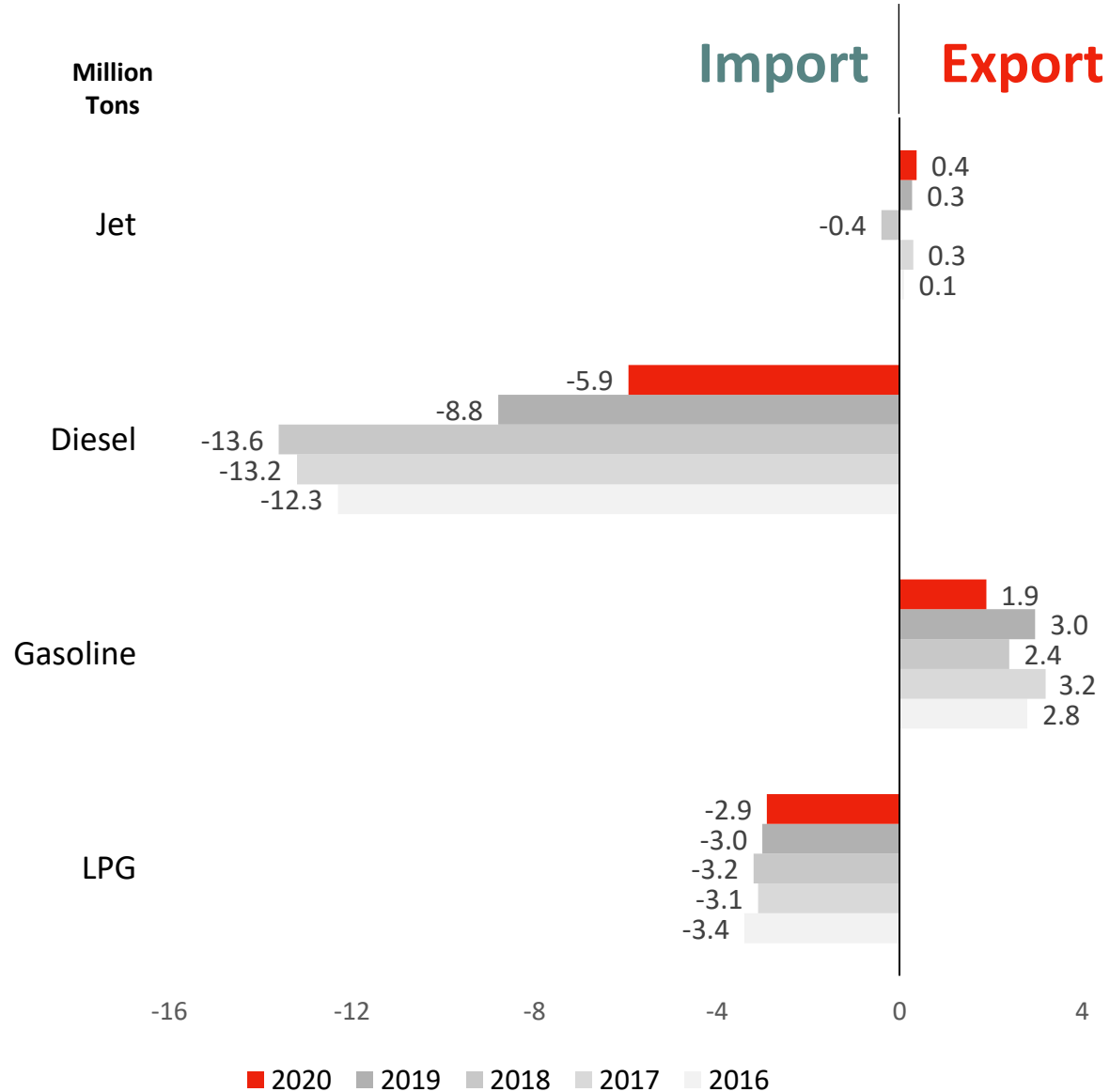
■ Q1 ■ Q2 ■ Q3 ■ Oct.

Million
Tons



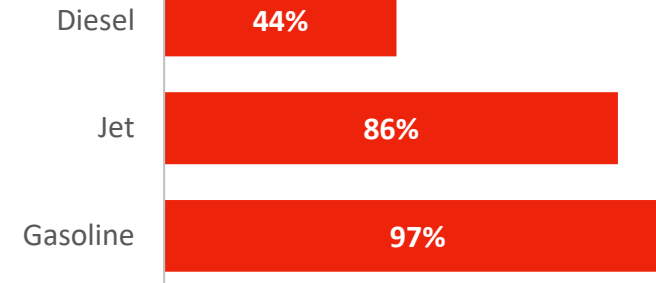
¹Transit flight consumption included

Turkey's Net Import / Export Balance

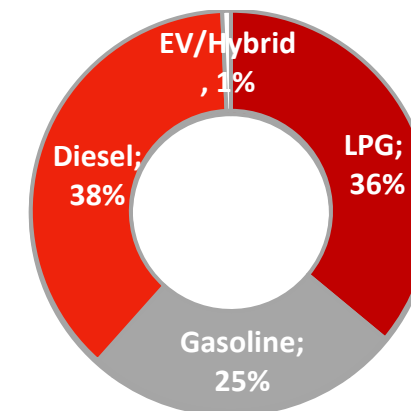


Tüpraş' Market Share

2021 12M



Fuel Choice of Passenger Cars 2021

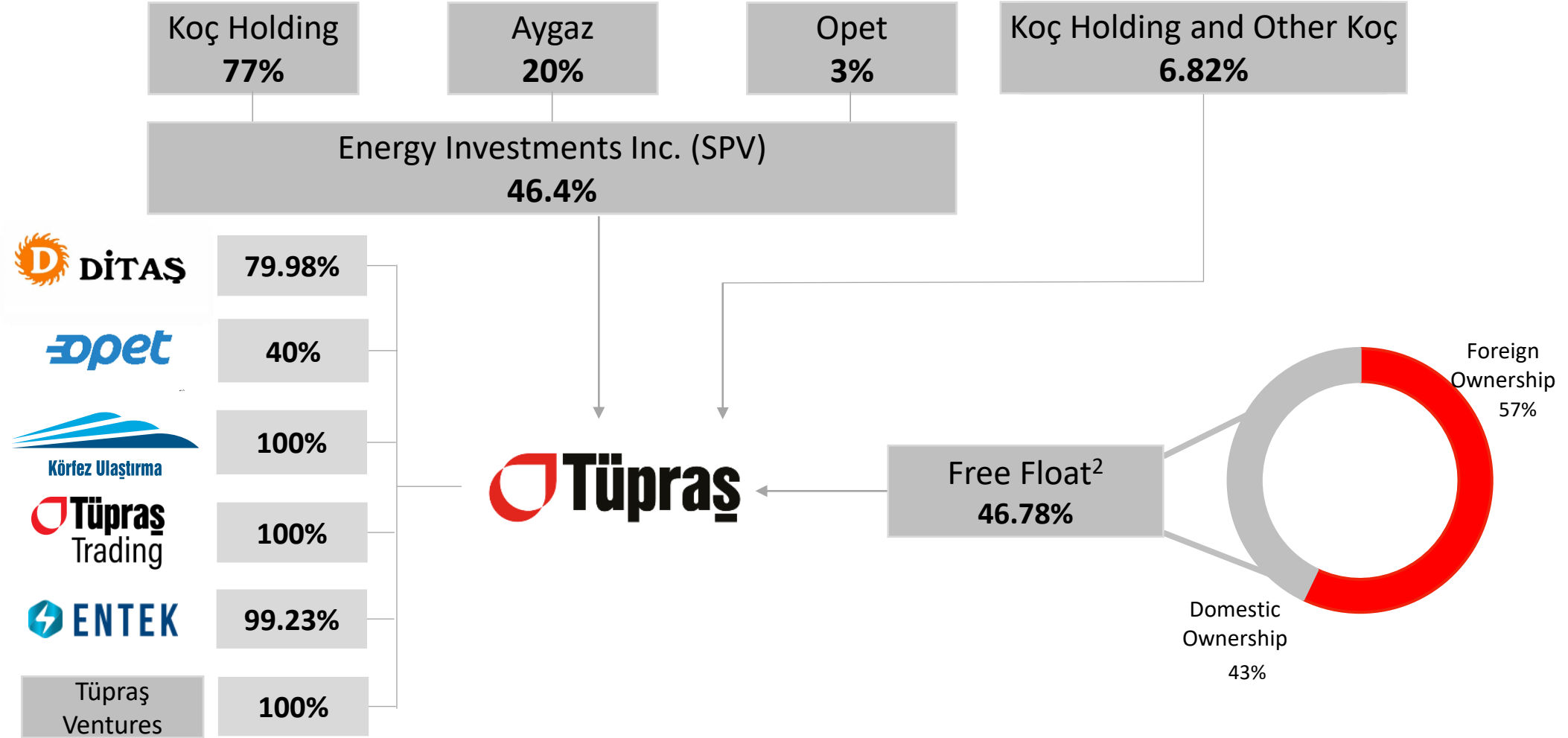




Company Overview

Tüpraş Shareholder Structure

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

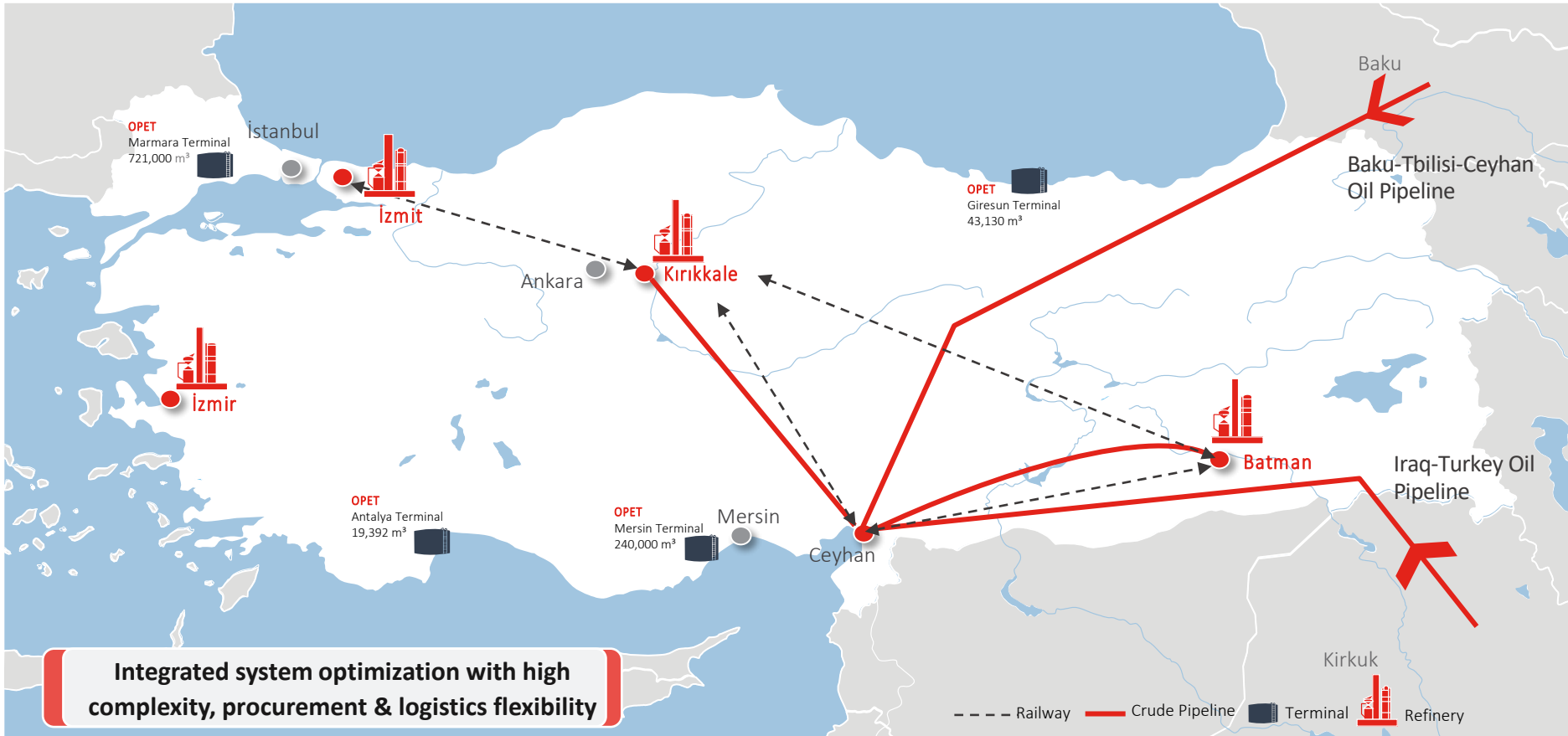


¹ As of December 31st, 2021

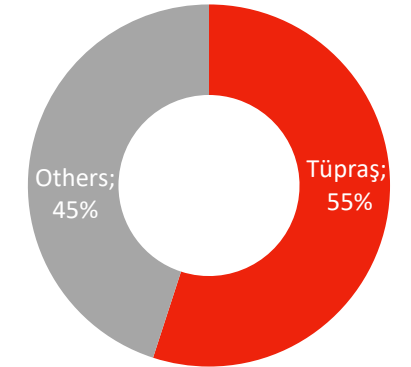
² Includes %1.11 shares of Liquid Petroleum Co.

Tüpraş' Refining Assets & Distribution Network

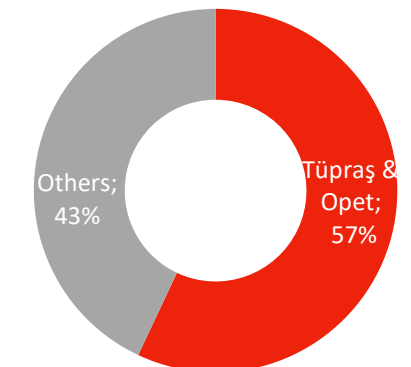
	İzmit	İzmir	Kırıkkale	Batman	Total
Capacity (mn tons)	11.3	11.9	5.4	1.4	30
Nelson Complexity	14.5	7.66	6.32	1.83	9.5
Storage Capacity (mn m ³)	3.0	2.5	1.3	0.3	7.0



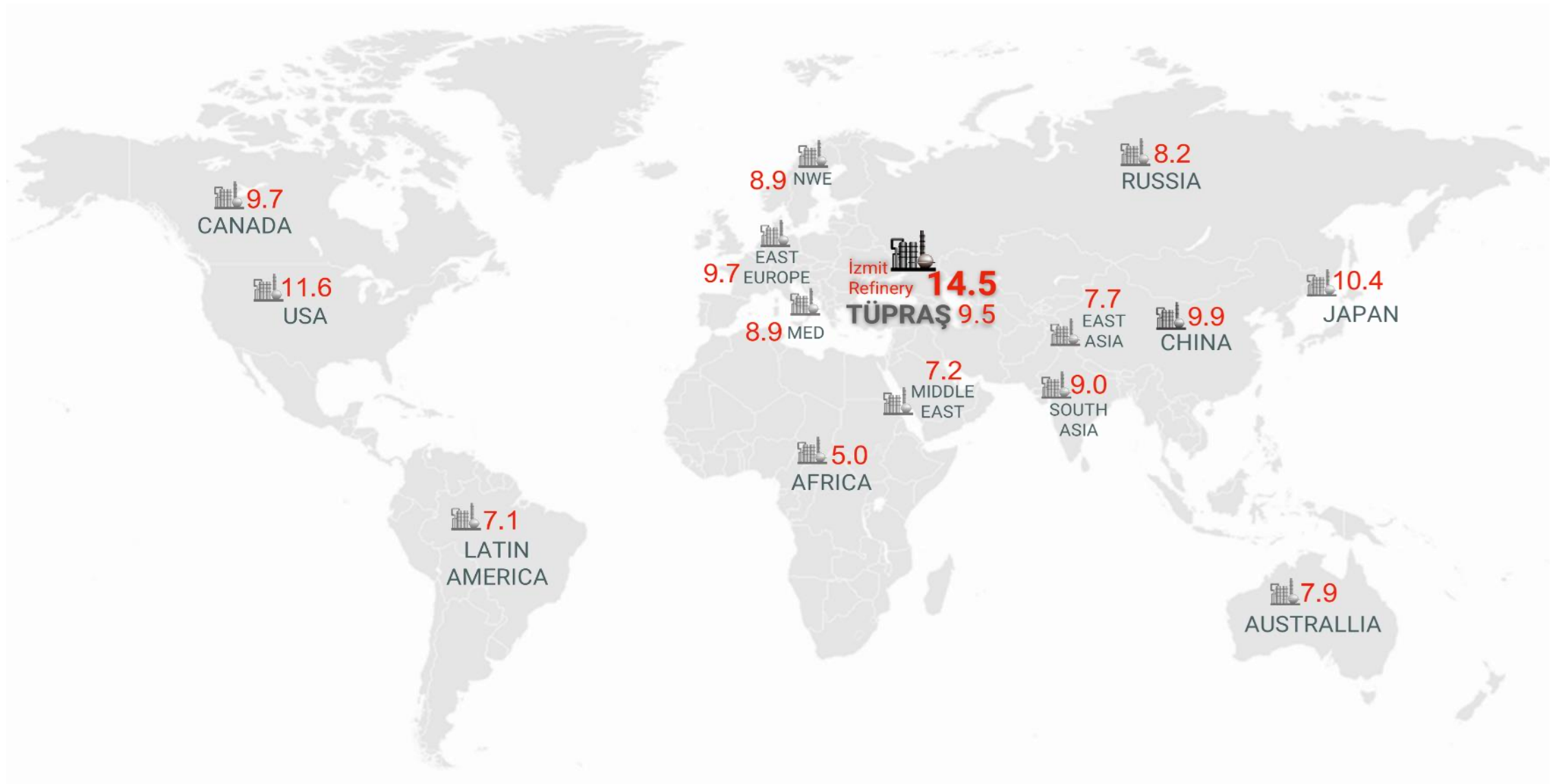
Turkey's petroleum product needs



Turkey's Storage Capacity



Nelson Complexity of Refining Companies



OPET - Distribution



Tüpraş Share: 40%

- 1,851 stations as of 30 September 2022
- As of October 2022 Market share: 18.9% in white products; 30.8% in black products

