SECTOR STUDY . DECEMBER 2024

Together. Creating Value.

Refineries

Research Team

Saniya Tauseef | Senior Manager Research
Abdul Hanan |Associate Research Analyst

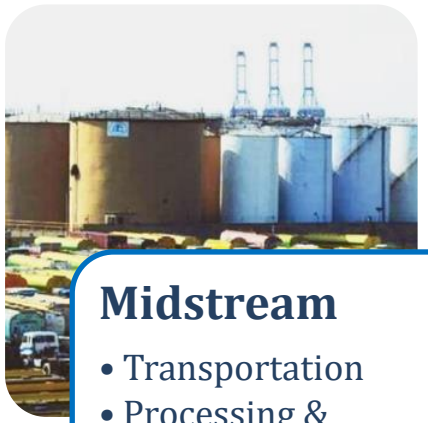
Contents

Refineries

Introduction | Industry Segmentation

Upstream

- Exploration
- Field Development
- Production Operations



Midstream

- Transportation
- Processing & Refining
- Storage & Distribution

Downstream

- Wholesale & Marketing

Source: OPEC

Refineries

Oil Value Chain

Crude oil is a mixture of hydrocarbons in the liquid phase in natural underground reservoirs and remains liquid at atmospheric pressure after passing through surface separating facilities.

Crude oil is extracted and transported across the globe to be converted into oil derivatives. Exploration, extraction and production of crude oil takes in the upstream.

Refineries break crude oil down into its various components, which are then selectively reconfigured into new products. All refineries have three basic steps: Separation, Conversion, and Treatment. This is the midstream where crude oil is converted into refined POL products.

POL products include gasoline, distillates such as HSD fuel and heating oil, jet fuel, petrochemical feed stocks, waxes, lubricating oils, and asphalt. They are marketed, distributed and retailed at downstream sector through oil marketing companies and dealers.

Source: EIA

Refineries

Refinery Configuration

There are 4 major refining processes that the refineries use and are based on the degree of complexity and the type of crude oil they can effectively refine.

Hydro Skimming

In addition to the distilleries, these include hydrotreating, catalytic reforming and blending infrastructure. These can handle crude oil with low to medium API gravity and Sulphur content (Light Sweet to Medium Sour). With additional infrastructure, they can reform naphtha to MOGAS up to specific octanes and desulphurize light products such as MOGAS and HSD to meet regulatory requirements.

Conversion/ Cracking

In addition to all the Hydro skimming infrastructure, these include facilities for hydro and/or catalytic cracking. These processes allow heavy fractions such as gas oil to be converted into lighter refinery streams, yielding MOGAS, jet fuel and other petrochemical feedstocks.

Deep Conversion/ Coking

These are a special class of refineries that can convert the heaviest fraction i.e. residual oil into lighter streams which can then further be processed lighter petroleum products. These refineries can handle with economic viability; all classes of crude oil (Light Sweet to Heavy Sour).

Source: EIA

Refineries

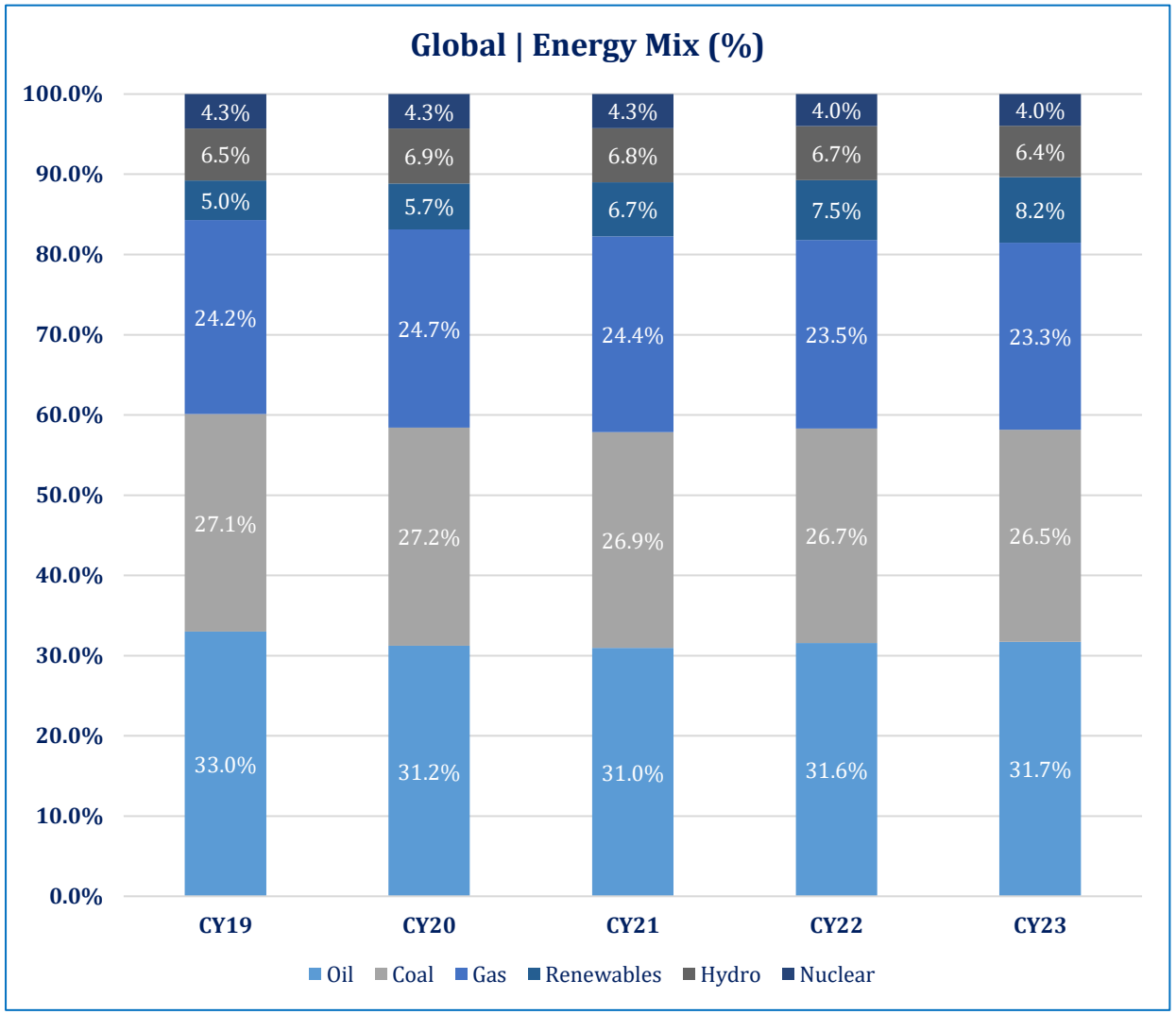
Global | Energy Mix

- The global energy mix, over the last 5 years (CY19-23), has been dominated by fossil fuels, with oil being the major contributor. It is followed by coal and gas. These comprised the lion's share in the global energy mix at ~81.5% of the total in CY23 (CY22: ~82.0%).