Tüpraş Trading UK - Trading



Tüpraş Share: 100%

- Over 7 million tons of product trade**
More than 3 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
- 1 Crude Oil - Product Tanker: 49,990 DWT
- 10 Product Tanker: 171,383 DWT

Körfez Ulaştırma - Railway Transport

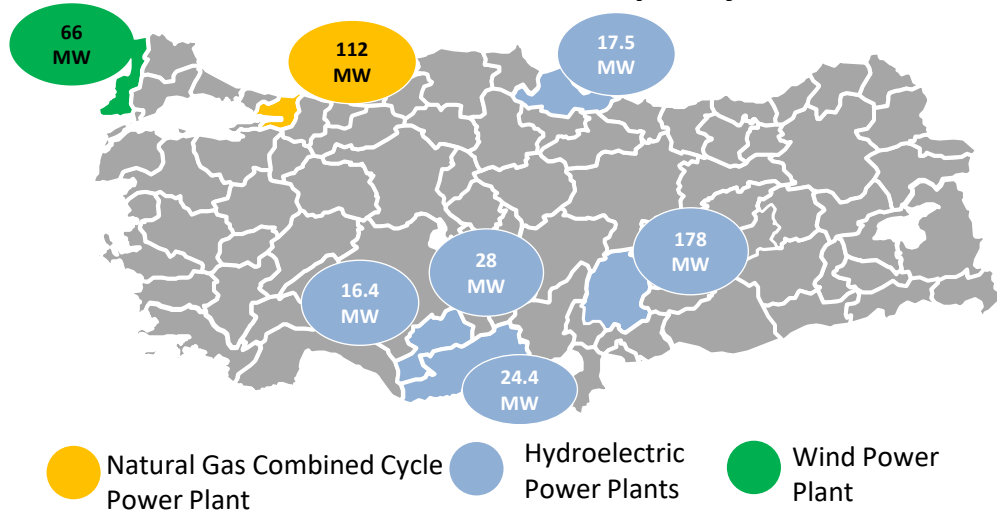


Tüpraş Share: 100%

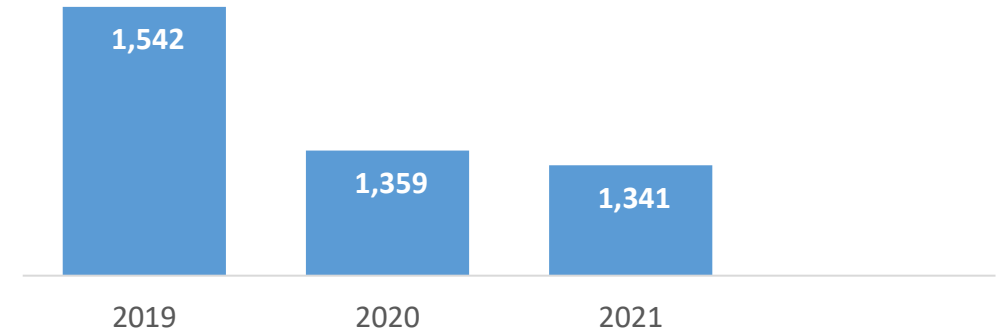
- ~7% share in Turkish rail freight market
- ~1.7 mn ton of product and semi-product carried in 2021
- Operates with 12 locomotives (7 of them are hybrid) and 555 cistern wagons

Entek - Electricity (Tüpraş Share: 99.23%)

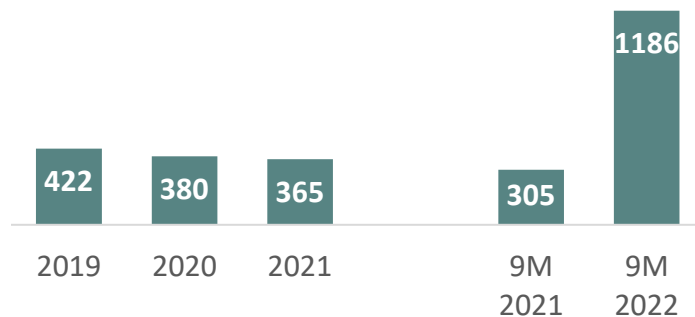
Entek's Installed Capacity



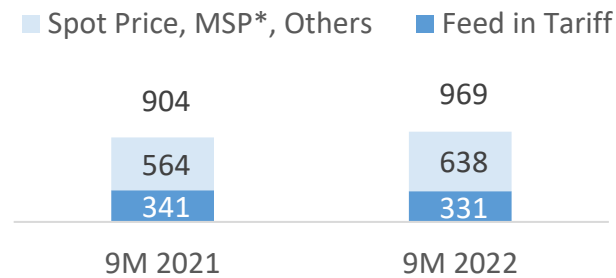
Production (000 MWh)



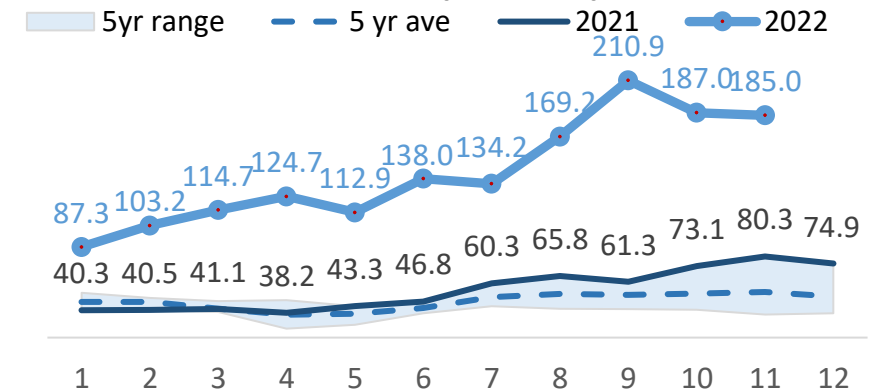
EBITDA (million TL)*



Total ZCE Sales from Production (GWh)



PTF Price (\$/MWh)



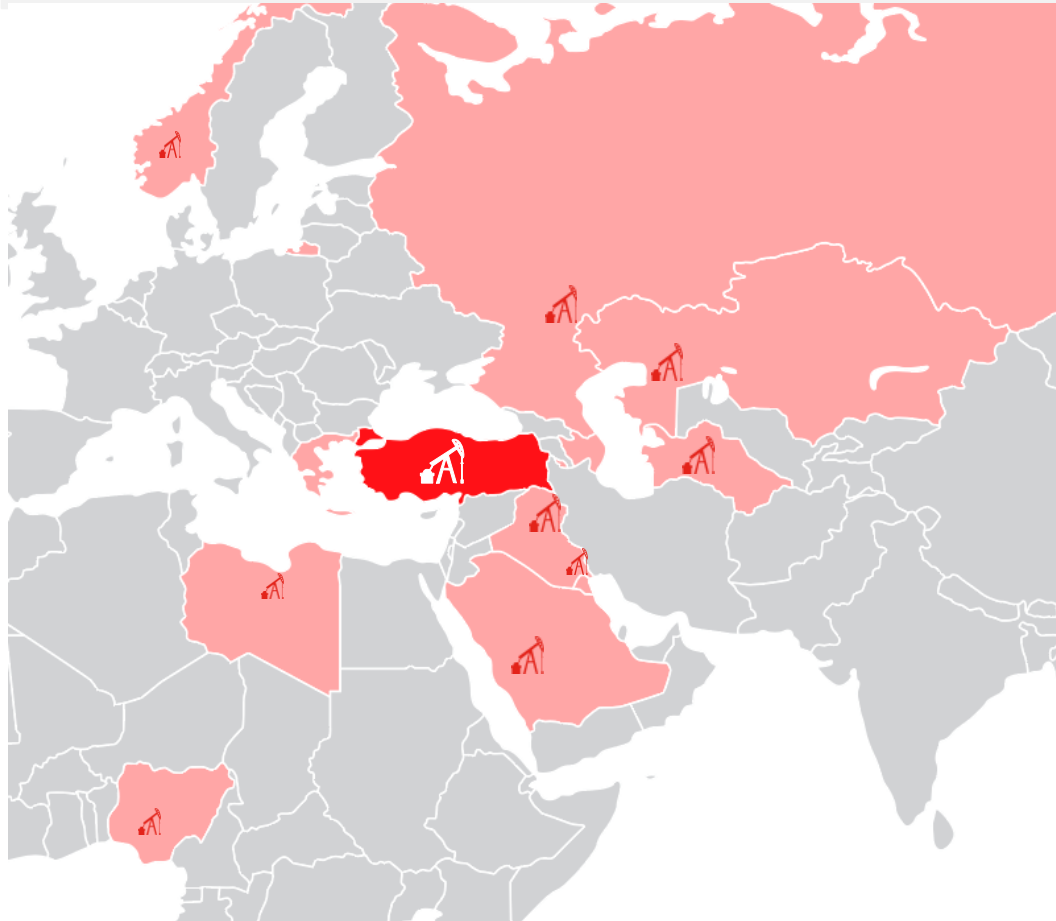


Operations

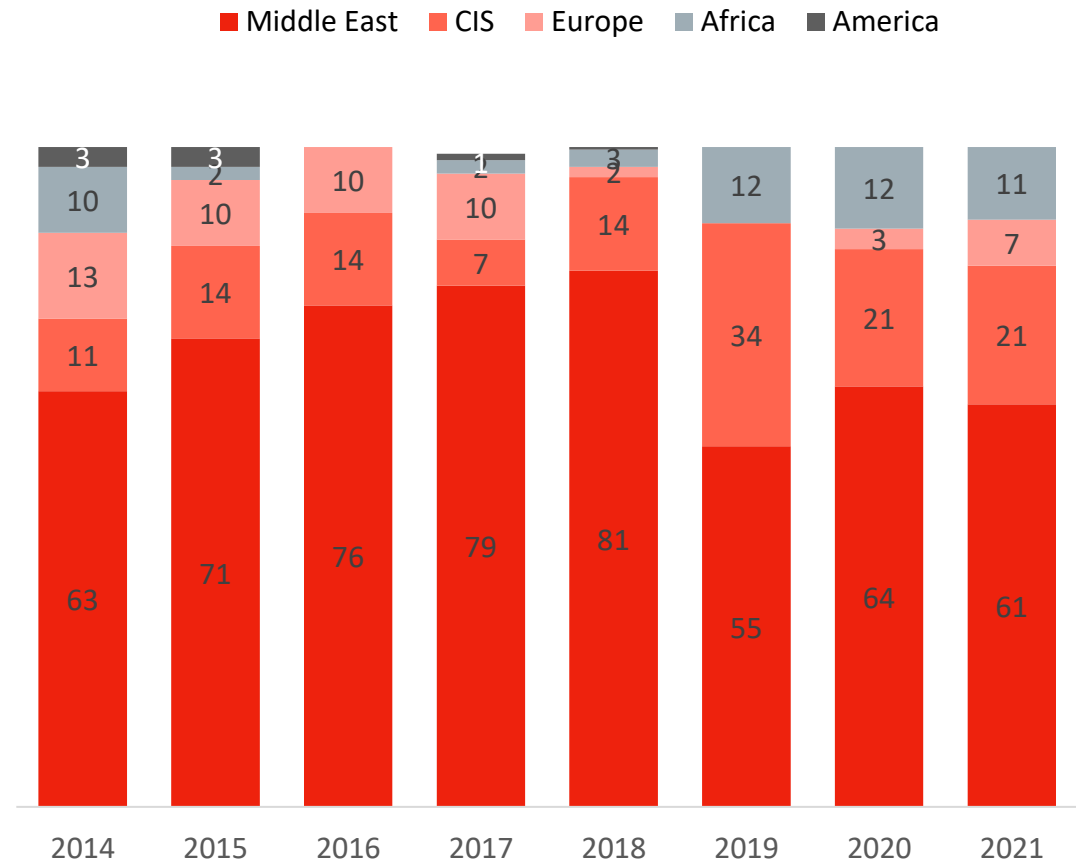
Crude Suppliers of Tüpraş

In 2021, Tüpraş purchased 21 different types of crude from 11 countries with gravities ranging between 20-47 API.

Main Crude Suppliers in 2021

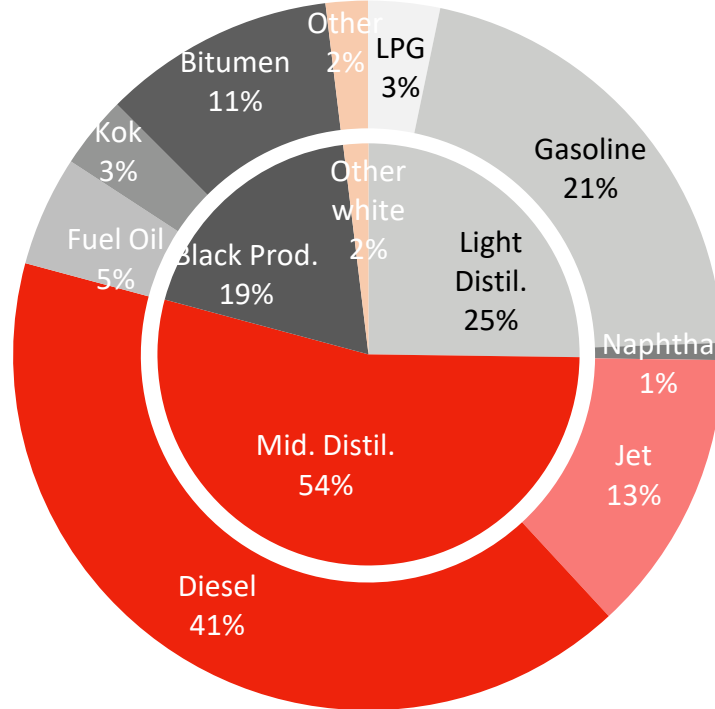


Crude Oil Imports by Region (%)



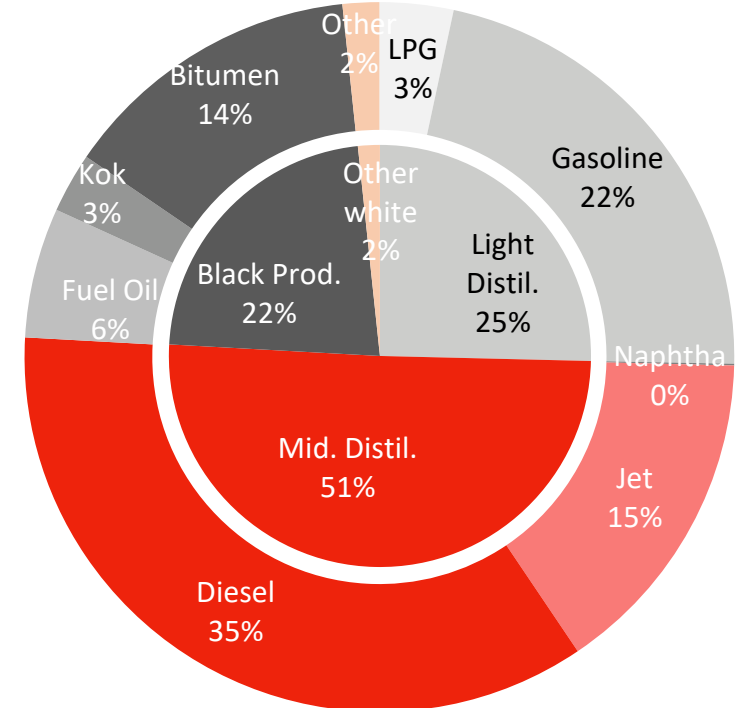
Q3 2022 Product Yields

Q3 2021



White Product Yield (%)	80.0%
Production	6.9 mn tons
API	30.8

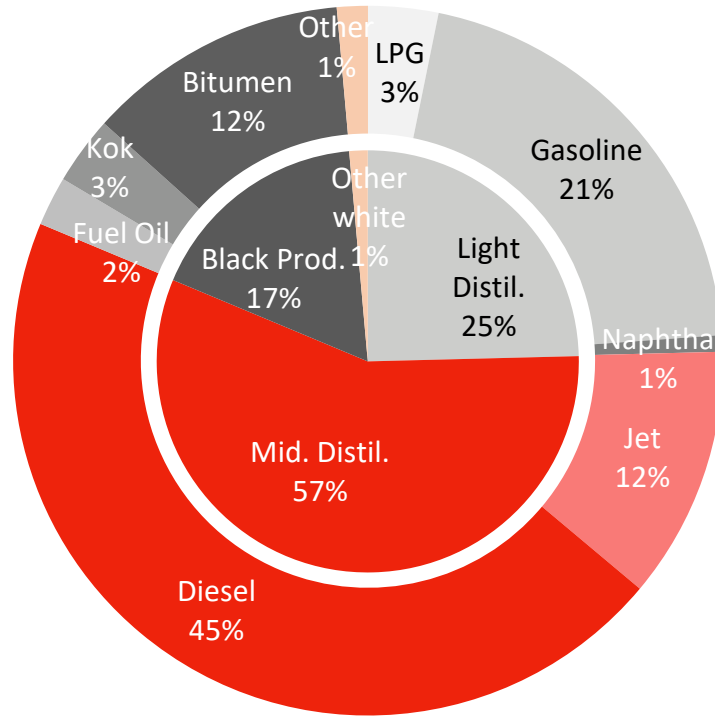
Q3 2022



White Product Yield (%)	78.3%
Production	7.0 mn tons
API	31.1

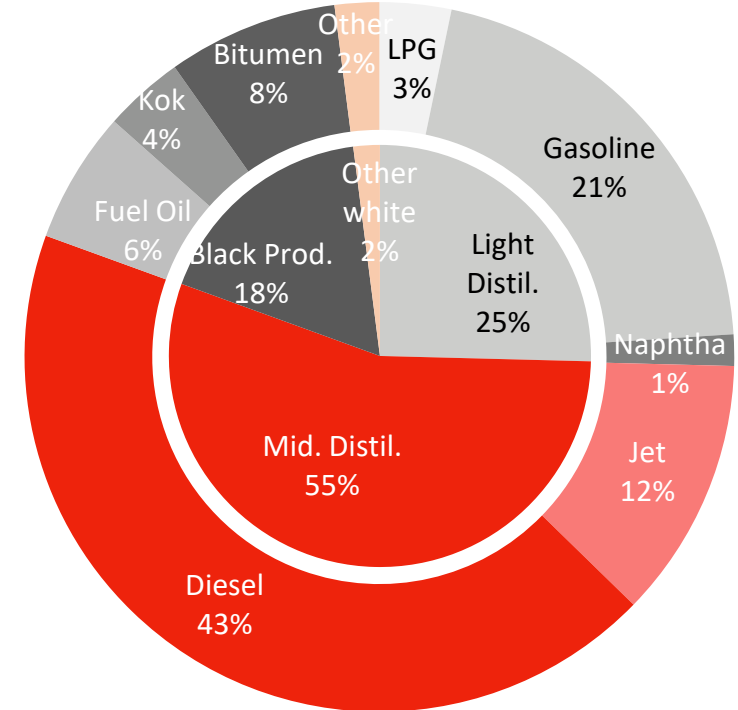
Annual Product Yields

2020



White Product Yield (%)	81.5%
Production	23.4 mn tons
API	31.5

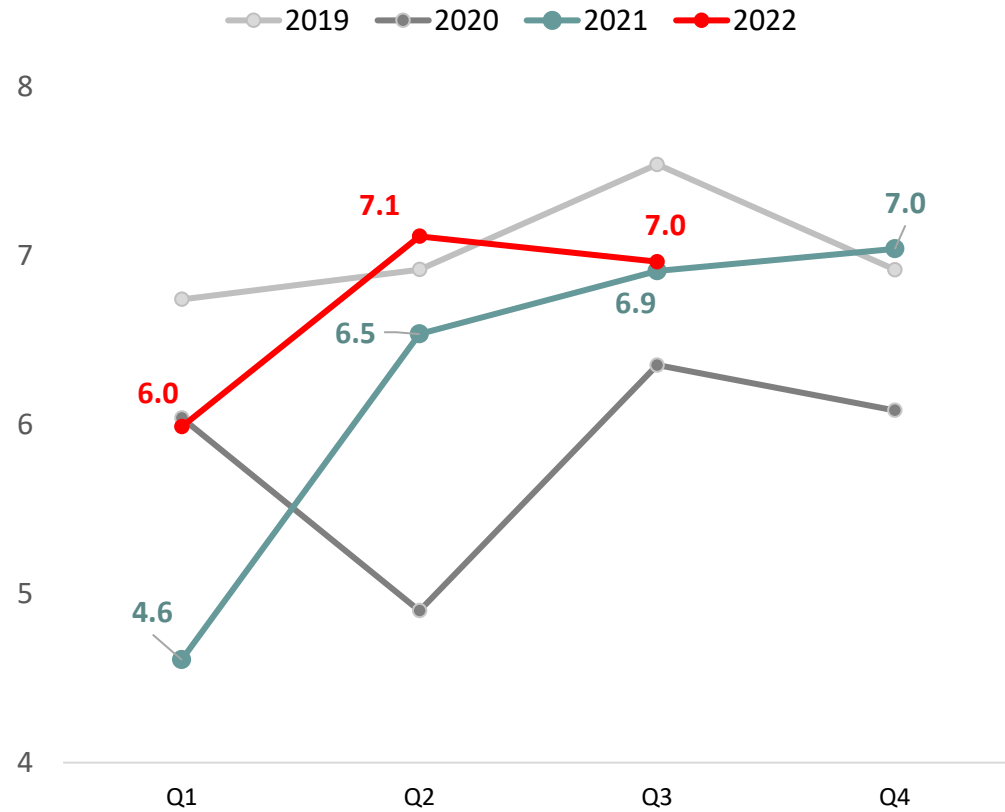
2021



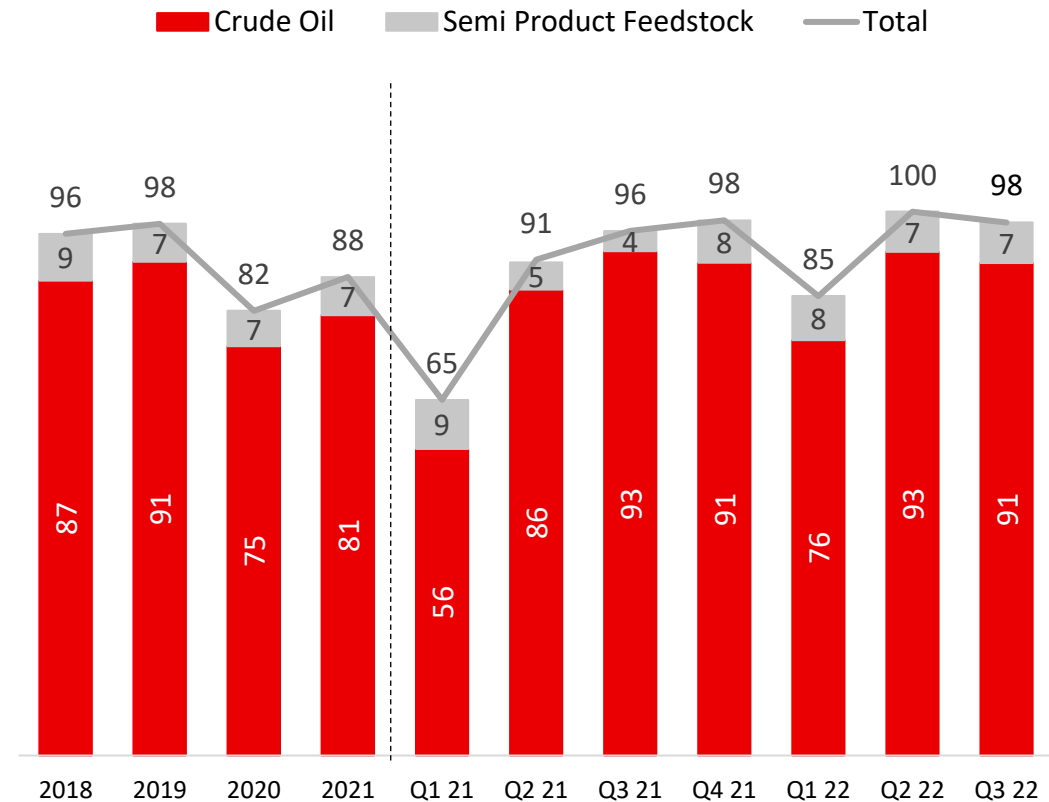
White Product Yield (%)	81.4%
Production	25.1 mn tons
API	31.2

Capacity Utilization and Quarterly Production Volume

Quarterly Production (Million Tons)



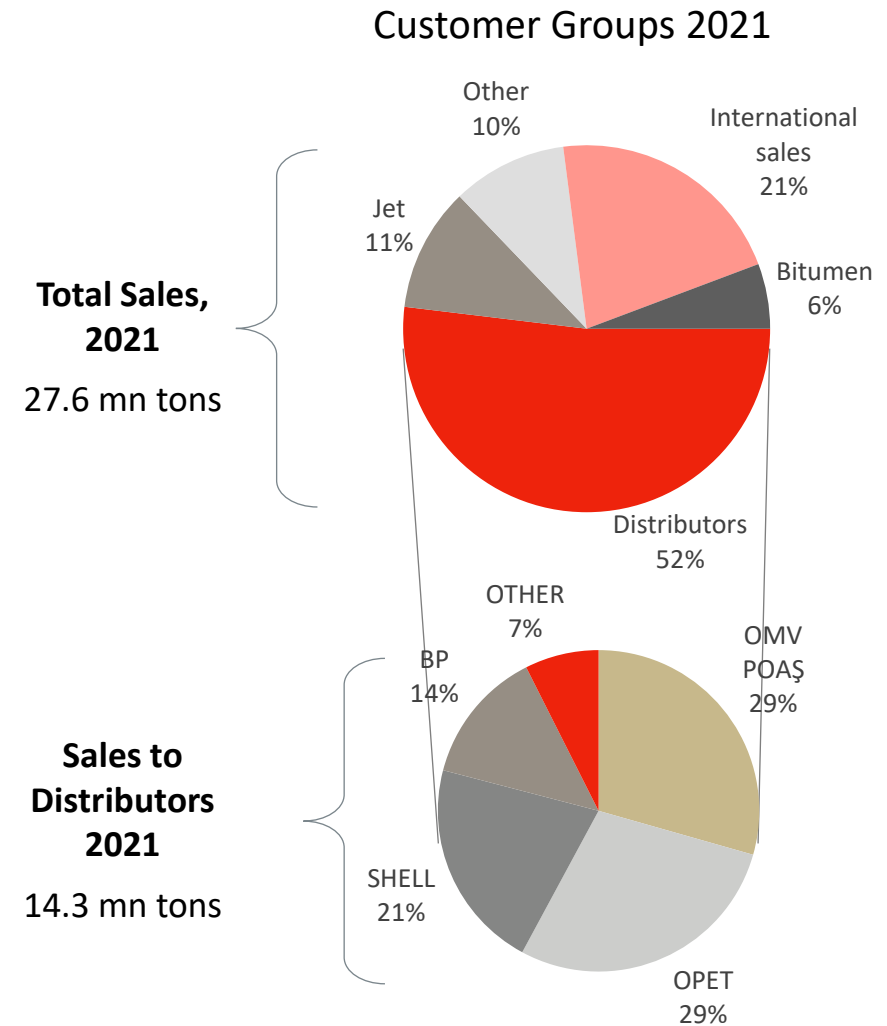
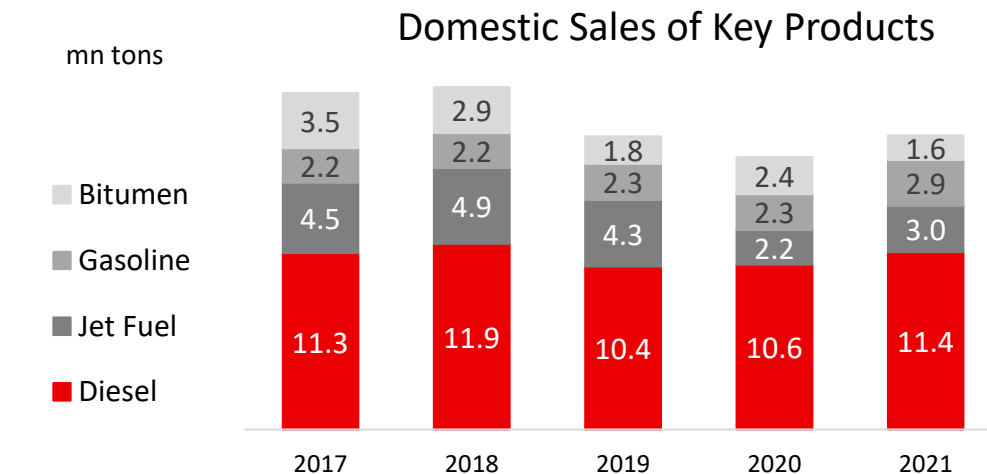
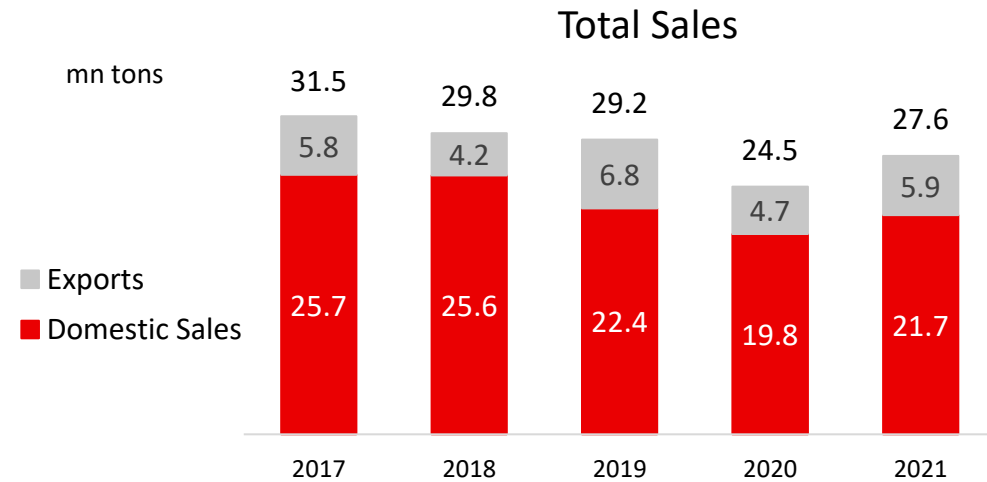
Capacity Utilization (%)



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

Sales

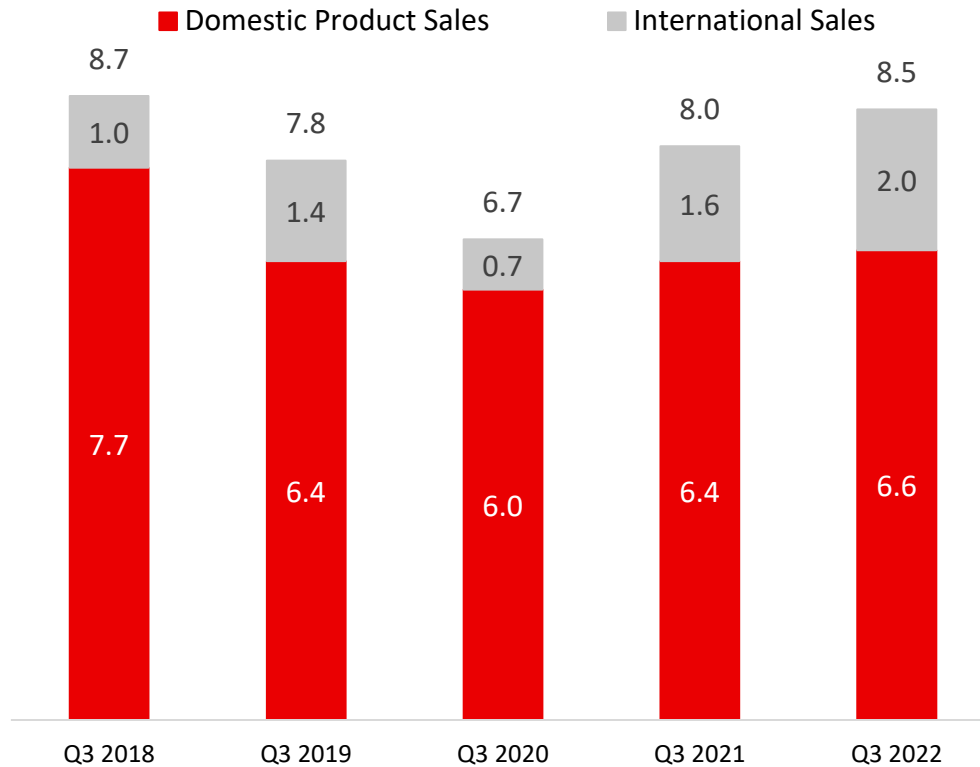
- Tüpraş generated 27.6 million tons of total sales in 2021.