- Oil demand is expected to peak by CY30 with natural gas and oil forecasted to remain a core part of the global energy mix till then. Post CY30, a gradual but continuous decline in oil demand is envisaged driven by factors such as improved engine efficiency, continued electrification of road transportation, and international efforts for environmental sustainability.

- LNG imports are expected to contribute to the growing use of natural gas in developing economies, accounting for ~65-75% of the increase in Asia by CY30. It is expected to have increasing usage in power and industrial sectors in this region.

- Global energy demand is forecasted to see a continuous rise till CY50, driven by India, ASEAN nations, and the Middle East. However, this growth would be fueled by Renewable energy sources as they are forecasted to increase their share in the global energy mix to ~60% by CY50. The growth in installed wind and solar capacity by CY30 is forecasted to be dominated by China and the developed world, each accounting for ~30-40% of the overall increase in capacity. However, the renewable build-out faces challenges such as supply chain issues and slow implementation.



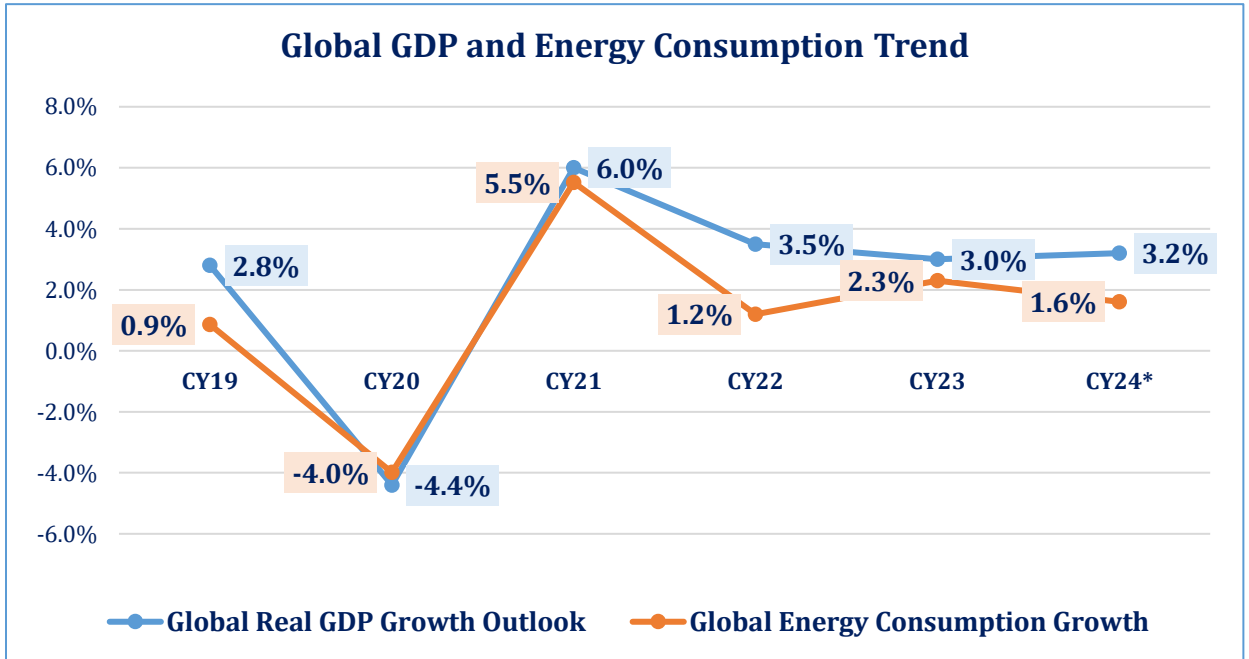
***Note**: EJ stands for Exajoules.*

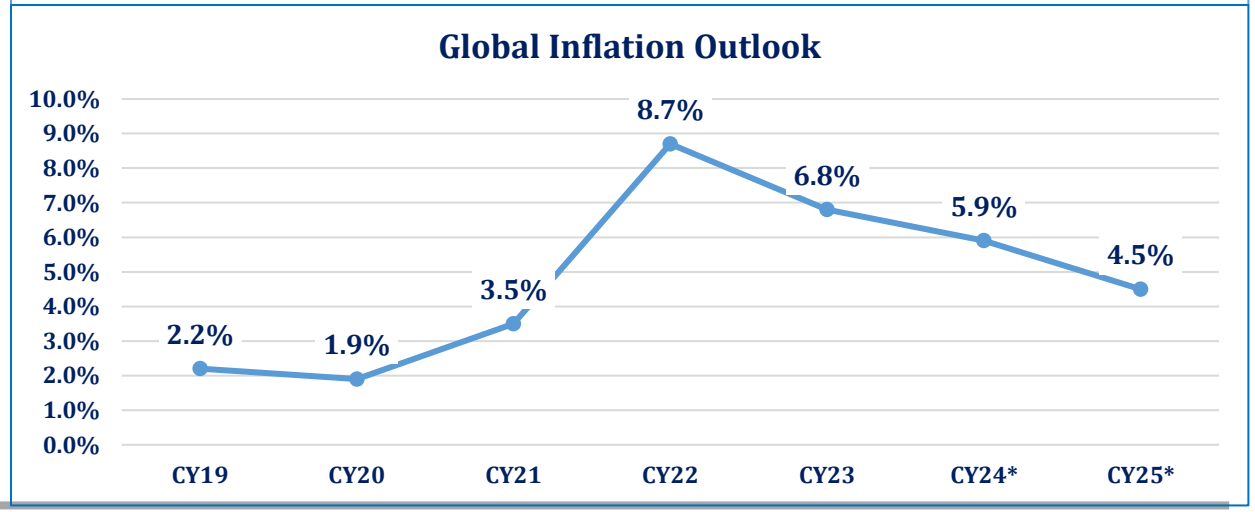
Source: BP Stats, McKinsey & Company

Refineries

Global | Economic Outlook

- **Global GDP i**s expected to grow at ~3.2% in CY24 and ~3.3% in CY25. For the USA, projected GDP growth is revised downward to ~2.6% during CY24, slowing further to ~1.9% in CY25. This is mainly because of the cooling of the labor market. In China, GDP is forecasted to grow at ~5.0% in CY24 because of a rebound in private consumption and strong exports in 1QCY24, before slowing down to ~4.5% in CY25. For India, it is likely to clock in at ~7.0% in FY25, while already clocking in at ~8.2% for FY24, owing to improved private consumption, especially in rural areas. Pakistan's GDP growth in FY24 was ~2.5%. It is forecasted to be ~3.2% for FY25 by the IMF.