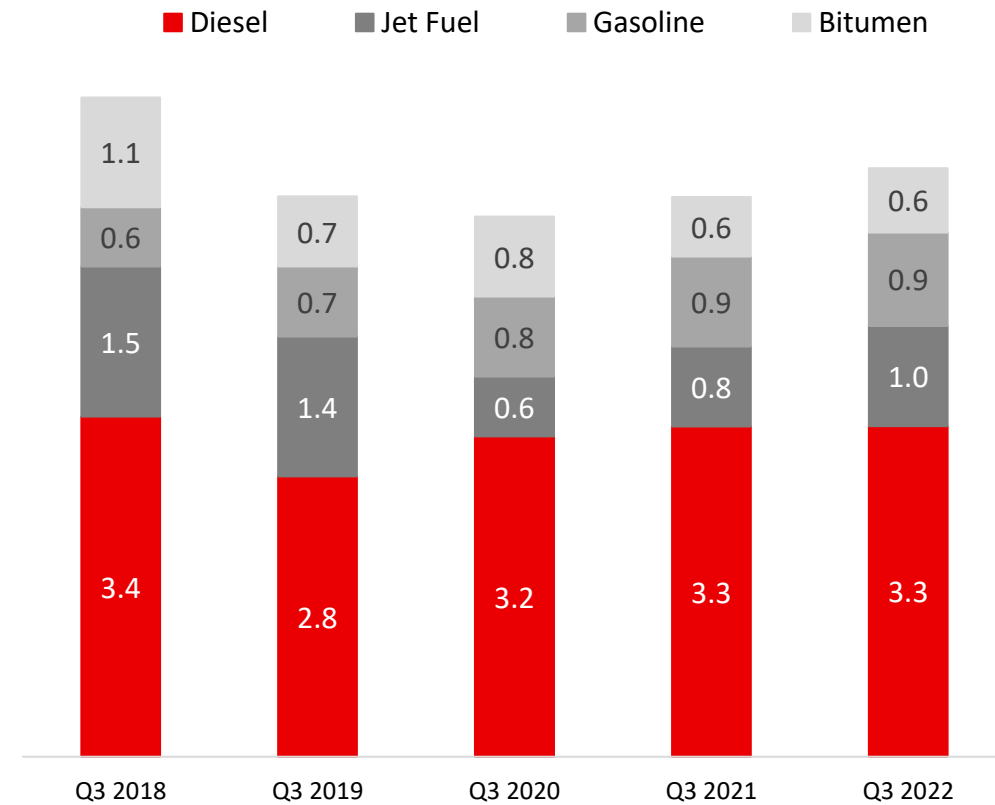
Product Sales in Q3 2022 (Million Tons)

- Tüpraş generated 8.5 million tons of sales in Q3 2022, 7% higher y-o-y.
- Domestic jet fuel and international sales posted strong y-o-y growth with robust demand. Bitumen sales were also better q-o-q.

Total Product Sales



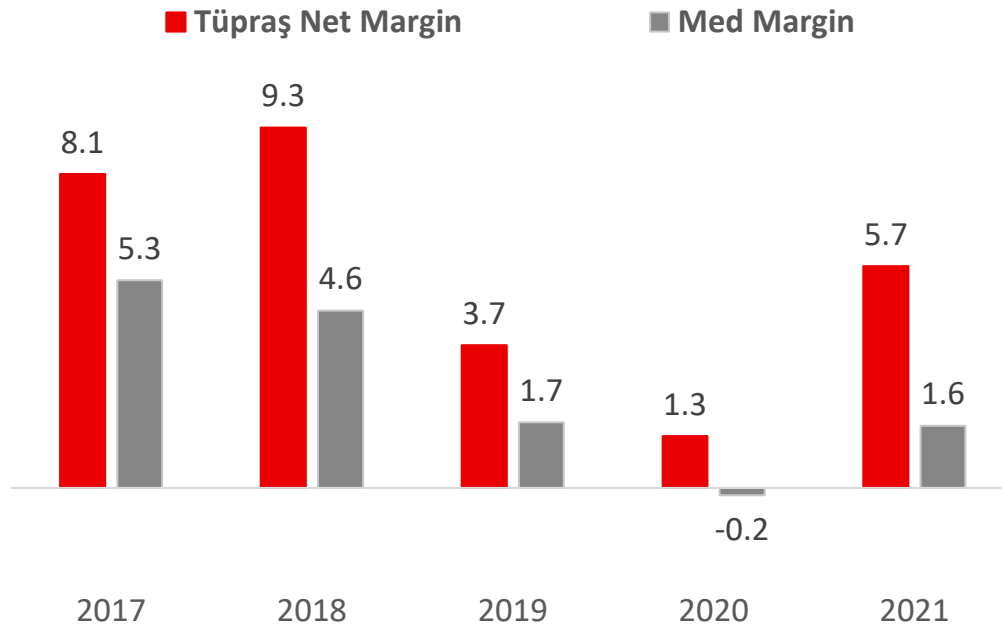
Domestic Sales of Selected Products





Financials

Tüpraş and Med Refining Margins



(\$/bbl)	Gross Margin	Inventory Effect	Clean Gross Margin	Clean NET Margin	Net Margin	Med Margin	Processed bbl (mn)
Q3 2022*	24.8	-1.5	26.4	19.8	18.3	29.8	53.2
2021	10.5	2.1	8.4	3.6	5.7	1.6	190.2
Q3 2021	10.4	0.5	9.8	5.4	5.9	2.8	52.2
2022G					13 - 14	-	

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

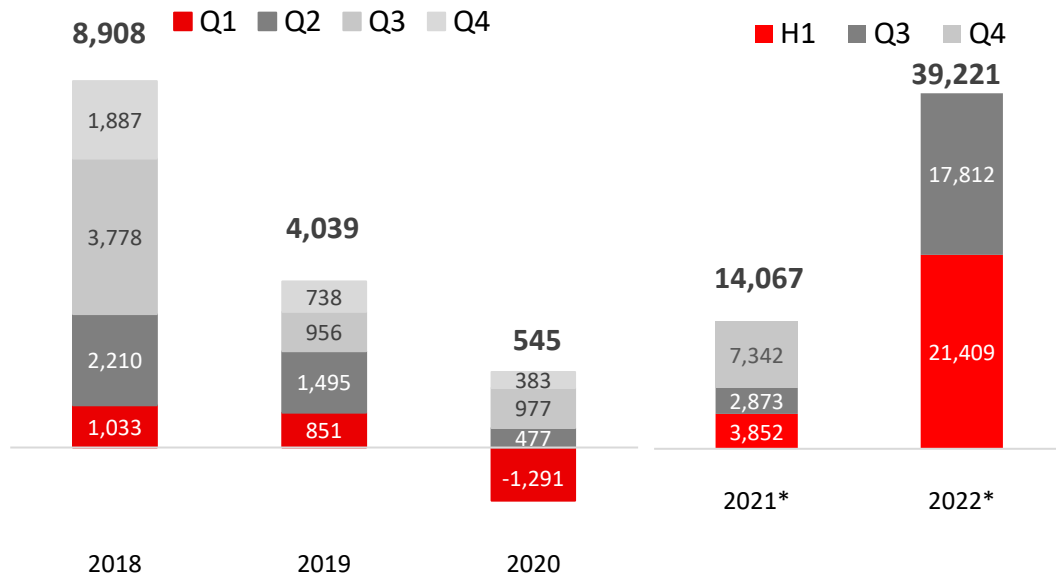
* Med Margin is higher than Tüpraş's Net Margin in Q2 2022 after the significant widening in Urals due to Russia-Ukraine war. Weight of Ural crude oil is 100% for crude oil supplies in the theoretical calculation of Med Margin.

Income Statement (Million TL)

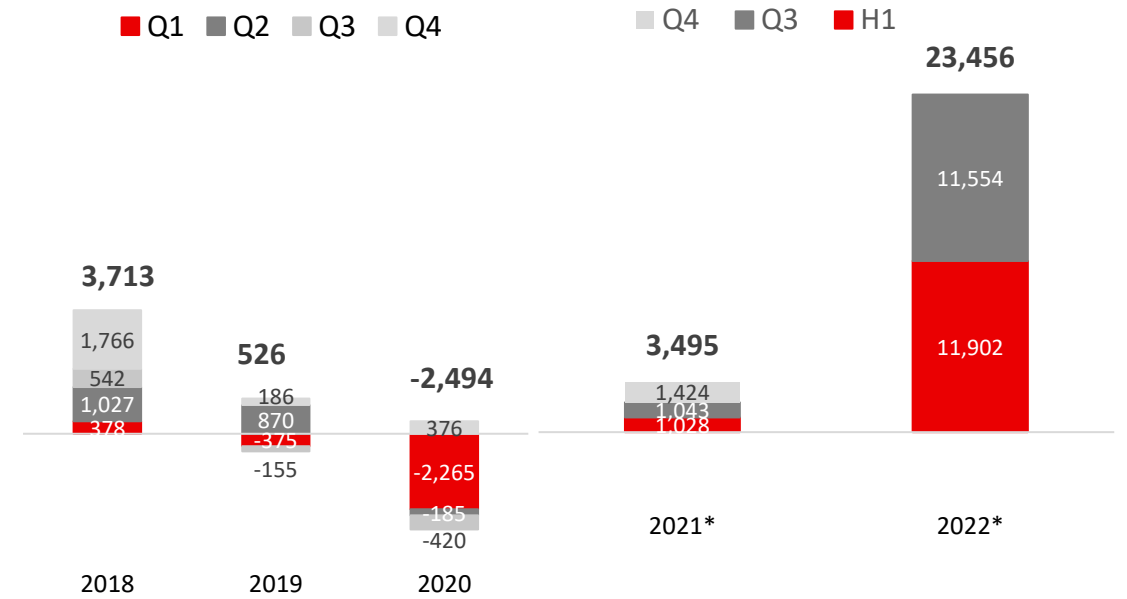
Million TL	Q3 2022	Q3 2021	%	9M 2022	9M 2021	%
Net Sales	150,609	41,493	263%	365,739	95,600	283%
COGS	-131,111	-38,276	243%	-322,428	-87,713	268%
Gross Profit	19,498	3,217	506%	43,311	7,886	449%
Operating Expenses	-1,989	-806	147%	-5,150	-2,080	148%
Income/Loss from other operations	-3,775	-118	3099%	-8,836	-2,036	334%
Operating Profit	13,734	2,293	499%	29,325	3,770	678%
Inc./Loss from Equity pick ups	310	245	26%	677	306	121%
Operating Profit Before Fin. Income/Loss	14,043	2,538	453%	30,001	4,076	636%
Financial Income /Expense	-796	-1,310	-39%	-4,242	-2,397	77%
Profit Before Tax	13,247	1,228	979%	25,759	1,679	1434%
Net Profit (excluding minority interest)	11,554	1,043	1008%	23,456	2,071	1033%
EBITDA* (mn. TL)	17,812	2,873	520%	39,221	6,725	483%
Inventory Gain/Loss (mn. TL)	416	511	-19%	7,450	3,430	117%
EBITDA* (mn. TL) CCS	17,396	2,362	636%	31,771	3,295	864%

Financial Highlights

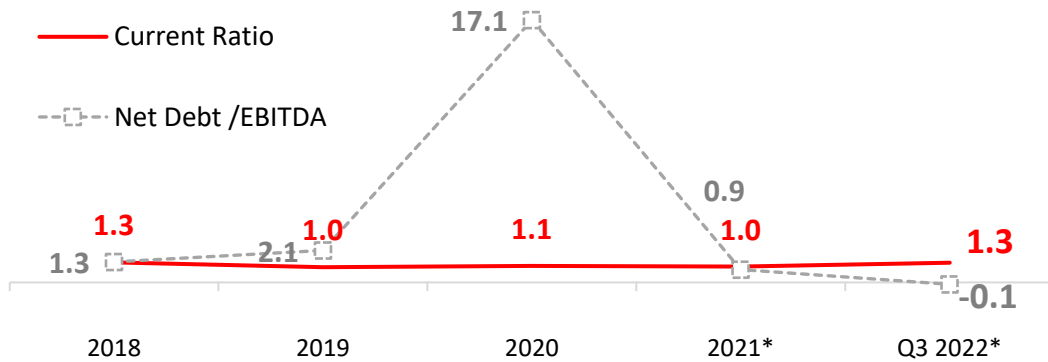
EBITDA (mn TL)



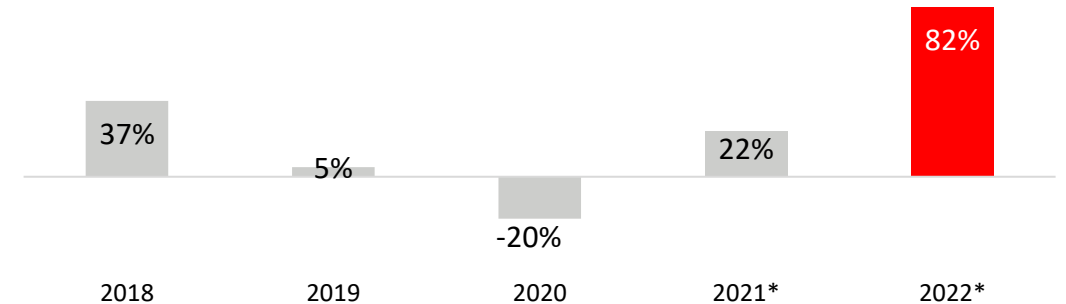
Net Income¹ (mn TL)



Current Ratio & Net Debt / EBITDA

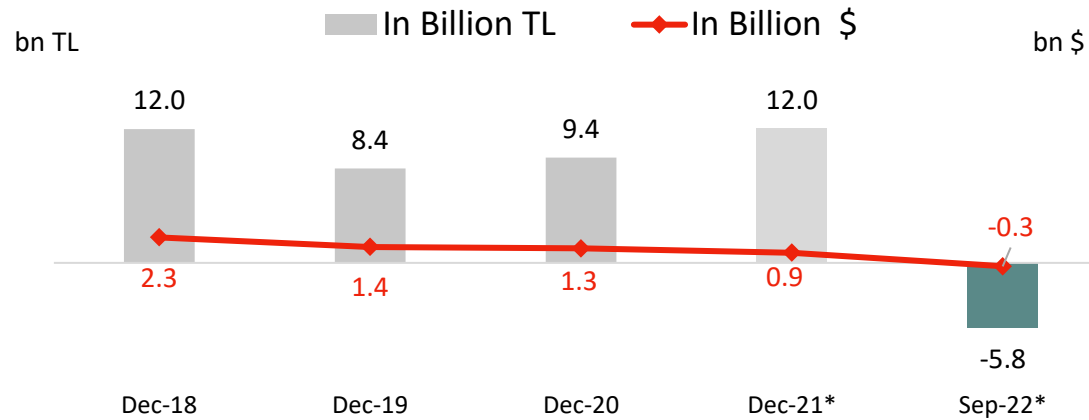


Return on Average Equity (%)

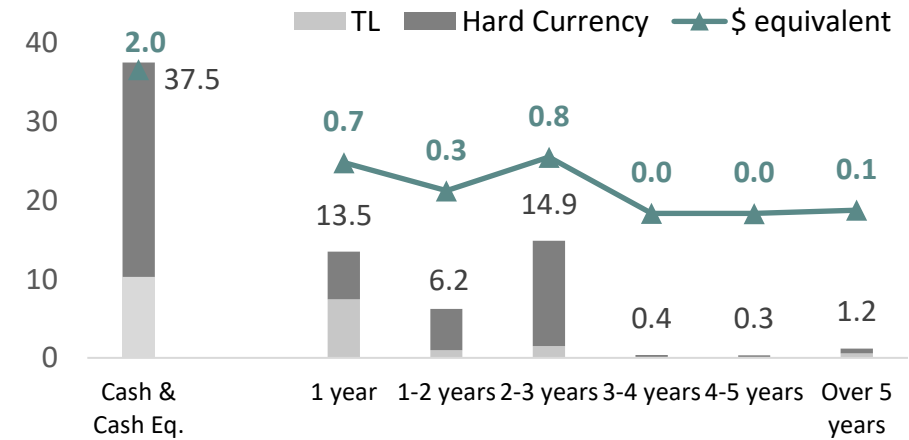


Balance Sheet Analysis

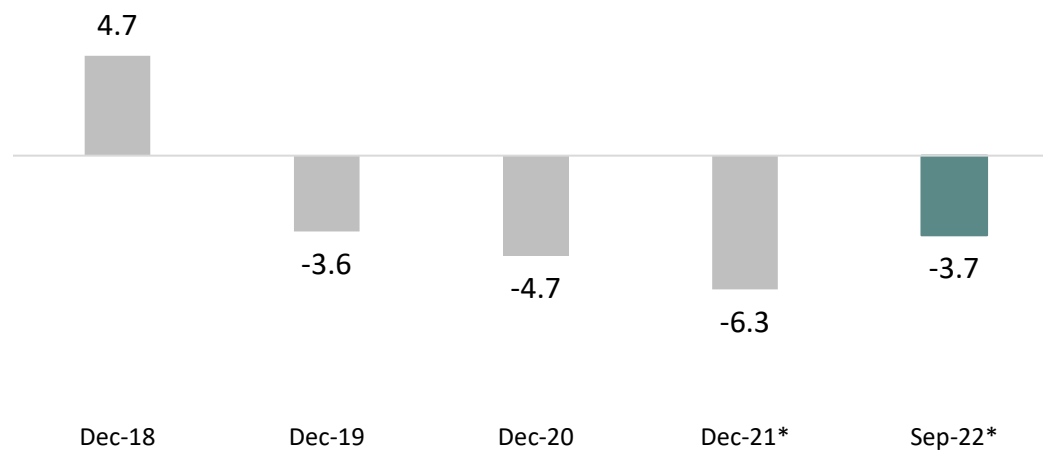
Net Debt



Redemption Schedule (Billion TL)



Working Capital Requirement (Billion TL)



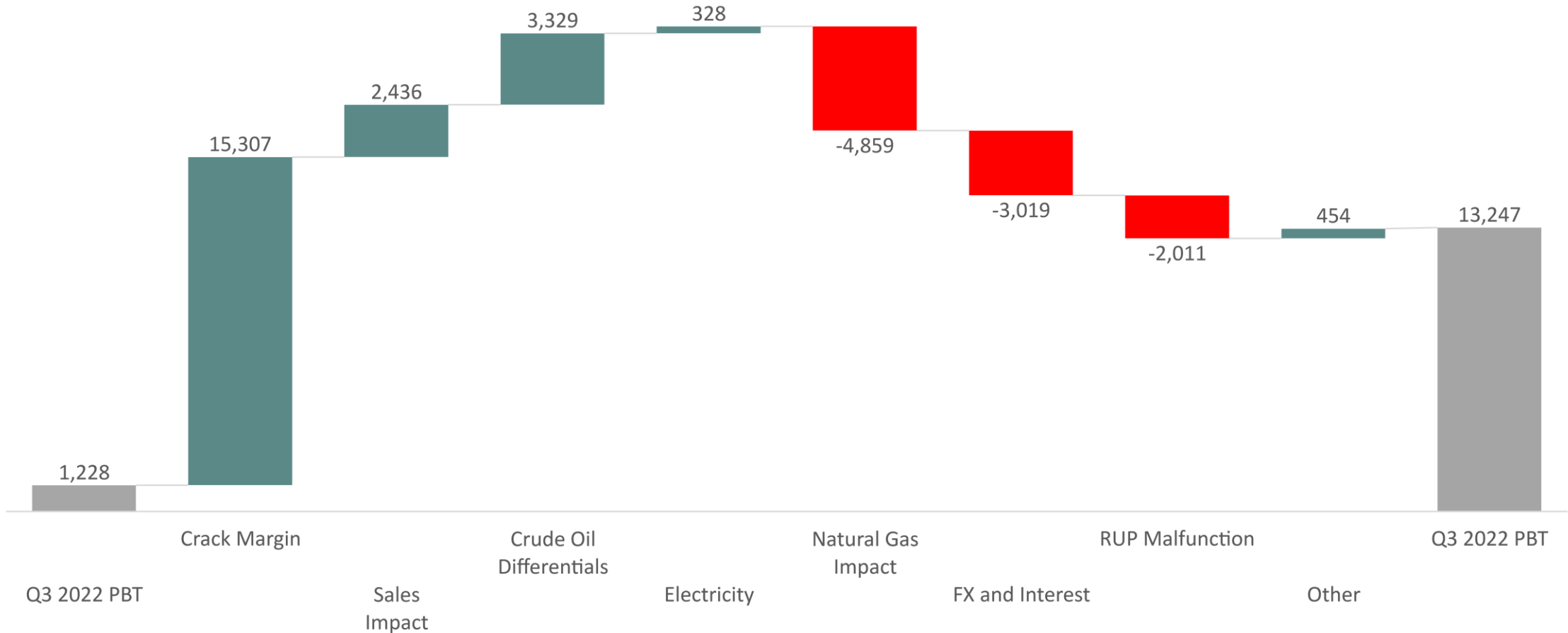
Financial Management

- Working capital buffer maintained with higher inventory turnover
- Net cash position continued with strong operating cash flow and working capital management

Profit Before Tax Bridge (Q3 2021 – Q3 2022)

Strong cracks and sales volumes together with wider differentials boosted PBT, despite elevated energy expenses, TL devaluation and RUP malfunction. Entek positively contributed to PBT in Q3.

Million TL



2022 Expectations

Med Complex Refining Margin Expectation Withdrawn

Tüpraş Net Refining Margin 13 - 14 \$/bbl

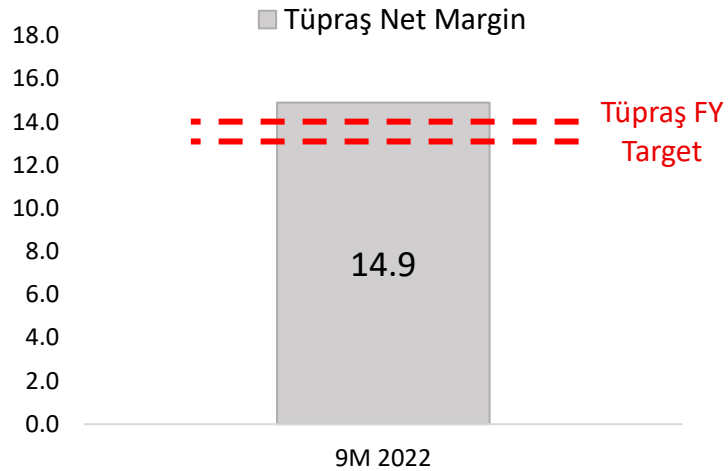
- 26-27 mt production, 28-29 mt sales and 90 - 95% capacity utilization

Consolidated Capex ~200 million \$

- ~45% of capex for sustainability focused energy efficiency and environmental projects

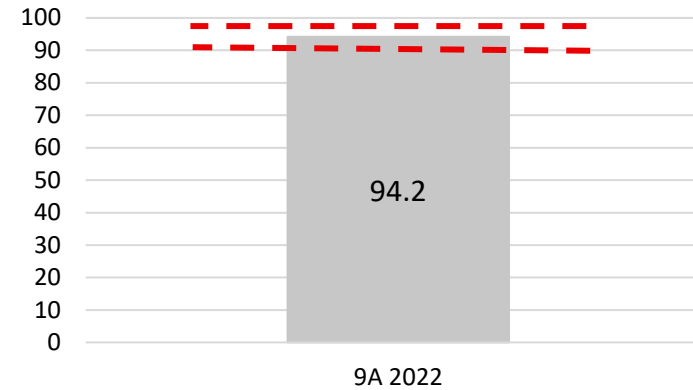
9M 2022 Results

Refining Margins (\$/bbl)



14.9 \$/bbl net refining margin in 9M 2022

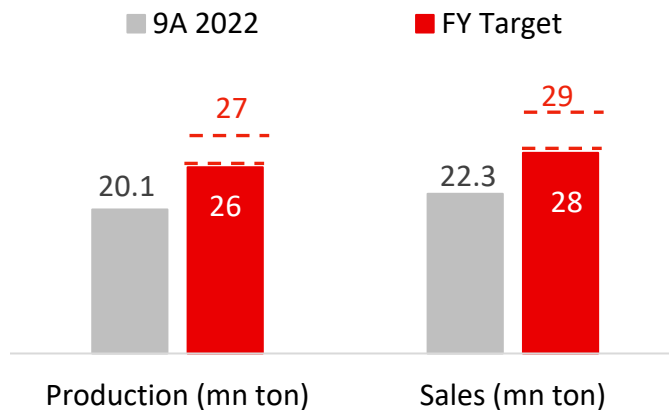
Capacity Utilization (%)



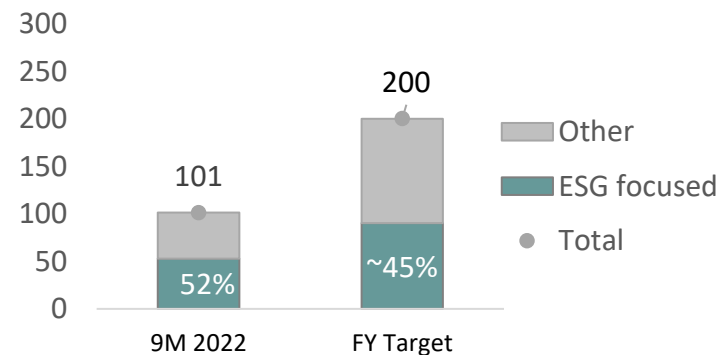
94.2 % total capacity utilization in 9A 2022

22.3 mn tons of sales and 20.1 mn tons of production in 9A 2022

Operationals



Total Capex (mn \$)^(*)



101 mn \$ total CAPEX in 9M 2022, with 52% spent on ESG related investments

Investments (Million \$)

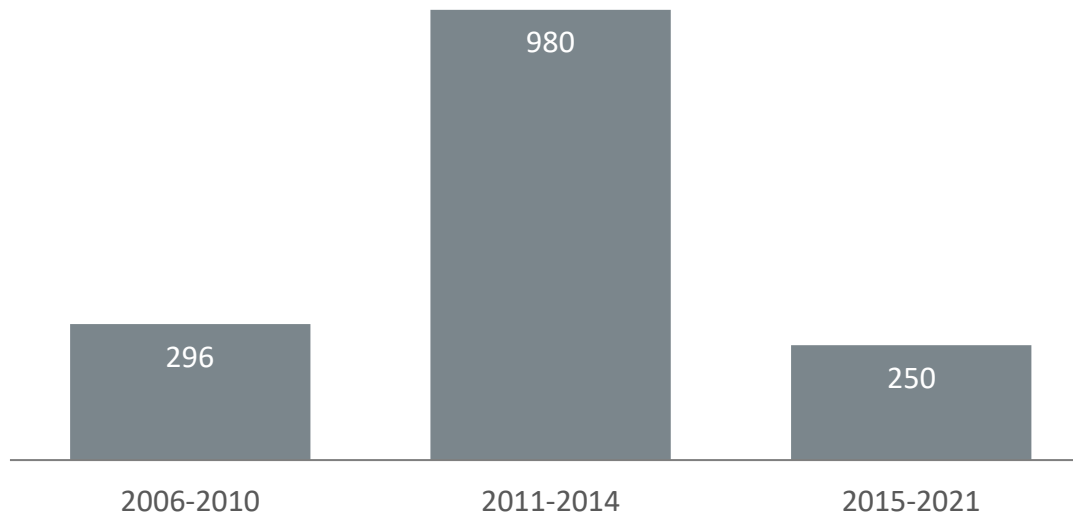
Achievements & Ongoing Projects

- 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

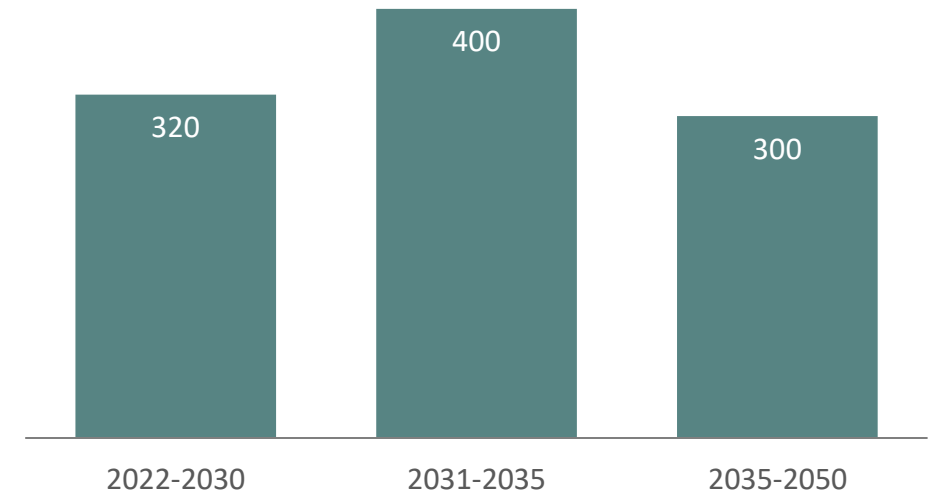
Strategic Transition - Investment Program

- 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



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

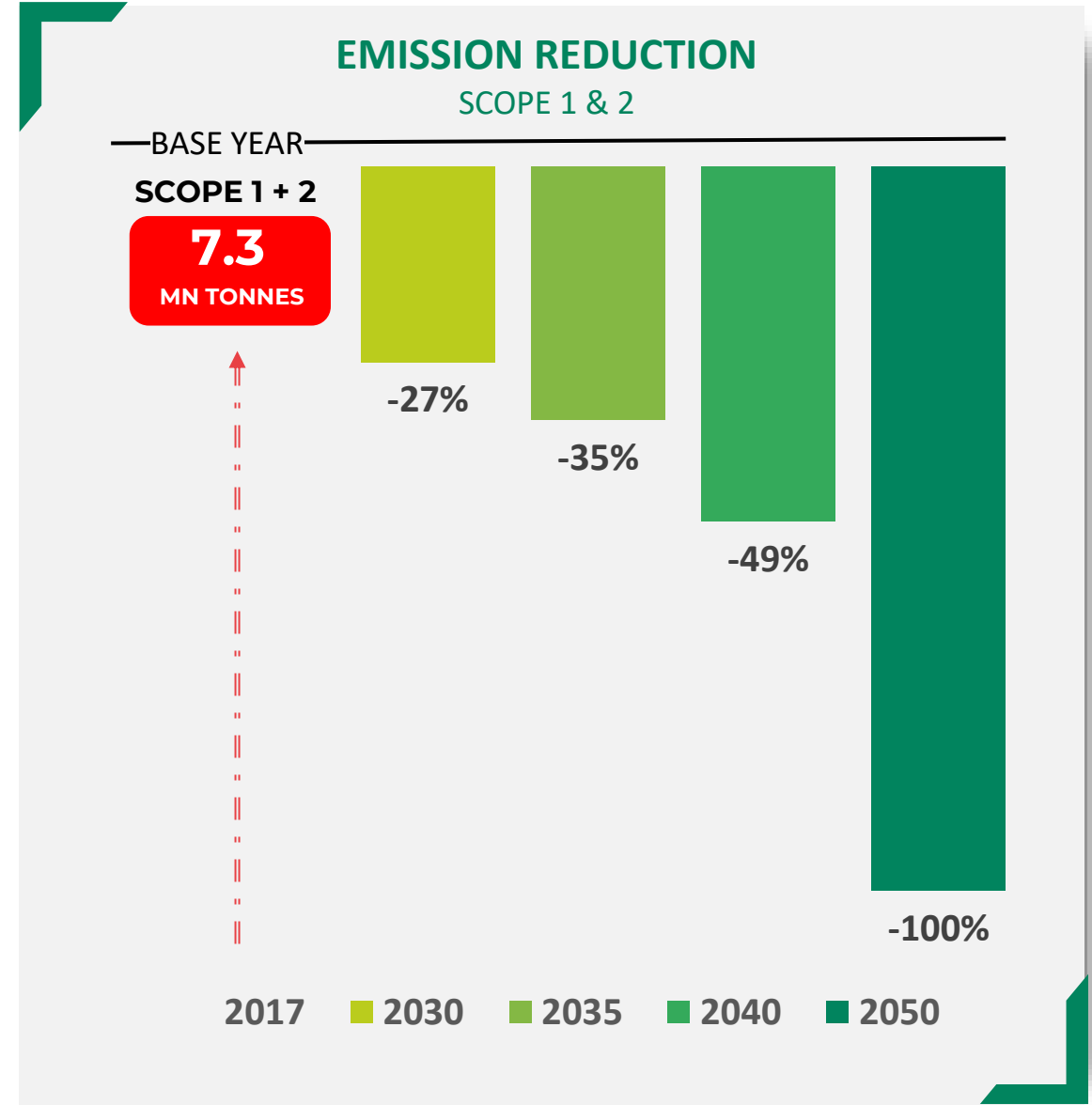
Reducing Refining Emissions

- 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.