- **Global Energy consumption** is strongly linked with GDP growth. Energy consumption increases as economies grow. Energy consumption is expected to increase by ~1.6% in CY24 as compared to an increase of ~2.3% in CY23. Slow growth in various economies, such as the USA, could also mean the energy consumption growth rates could be lower.
- **Global Headline Inflation** is expected to fall to ~5.9% in CY24 and to ~4.5% in CY25 globally. New commodity price spikes from geopolitical shocks, including but not limited to continued attacks in the Red Sea, conflicts, and supply disruptions, could result in higher inflation. This could delay monetary easing in advanced economies. At the same time, most economies have fared well through tight monetary policy during the year, with interest rates starting to be revised downwards. For example, the USA has reduced its rate by 25 basis points to ~4.5%. Making this the second successive 25 basis points cut, taking the cumulative cut to 50 basis points for 2HCY24.





*Forecast. .

Source: IMF

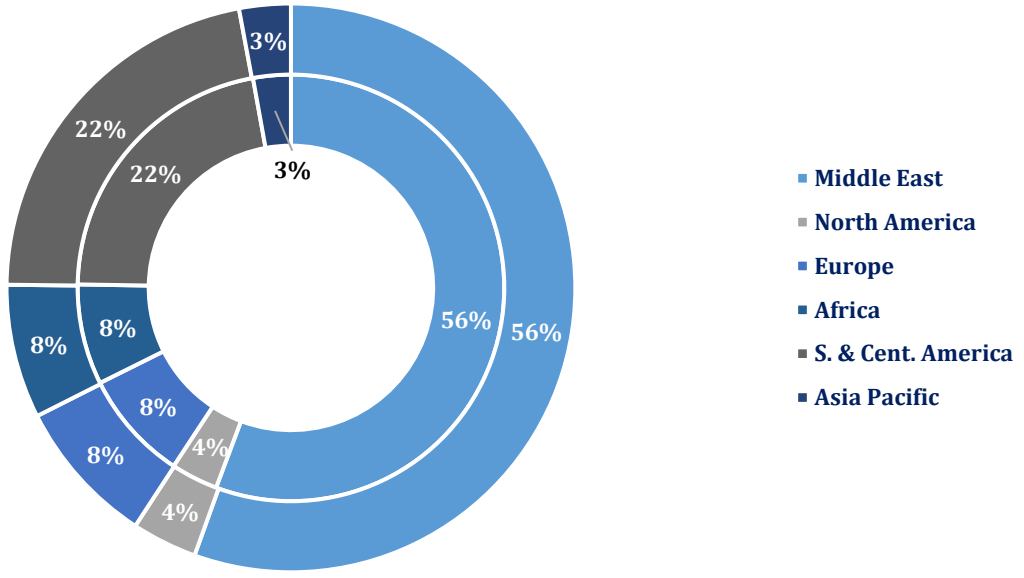
Refineries

Global | Crude Reserves Position

- During CY23, global crude oil reserves stood at ~1,570bln barrels or ~214,148mln MT (CY22: ~1,564bln barrels or 213,330mln MT), up ~0.4% YoY. The largest reserves were registered in the Middle East (~55.5% in CY23; CY22: ~55.7%).
- A further breakdown concerning the Middle Eastern countries reveals that Saudi Arabia has ~17.0% of the global reserves in CY23 (CY22: ~17.1%), while Iran comprised ~13.3% of the share (CY22: ~13.3%).
- South & Central American countries together accounted for ~21.9% (CY22: ~21.9%) of the total crude reserves in CY23. Meanwhile, Venezuela alone had ~19.3% (CY22: ~19.4%) of the global crude reserves.
- Asia Pacific region accounted for ~2.9% of the global crude reserves in CY23 (CY22: ~2.9%).
- Europe accounted for ~8.3% of the global crude reserves, while Russia's crude oil reserves formed ~5.1% (CY22: ~5.1%) of the world total in CY23. Africa accounted for ~7.6% (CY22: ~7.6%) of the world's total crude oil reserves during the year.

Global Crude Oil Reserves (mln MT)					
Year	CY19	CY20	CY21	CY22	CY23
World Total	211,966	210,738	210,738	213,330	214,148