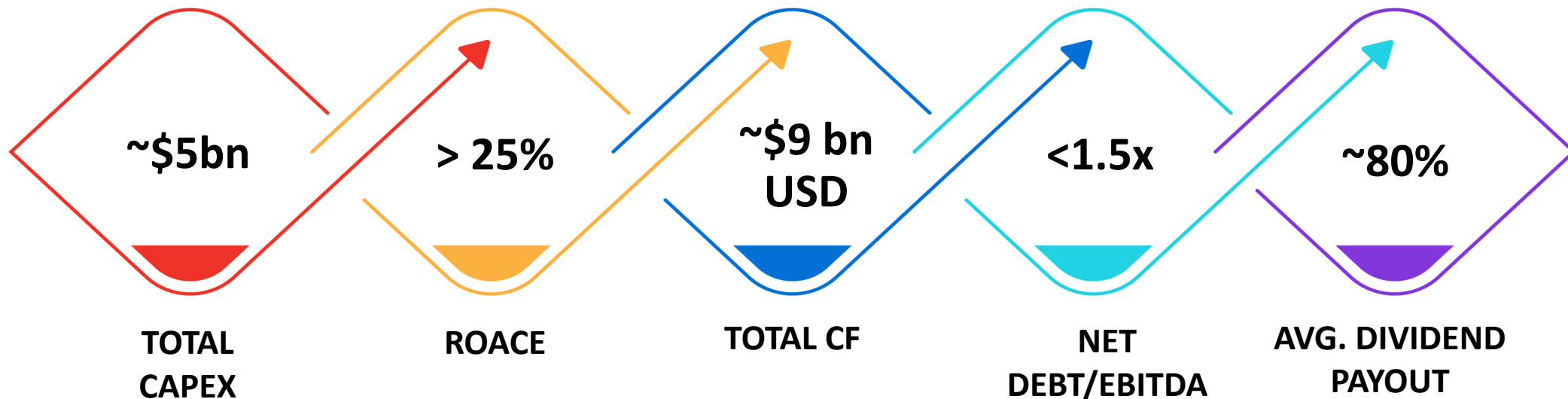
Will **eliminate our scope 1 & 2 emissions by 2050** while executing our plan and achieving these results.

\$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**

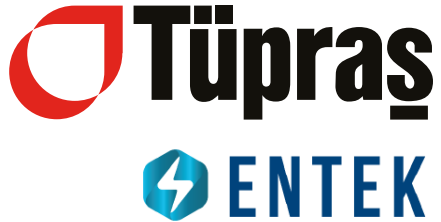
Will remain a **high dividend payer**, average **~80% dividend pay-out**



Strategic Transition Plan – Latest Updates



ZERO CARBON ELECTRICITY



The takeover process of Entek, our first breakthrough in the field of zero-carbon electricity generation, **completed.**

As of Sept'22 end we initiated ZCE capacity installations in our refineries with a total of 73.2 MW Solar Power & 12.6 MW Wind Power

Kırıkkale: Solar – 12.6 MW (construction continues)
Solar – 54.4 MW (application made)

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)



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**

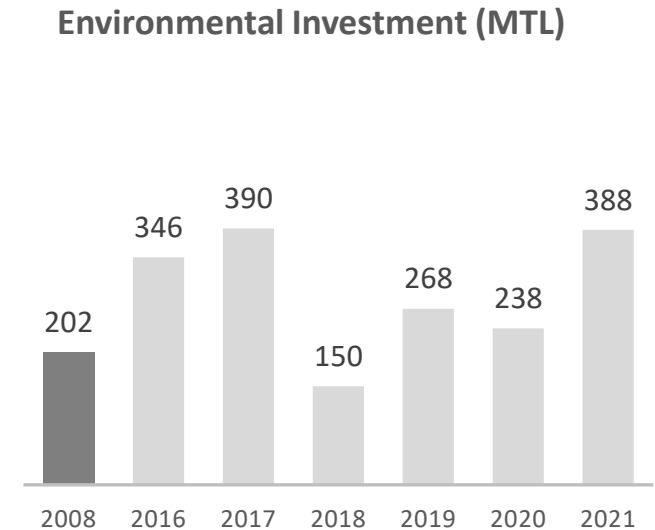
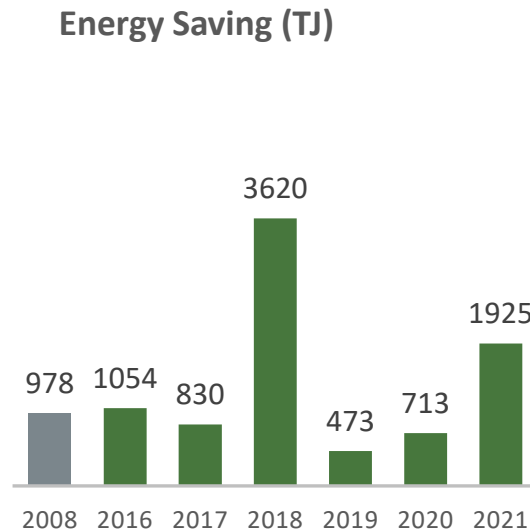
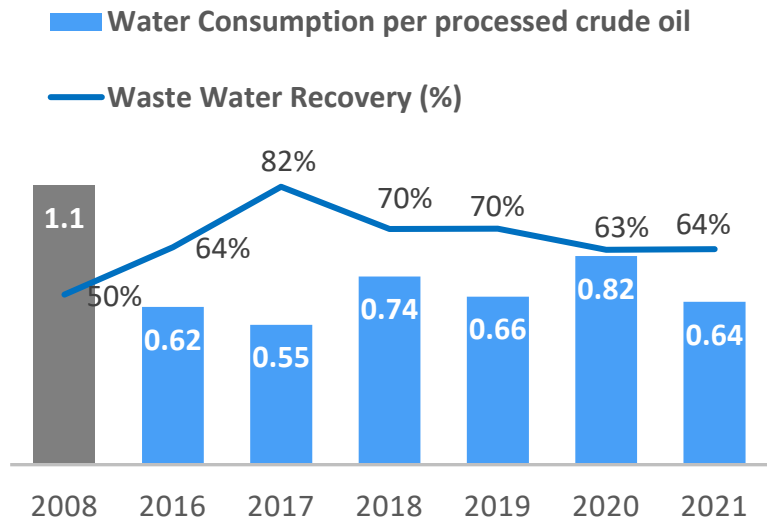
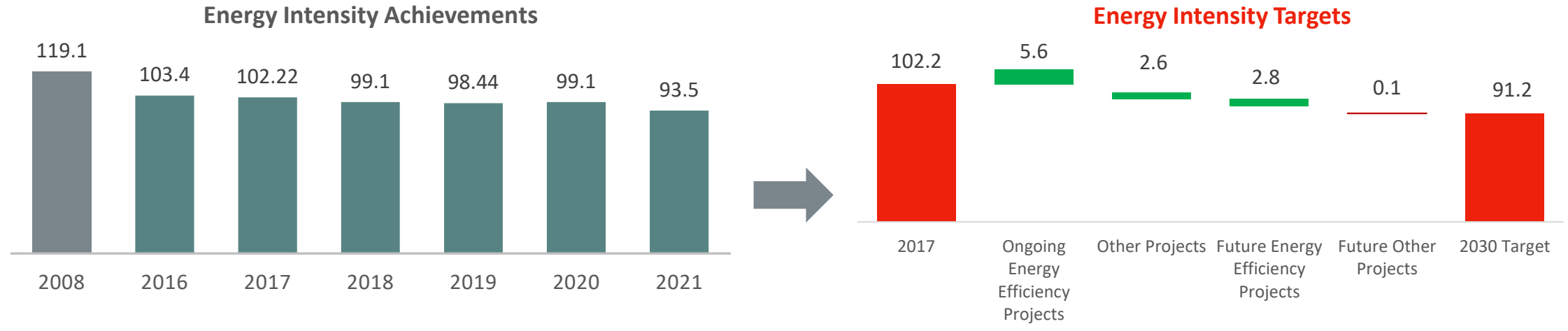
**400kt
biofuel
production
capacity**



ESG

Tüpraş's Environmental Highlights

Sustainability program was kicked off back in 2008 and achieved many milestones



Tüpraş's Social & Governance Highlights

Strong Policies have been effectively implemented for years



Corporate Governance Rating **9.58**

Board of Directors' Composition

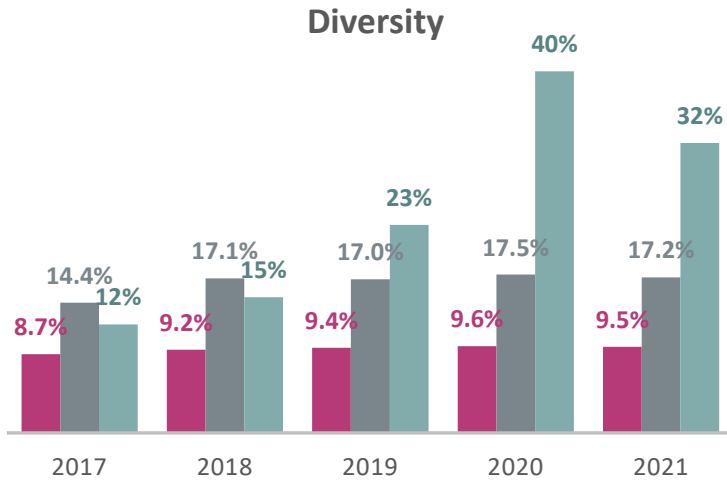
12 members
One-third of the members are **independent**

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



Targets

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

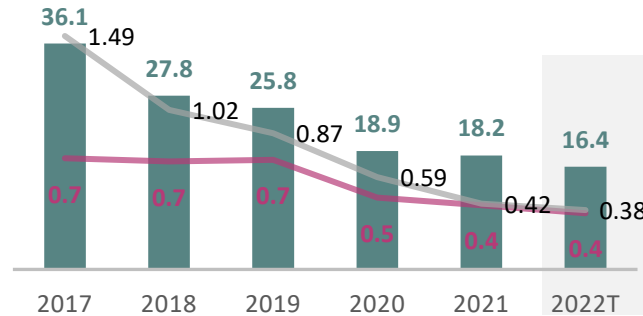
25%

Targeted Rate of Women in New Recruitments

50%

- LTI Severity
- LTI Frequency
- Process Safety Event Frequencies

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.

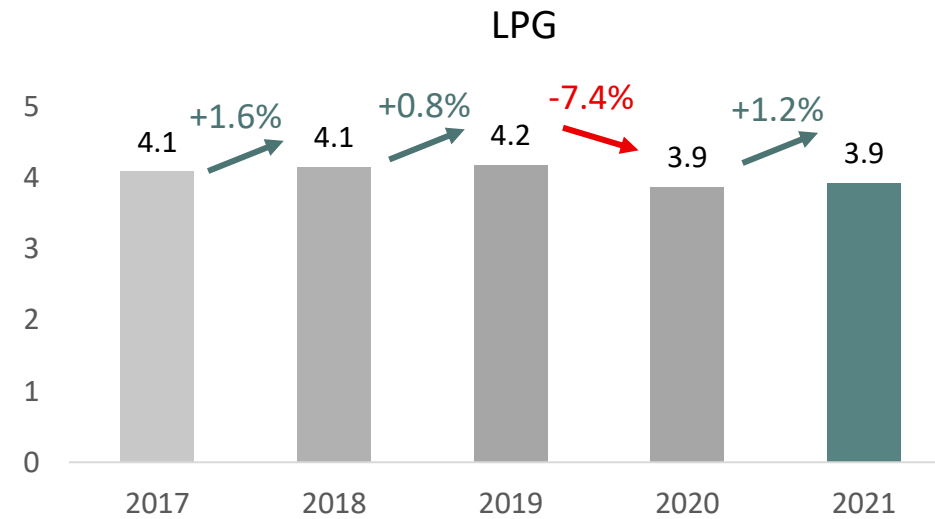
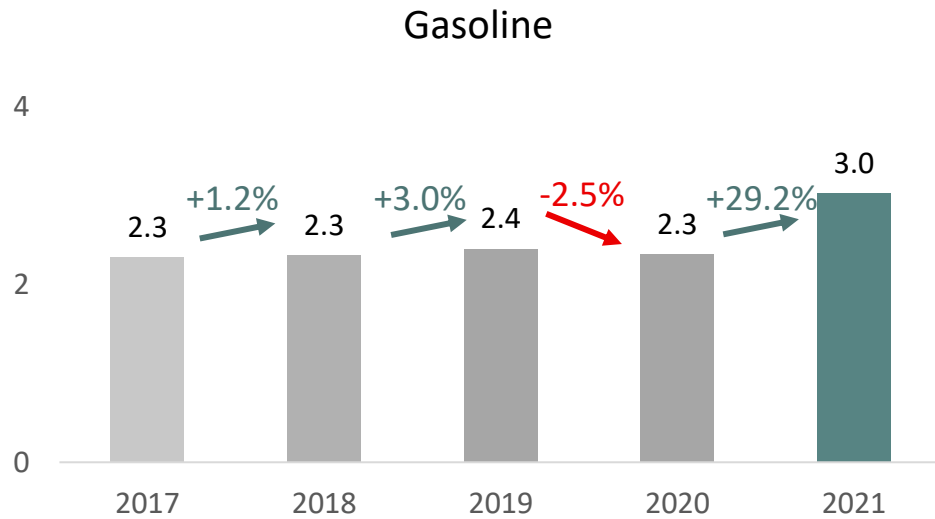
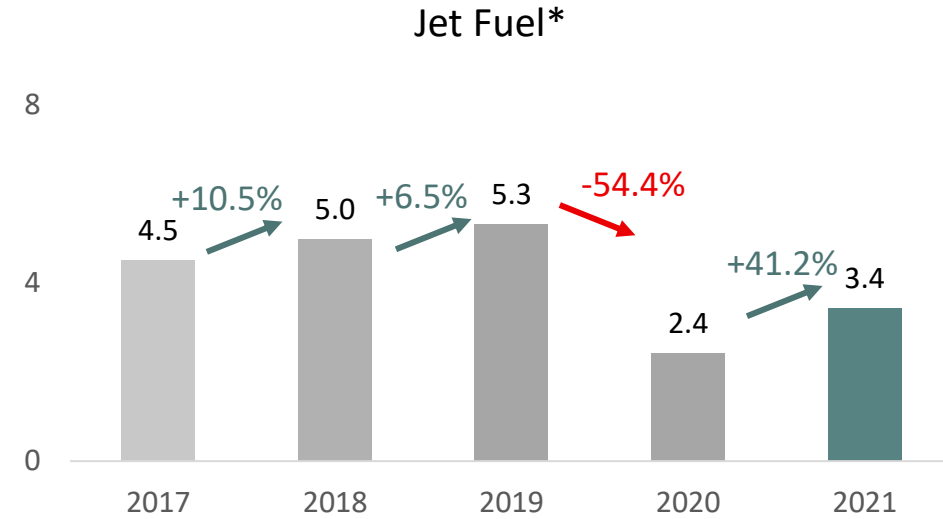
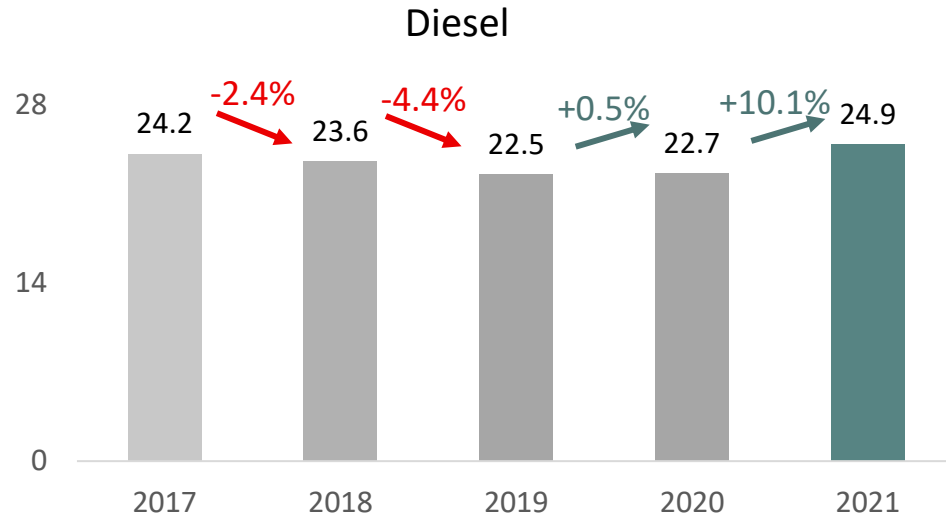
Appendix

2022 Refinery Maintenance Schedule

Refinery	Unit	Starting Quarter	Duration (weeks)	Purpose	Status
Batman	Crude Oil & Vacuum	Q1	15	Seasonal	Done
	Crude Oil & Vacuum	Q4	2		Planned
İzmir	Vacuum	Q1	6	Periodic Maintenance	Done
	Lube Complex	Q1	7		Done
	Crude Oil	Q4	7	Revamp	Planned
	CCR & Isom. & Desulp. & FCC	Q4	7		Planned
	HYC	Q4	4		Planned
İzmit	Isomerization	Q1	5	Periodic Maintenance	Done
	Vacuum	Q1	3		Done
	Desulphurizer	Q1	3		Done
	Crude Oil & Vacuum	End of Q3	6		Ongoing
	HYC	End of Q3	6		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

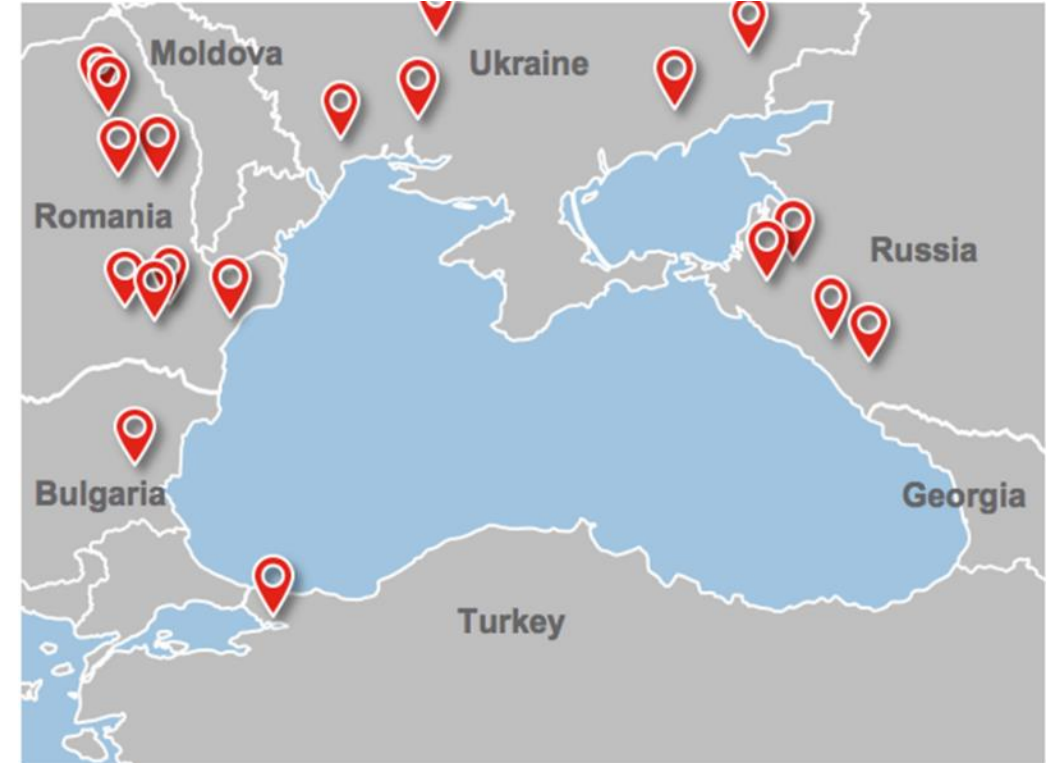
- Tüpraş competes with 71 refineries in the Mediterranean and Black Sea markets.
- Mediterranean regional product balance is also affected from Middle East, North West Europe and Asia flows

Mediterranean



54 Refineries ~7.8mbd

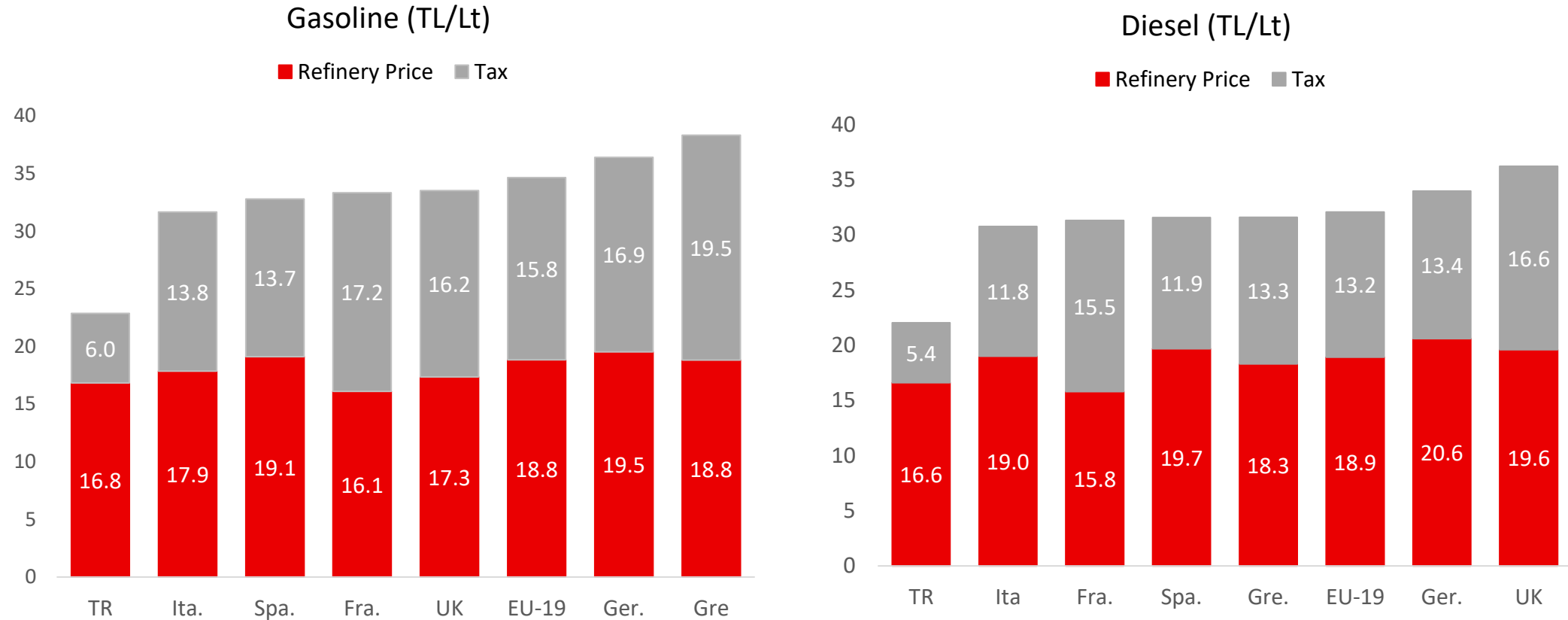
Black Sea



17 Refineries ~1.8mbd

European Pump Price Comparison

Turkish fuel prices are highly competitive with other European countries.



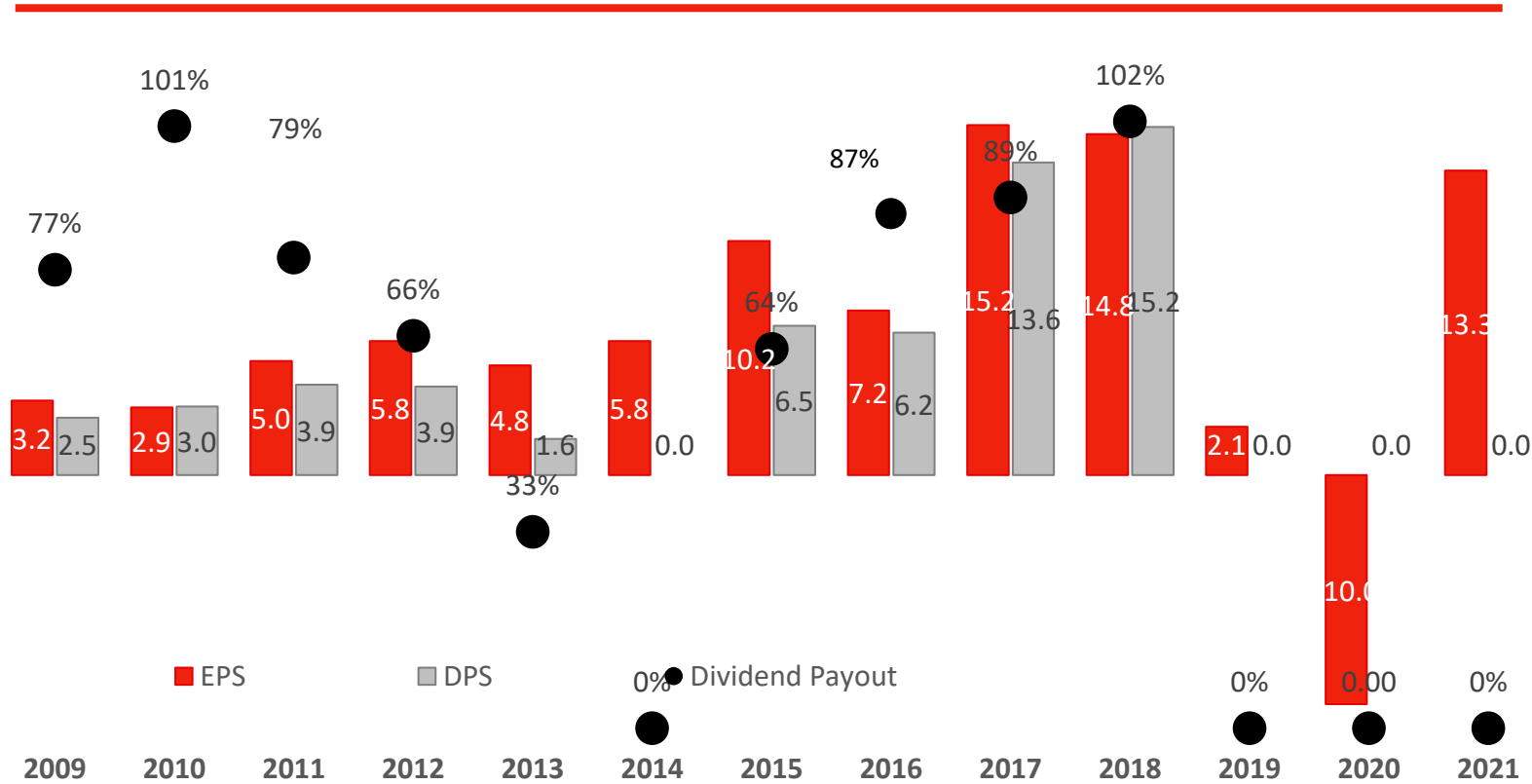
Prices of Europe and Turkey, as of May 23rd, 2022

Tüpraş Balance Sheet (Million TL)

	30.09.2022*	31.12.2021*	Diff.	Diff. (%)
Current Assets	121,809	66,515	55,294	83
Cash & C. Equivalents	42,320	21,176	21,144	100
Trade Receivables	29,300	13,797	15,503	112
Derivatives	3,806	3,824	-18	0
Inventories	35,169	23,758	11,411	48
Pre-paid expenses	853	193	660	341
Other Current Assets	10,361	3,768	6,593	175
Long Term Assets	42,678	39,742	2,937	7
Financial Assets & Subsidiaries	2,646	2,156	490	23
Tangible & Intangible Fixed Assets	29,560	29,064	496	2
Derivatives	74	44	30	67
Pre-paid expenses	620	123	497	403
Deferred Tax	7,461	6,436	1,024	16
Other Longterm Assets	2,317	1,918	399	21
Total Assets	164,487	106,257	58,230	55
Short Term Liabilities	94,699	64,829	29,870	46
Financial Loans	13,497	11,628	1,869	16
Trade Payables	68,217	43,837	24,380	56
Derivatives	1,124	3,467	-2,343	-68
Provisions	759	219	540	246
Other ST Liabilities	11,101	5,677	5,424	96
Long Term Liabilities	23,888	22,347	1,540	7
Financial Loans	23,027	21,565	1,462	7
Payables & Provisions	675	455	220	48
Derivatives	0	73	-73	-100
Other LT Liabilities	185	254	-69	-27
Total equity attributable to equity holders of the parent	45,482	18,809	26,673	142
Minority Interests	419	272	147	54
Total Liabilities & Equity	164,487	106,257	58,230	55

Dividend (TL)

Avg. Payout Ratio: 90%*



Strategic Transition Dividend Plan

80%

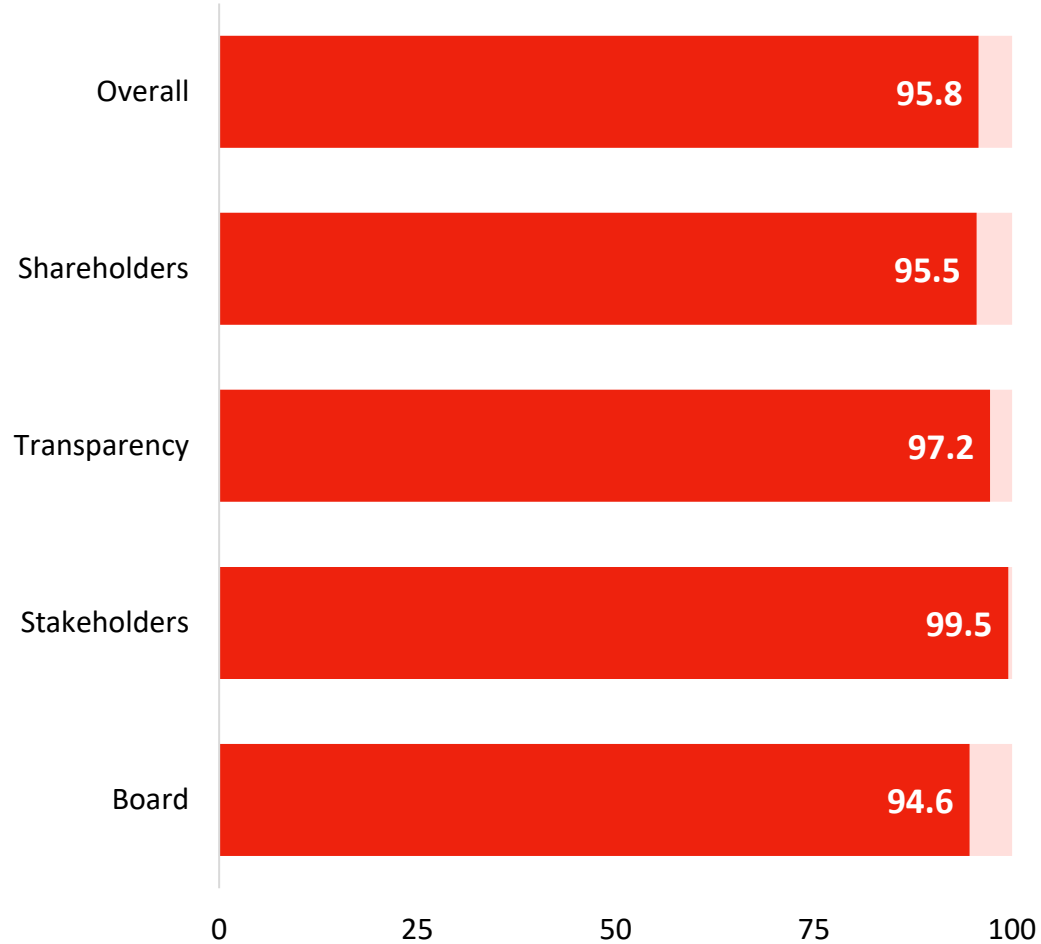
Our new business model enables us to pay ~80% average dividends and we will remain as a high dividend payer

2025-2035

*Years without dividend payments are not taken into account. Dividend payout ratio is calculated according to distributable net income based on statutory accounts

Tüpraş - Ratings

Tüpraş BIST Corporate Governance Rating Score



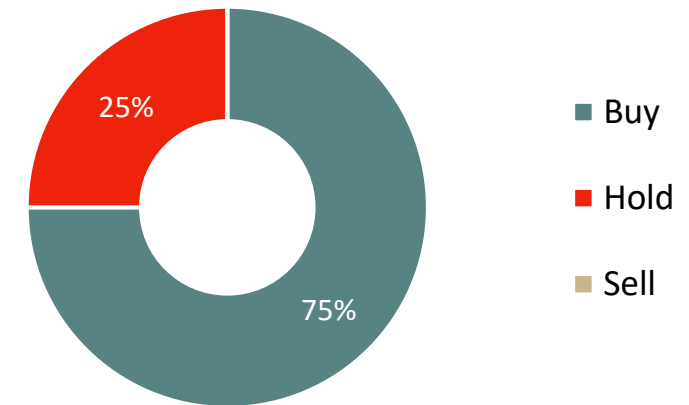
*data as of November

Source: SAHA Corporate Governance and Rating Services Inc. (October 2021)