Global Crude Reserves | Share (%), Inner: CY22, Outer: CY23



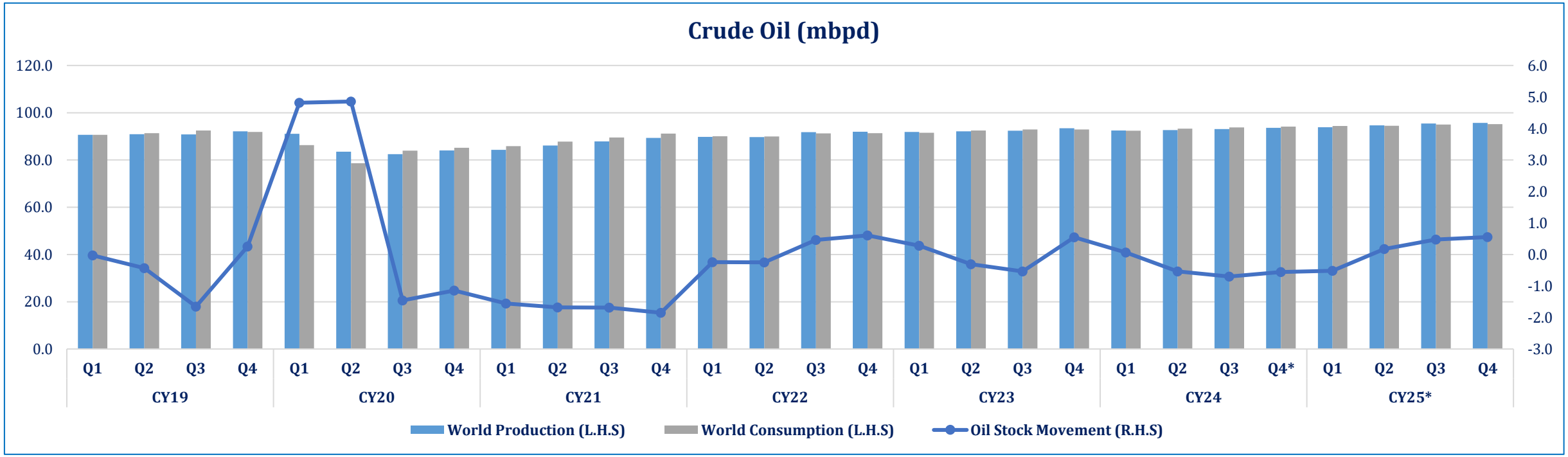
***Note**: Oil Sands not considered*

Source: OPEC, EIA

Refineries

Global | Crude Stock Analysis

- Global crude oil inventories are a function of crude oil production and consumption levels for a given period. A positive inventory drawdown indicates greater production than consumption, whereas a negative drawdown indicates the opposite.
- In CY23, average global crude production rose ~2.0% to ~90.7mbpd, while average crude consumption was recorded at ~91.0mbpd, up ~2.5% YoY. leading to an average drawdown of ~0.3mbpd. During 9MCY24, average global crude production was recorded at ~92.7mbpd, while average global crude consumption clocked in at ~93.1mbpd, leading to a drawdown of ~0.4mbpd, average. A decrease in prices is often followed by an increase in crude oil stocks as can be seen from Q1CY20. stock levels generally rise due to lack of demand or oversupply, and thus is followed by a price reduction.
- For CY24, average crude oil consumption and production is forecast at ~92.9mbpd and ~93.4mbpd, respectively, while average drawdown is expected to record at ~0.5mbpd.

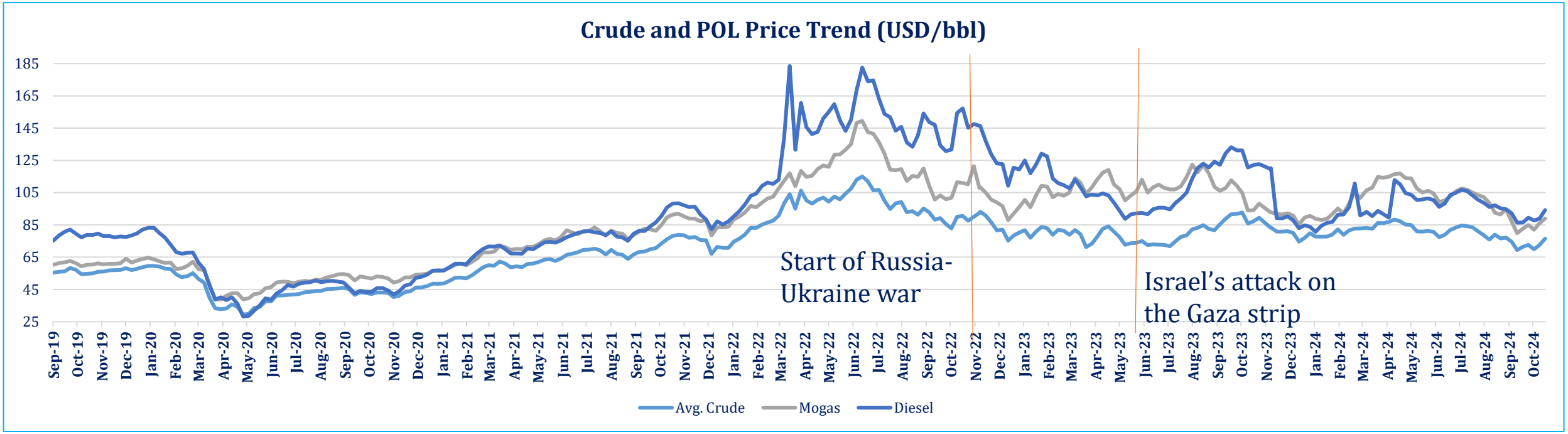


*Forecast. **Note**: mbpd stands for mln barrels per day.*

Source: EIA, OPEC

Refineries

Global | Prices



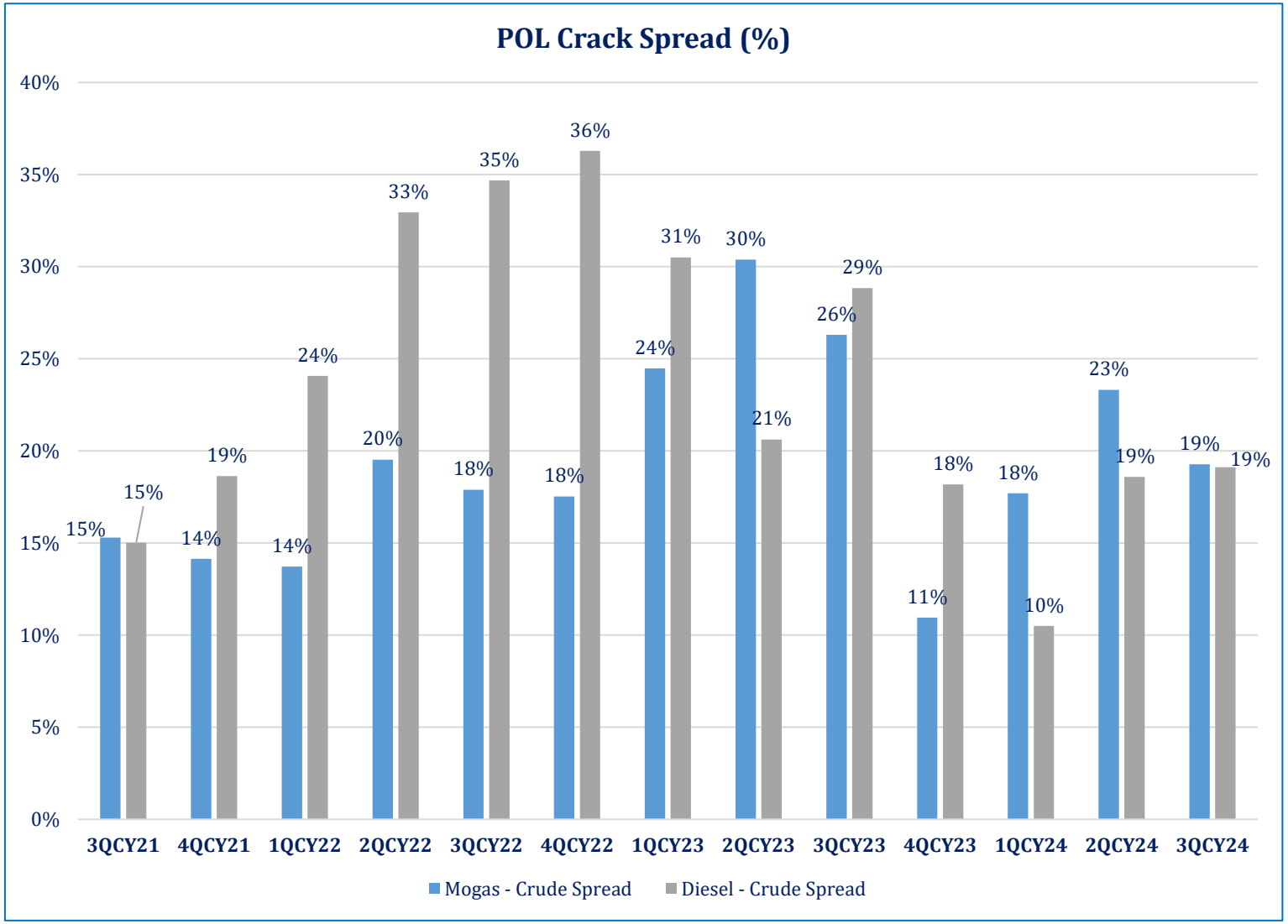
- Global POL product prices (MOGAS and HSD) move in tandem with the global crude oil prices. During Sep'19-Oct'24, average global crude prices remained at USD~71.45/bbl, registering a high of USD~114.99/bbl in June'22 and a low of USD~29.89/bbl in May'20.
- Following the Russia-Ukraine conflict (which started in February 22), Brent prices averaged USD98.4/bbl in CY22 due to global supply chain disruptions (Russia was the second-largest exporter of crude oil in CY21).
- In CY23, crude oil prices averaged at USD~71.3/bbl, down ~31.0% YoY, on account of slower growth in China (top crude oil importer in CY22, with ~23.8% share in global imports). However, in 1HCY24, prices averaged at USD~81.1/bbl, on the back of continued supply cuts by OPEC+, offsetting demand from China and steady Federal Funds Rate during Aug'23-Jun'24 (~5.38%).
- The fluctuation is forecasted to continue, especially if the conflict in the Middle East spreads to a wider scale. Oil prices were projected to see an increase to USD~80/bbl in the 4QCY24, However, these projections have been revised as oil prices have dipped post US elections.

Source: Investing, BP, Fitch, IFS

Refineries

Global | POL Crack Spreads

- Refined petroleum products trade at a premium above crude oil prices. This spread between prices is referred to as 'Crack Spread' and is indicative of mid-stream costs and profitability margins.
- Meanwhile, prices of crude oil and refined products are subject to their respective supply and demand dynamics, as well as regulatory, environmental, and economic factors.
- In CY23, total global refining capacity increased by ~2.1% YoY (clocking in at ~103mbpd), whereas oil refinery throughput was up ~1.6% YoY (recording at ~83.0mbpd).
- During CY23, MOGAS and HSD spreads against the crude averaged respectively at ~23.0% and ~25.0% (current year till 3QCY24: ~20.0%, ~16.0%, respectively).



Source: Investing, BP, Fitch, IFS

Refineries

Global | Crude Oil Supply and Demand

- In CY23, global crude oil production as a share of total available reserves stood at ~2.1% (CY22: ~2.0%). Saudi Arabia accounted for ~11.8% of the world crude produced (CY22: ~13.0%), clocking in at ~531.7mln MT (or ~11.4mbpd) (CY22: ~574.2mln MT or ~12.2mbpd).
- Meanwhile, the USA made up ~18.3% of the global crude oil produced (CY22: ~17.2%), with an ~8.5% YoY increase to ~827.1mln MT or ~17.8mbpd (CY22: ~16.7mbpd or ~761.5mln MT). Overall, the Middle East and North America comprised ~31.3% and ~26.7% of the global crude oil production in CY23 (CY22: ~32.5%, and ~25.6%, respectively). The 'Other CIS' region contributed ~15.0% (CY22: ~15.4%), with Russia's share in global output recording at ~12.0% (CY22: ~12.4%).
- The global crude consumption was up ~2.5% YoY in CY23, clocking in at ~4,530.5mln MT (CY22: ~4,420.5mln MT). Asia Pacific formed ~38.5% of the global crude consumption, recording ~1,744.3mln MT.
- China was the highest consumer in Asia Pacific, making up ~17.0% of the global crude consumption at ~768.6mln MT. Meanwhile, the USA was the biggest consumer globally, forming ~18.0% of the global crude oil consumption, recording ~815.6mln MT.