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

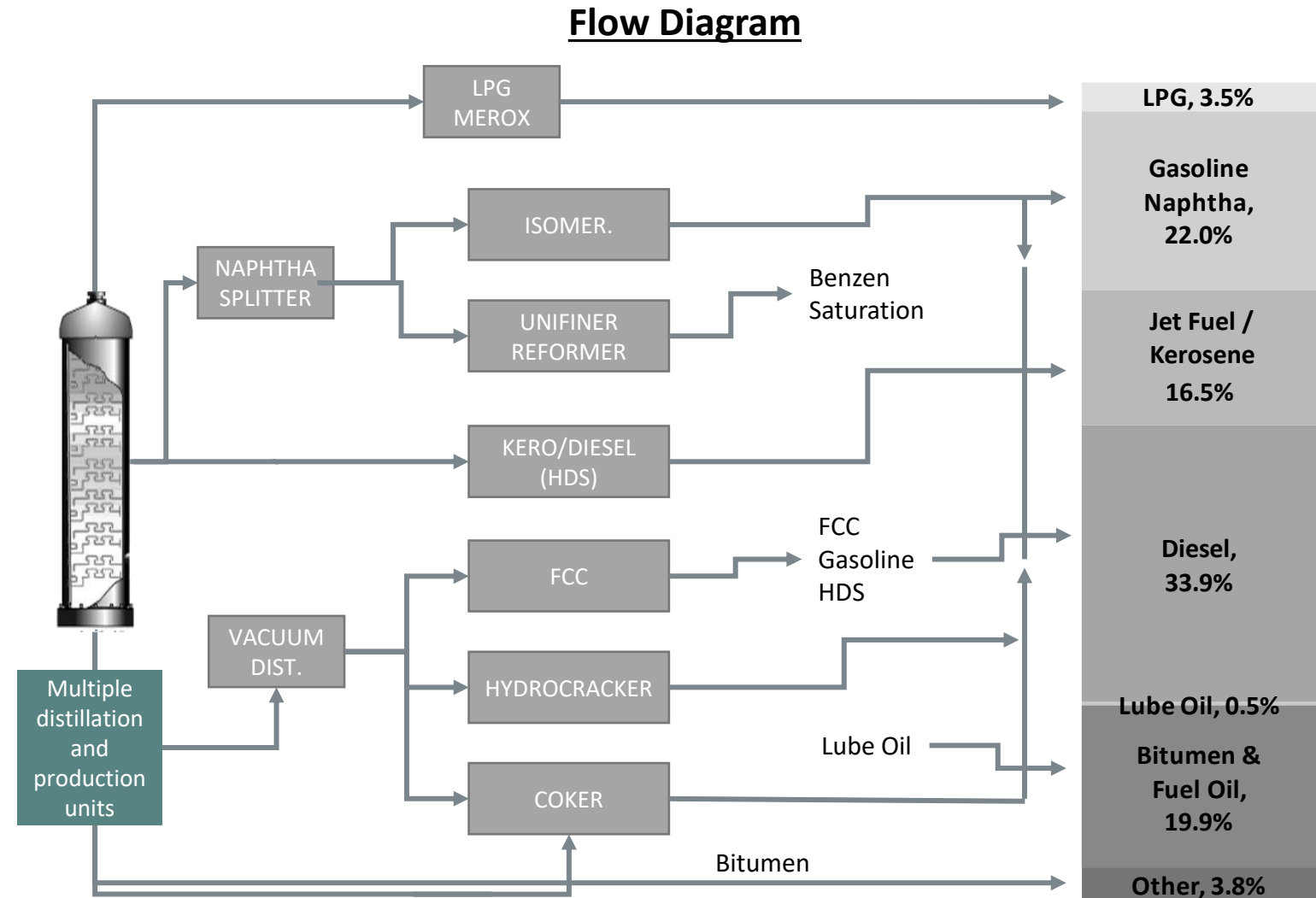


Source: Bloomberg*

Tüpraş Production Flow and Yield Breakdown

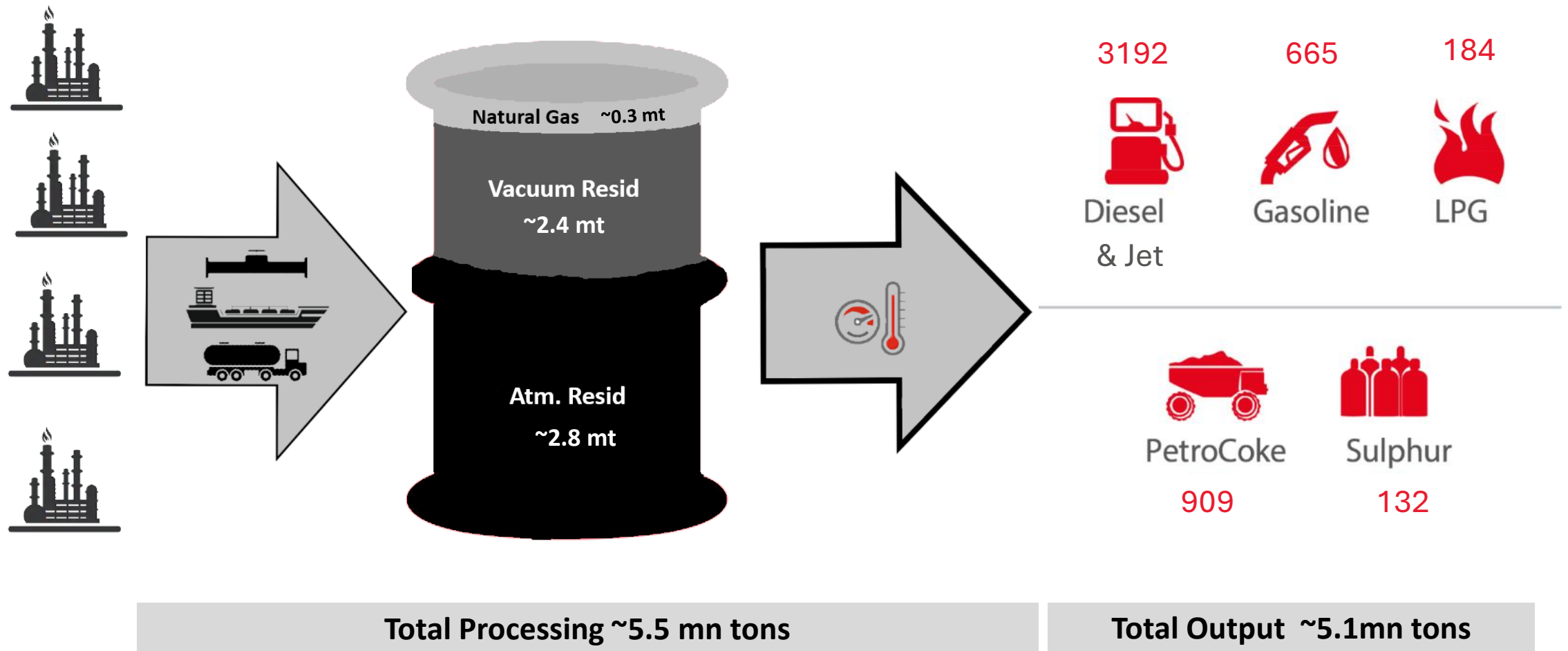
- Tüpraş has 30 million tons of production capacity
- Tüpraş operates 4 refineries with an integrated system optimization program

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	



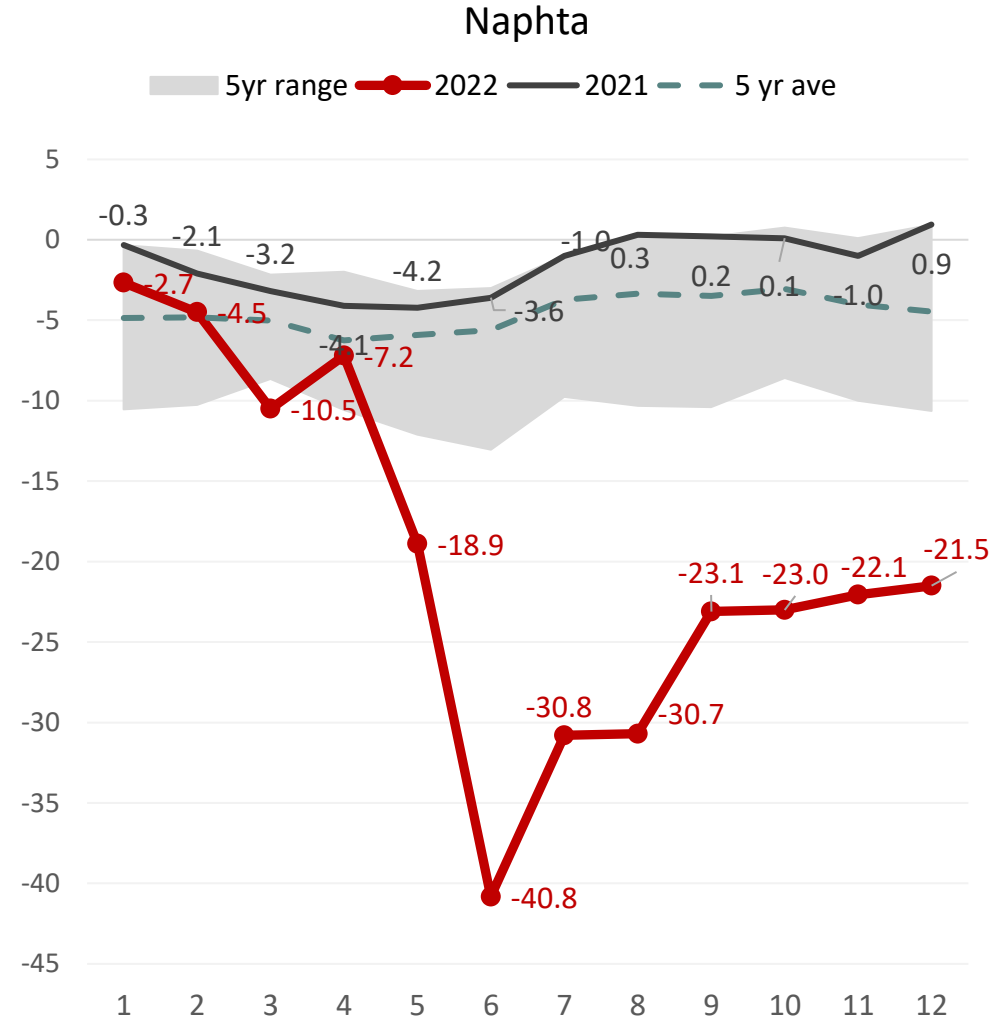
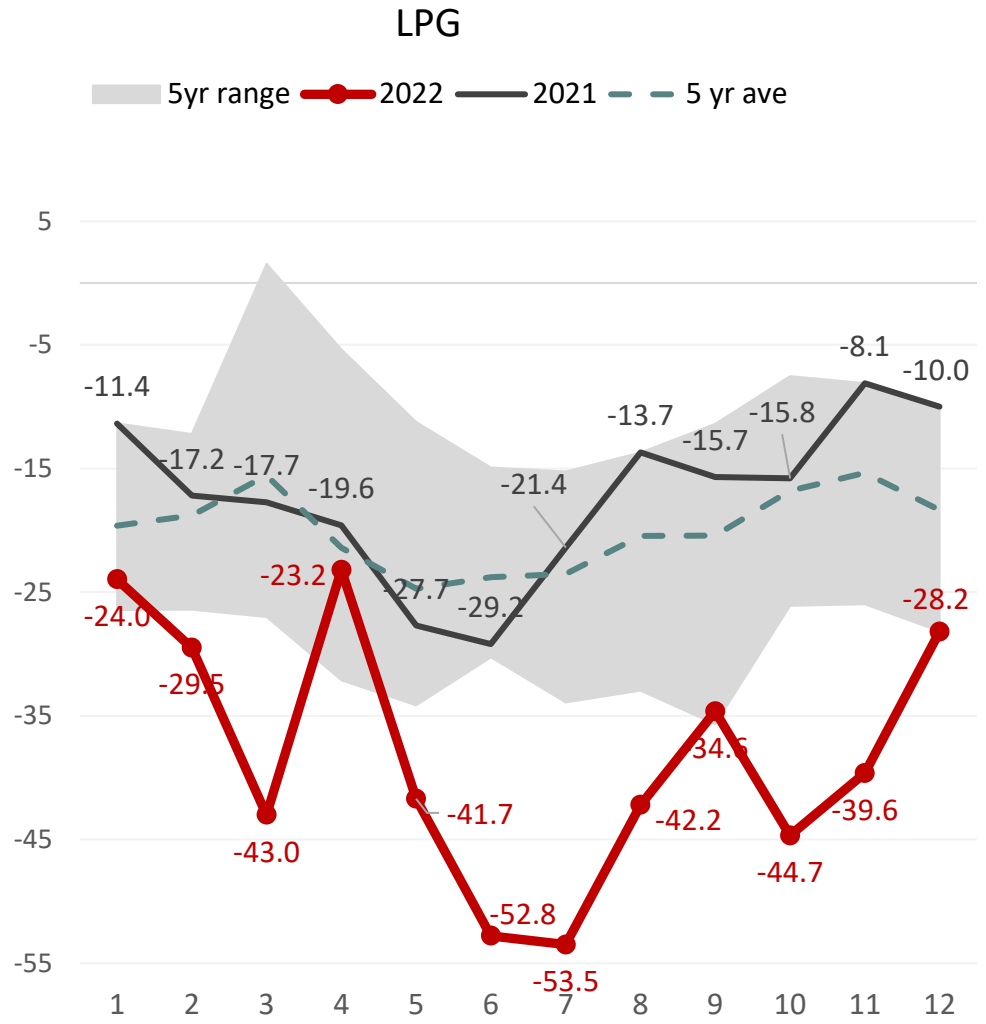
RUP Feedstock and Production

- 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

\$/bbl



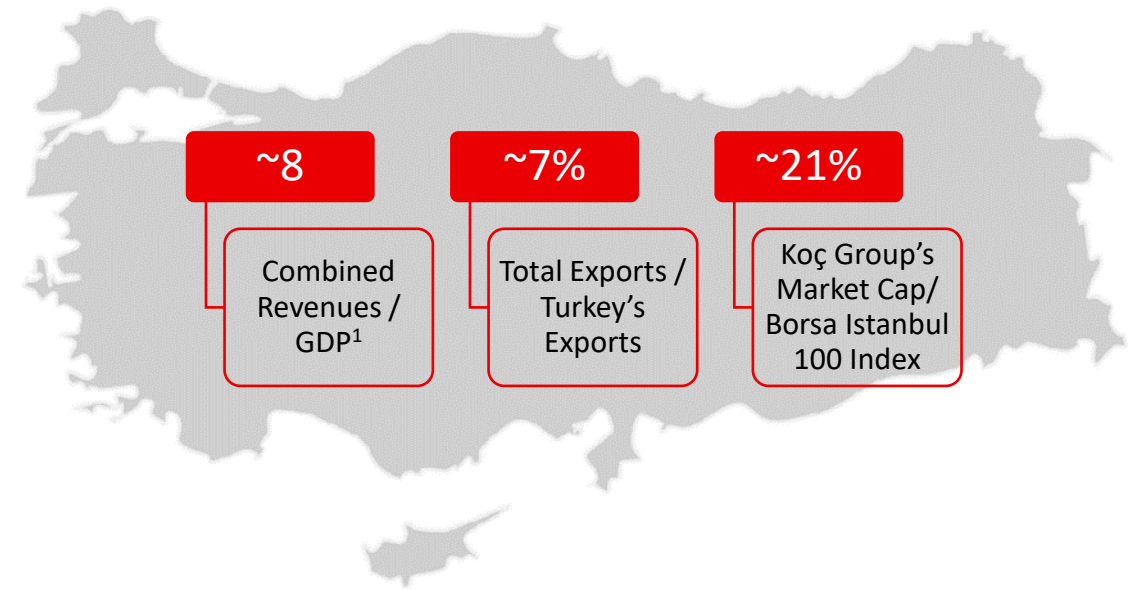
data as of 31 December 2022 and 5 year range refers to :2017-2021

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 YE21

(1) 2021 Report (based on consolidated revenues)

(2) 2021 report (based on consolidated revenues)

 **Tüpraş**

 **Koç**



Investor
Presentation

Latest
Webcast



Sustainability
Report



Strategic
Transition Plan



tuprasir@tupras.com.tr