Crude Oil Production (mln MT)					
Period	**CY19**	**CY20**	**CY21**	**CY22**	**CY23**
Crude Extraction	**4,487.4**	**4,188.2**	**4,237.9**	**4,424.1**	**4,514.1**
Middle East	1,411.4	1,300.3	1,314.7	1,442.1	1,413.9
North America	1,109.4	1,060.4	1,079.0	1,133.6	1,207.5
CIS	718.5	659.1	673.2	679.2	675.2
Asia Pacific	361.5	353.1	348.2	344.5	345.7
S. & Cent. America	329.5	313.0	313.5	339.7	378.1
Africa	397.2	333.9	348.4	333.6	341.5
Europe	160.0	168.4	160.9	151.4	152.1

Crude Oil Consumption (mln MT)					
Period	**CY19**	**CY20**	**CY21**	**CY22**	**CY23**
Crude Consumption	**4,451.5**	**4,051.2**	**4,277.6**	**4,422.1**	**4,530.5**
Asia Pacific	1,661.7	1,574.2	1,613.0	1,656.6	1,744.3
North America	1,031.5	900.8	983.4	1,000.3	1,005.1
Europe	700.3	609.3	639.1	660.5	653.6
Middle East	390.9	362.5	382.9	411.6	421.4
S. & Cent. America	279.2	242.8	271.1	291.1	301.2
CIS	198.3	191.9	202.8	207.0	210.1
Africa	189.6	169.7	185.1	195.0	194.8

***Note**: mbpd stands for mln barrels per day.*

Source: BP, Enerdata, EIA

Refineries

Global | Crude Oil Trade

- **Crude Exports**: In CY23, major crude exporters included Saudi Arabia, Russia, and Canada, with these forming ~37.4% of the total crude exported. International crude traded stood at ~2.1bln MT (or ~68.1mbpd). For Saudi Arabia, the largest export destinations were other Asia Pacific countries (~26.7%, SPLY: ~25.2%), China (~24.6%, SPLY: ~24.0%), and Japan (~14.7%, SPLY: ~14.4%). Of Russia's total crude exports, ~13.5% went to Europe (SPLY: ~44.2%), while ~44.4% was imported by China (SPLY: ~32.5%). Meanwhile, the USA exported ~43.5% of its total crude exported to Europe (SPLY: ~44.9%).

- **Crude Imports**: The top three global importers of crude formed ~62.2% of the total crude imported globally in CY23 (SPLY: ~75.5%). China remained the largest crude importer, with ~11.0% YoY higher imports signaling economic recovery. Meanwhile, Europe imported ~10.7% YoY lower crude (SPLY: ~11.3% YoY growth), with Russia forming ~4.3% of its total crude imports (SPLY: ~10.0%) and the USA accounting for ~15.2% during the year (SPLY: ~20.3%), reflecting the region's lower dependency on Russia's crude.

Country	Exports | mln MT		Share, Global Exports (%)	YoY Δ
	CY22	CY23		
Saudi Arabia	367.9	349.1	16.4%	-5.1%
Russia	262.6	240.8	11.3%	-8.3%
Canada	198.8	207.2	9.7%	+4.2%
US	161.3	185.0	8.7%	+14.7%
Iraq	191.1	184.2	8.7%	-3.6%
UAE	178.4	170.7	8.0%	-4.3%
ROW	775.3	790.0	37.1%	+1.9%
World	**2,135.3**	**2,127.1**	**100%**	**-0.4%**

Country	Imports | mln MT		Share, Global Imports (%)	YoY Δ
	CY22	CY23		
China	508.0	563.9	26.5%	+11.0%
Europe	488.9	436.6	20.5%	-10.7%
US	312.9	323.8	15.2%	+3.5%
Other Asia Pacific	297.7	288.5	13.6%	-3.1%
India	231.2	231.0	10.9%	-0.1%
Japan	132.5	125.5	5.9%	-5.3%
ROW	164.1	157.7	7.4%	-3.9%
World	**2,135.3**	**2,127.1**	**100%**	**-0.4%**

Source: BP, EIA

Refineries

Global | POL Products Trade

- **POL Product Exports**: In CY23, major exporters of POL products included the USA, Asia Pacific, and Europe, with combined export share clocking in at ~39.9% (SPLY: ~39.7%). Meanwhile, Russia's export market share declined from ~10.0% in CY22 to ~7.3% in CY23, with the country's exports to Europe down ~50.9% YoY. For Asia Pacific, Australasia and China remained the top export destinations, forming ~52.9% during the year (SPLY: ~52.0%). With respect to India, these rose 6.8% YoY%, with exports to Europe up ~47.0% YoY and those in Europe, the Middle East, and Africa forming ~71.4% of the country's total POL product exports (SPLY: ~62.9%).

- **POL Product Imports**: The top three importers (as depicted) comprised ~40.6% of total POL products imported (SPLY: ~41.7%), with Asia Pacific recording a net trade deficit of ~58.6mln MT in CY23 (~65.6mn MT). During the year, China's imports rose ~23.5% YoY, with imports from Russia up ~68.7% YoY and Russia, Asia Pacific, and USA cumulatively forming ~64.2% of the country's total POL product imports (SPLY: ~59.4%).

Country	Exports | mln MT		Share, Global Exports (%)	YoY Δ
	CY22	CY23		
US	253.9	258.0	21.2%	+1.6%
Other Asia Pacific	123.0	126.6	10.4%	+2.9%
Europe	107.3	100.3	8.3%	-6.5%
India	87.4	93.3	7.7%	+6.8%
UAE	90.2	92.5	7.6%	+2.6%
Russia	121.8	90.9	7.5%	-25.4%
ROW	437.3	453.9	37.3%	+3.8%
World	**1,220.9**	**1,215.5**	**100%**	**-0.4%**

Country	Imports | mln MT		Share, Global Exports (%)	YoY Δ
	CY22	CY23		
Europe	206.2	193.4	15.9%	-6.2%
Other Asia Pacific	188.6	185.2	15.2%	-1.8%
China	92.6	114.4	9.4%	+23.5%
S. & Cent. America	113.7	105.9	8.7%	-6.9%
US	98.6	97.5	8.0%	-1.1%
Singapore	72.4	72.2	5.9%	-0.3%
ROW	448.7	446.9	36.8%	-0.4%
World	**1,220.9**	**1,215.5**	**100%**	**-0.4%**

Source: BP, EIA

Refineries

Global | POL Consumption Mix

- Among POL products, MOGAS remained the highest-consumed product in CY23, with a share of ~31%, followed by HSD with a share of ~28%.
- With respect to White Oils, the global POL consumption mix has stayed relatively the same in CY23, as compared to CY22. Demand for Jet Fuel in CY22 exhibited an increase, reflecting a boost in international flights.
- White Oils, comprising MOGAS, Diesel, Jet Fuel, and Kerosene made up for ~68% of consumption in CY23, while black oils formed ~24% of the global consumption mix, and Gases stood at 8%. These numbers are in line with consumption in CY22.
- High-Speed Diesel (HSD or simply Diesel) is mainly used as a fuel in engines operating above ~750rpm in commercial vehicles, stationary diesel engines (e.g. pumps, generators, factory machinery), and locomotives.

POL Consumption Mix					
Period	**CY19**	**CY20**	**CY21**	**CY22**	**CY23**
White Oils	**69%**	**66%**	**67%**	**68%**	**68%**
MOGAS	31%	30%	30%	31%	31%
Diesel	29%	30%	29%	29%	28%
Jet Fuel	9%	5%	6%	8%	8%
Kerosene	1%	1%	1%	1%	1%
Black Oils	**23%**	**26%**	**25%**	**24%**	**24%**
Other Petroleum Liquids	20%	22%	21%	20%	20%
Residual Fuel Oil	4%	4%	4%	4%	3%
Gases	**8%**	**8%**	**8%**	**8%**	**8%**
Liquefied Petroleum Gases	8%	8%	8%	8%	8%
Total	**100%**	**100%**	**100%**	**100%**	**100%**

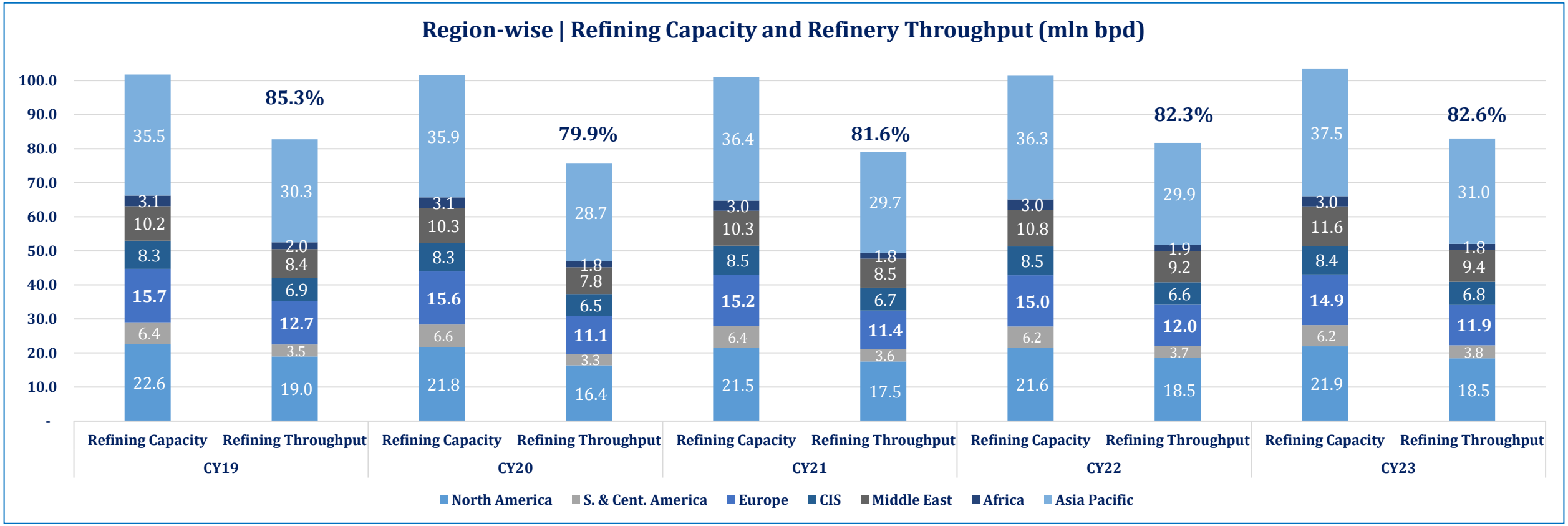
**Data covers 26 countries which account for ~90% of Consumption*

Source: EIA

Refineries

Global | Refining Capacity & Throughput

- The Middle East witnessed the highest increase in the global refining capacity due to the facility expansion under its greenfield policy, whereas, North America, amongst other regions, saw the highest increase in its utilized refining capacity.
- Furthermore, North America is expected to witness the highest renewable refinery production capacity increases by CY27 as part of zero-carbon emission targets. Total refining capacity increased to ~103.5mln barrels per day (bpd) in CY23 (SPLY: ~101.4mln bpd) as the Middle East and Asia-Pacific added to their capacities. Refining throughput stood at ~82.6% (SPLY: ~82.3%).



***Note**: bpd stands for barrels per day.*

Source: BP Stats, Enerdata, EIA

Refineries

Global | Top 10 Refineries

Global Refining Capacity | CY23				
Sr.	**Refinery Name**	**Facility Owner Company**	**Country/ Region**	**Capacity ('000' bpd)**
1	Aramco Refinery	Saudi Aramco	KSA	4,100
2	Jamnagar Refinery	Reliance Industries	India	1,212
3	Paraguana Refinery Complex	PDVSA	Venezuela	940
4	SK Energy Co. Ltd. Ulsan Refinery	SK Energy	South Korea	840
5	GS Caltex Yeosu Refinery	GS Caltex	South Korea	800
6	S-OIL Onsen Refinery	S-OIL	South Korea	669
7	Singapore ExxonMobil	ExxonMobil	USA	562
8	Baytown Refinery	Exxon Mobil	USA	555
9	Ras Tanura Refinery	Saudi Aramco	KSA	550
10	Baton Rouge Refinery	Exxon Mobil	USA	513
11	Others	-	Rest of the World	92,759
12	Total	-	World	103,500

- Top 10 refineries are ranked according to their production capacities. Total world capacity stood at ~103.5mbpd during CY23.

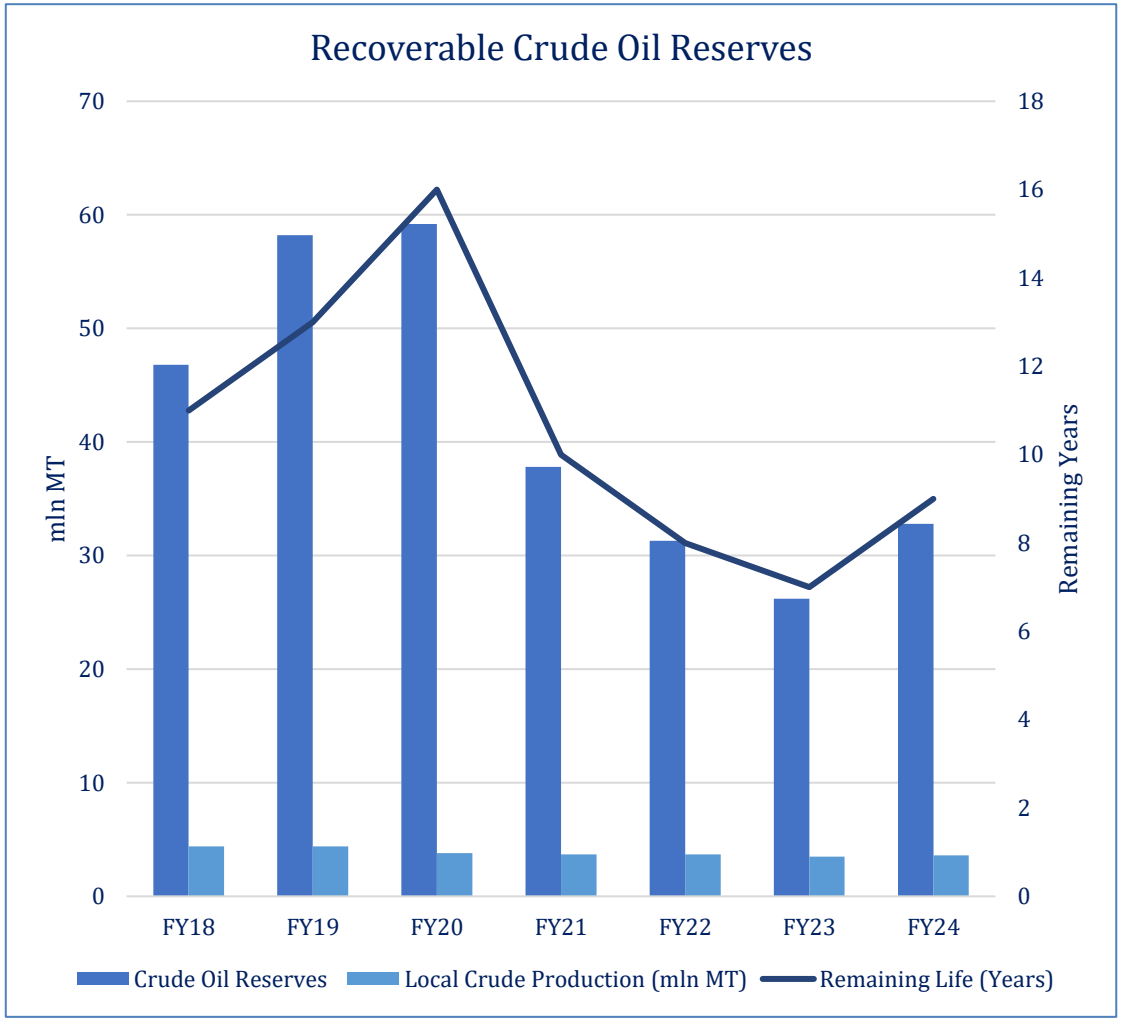
Source: Statista, BP Stats, Yahoo Finance

Refineries

Local | Crude Oil Reserves

- Pakistan's recoverable crude oil reserves are estimated at ~32.8mln MT as at End-Jun'24 (SPLY: ~26.2mln MT).
- Declining reserve life will significantly increase the reliance on imported fuel to meet local demand. Exploration of new wells and major discoveries is imperative to improve local crude supply.

Recoverable Crude Oil Reserves & Extraction							
Period	**FY18**	**FY19**	**FY20**	**FY21**	**FY22**	**FY23**	**FY24**
Crude Oil Reserves (mln MT)	46.8	58.2	59.2	37.8	31.3	26.2	32.8
Local Crude Production (mln MT)	4.4	4.4	3.8	3.7	3.7	3.5	3.6
Remaining Life (Years)	11	13	16	10	8	7	9



***Note**: MMbl stands for million barrels.*

Source: OGDC

Refineries

Local | Players

- **Crude Oil:** Pakistan majorly relies on imports to meet its crude oil demand. Total crude oil consumption was recorded at ~12.7mln MT in FY24 (FY23: ~11.4mln MT) of which ~28.3% was locally produced and ~71.7% was imported.

- **Petroleum Products:** Pakistan's consumption of Petroleum Products clocked in at ~21.6mln MT in FY24 (FY23: ~21.5mln MT), of which ~51.9% was produced locally and ~48.1% was imported. The following local refineries produce refined POL products.

Cnergyico	PARCO	National Refinery Limited	ARL	PRL PAKISTAN REFINERY LIMITED
Incorporated in 1995	Incorporated in 1974	Incorporated in 1963	Incorporated in 1978	Incorporated in 1960

Source: OCAC

Refineries

Local | Industry Snapshot

- Currently, five refineries are operating in the country namely (i) Attock Refinery Limited (ATRL); (ii) Pakistan Refinery Limited (PRL); (iii) National Refinery Limited (NRL); (iv) Pak Arab Refinery Limited (PARCO); and (v) Cnergyico Pk Limited.
- The Sector's contribution in GDP was recorded at ~2.8% during FY24 (FY23: ~3.0%). Meanwhile, the Sector's revenue during FY24 registered a YoY growth of ~24.6% on account of increased POL product prices even though demand for petroleum products remained muted. During 1QFY25, the sector registered revenue of PKR~534bln (1QFY24: PKR~626bln). This marks a slow start to the year. However, after a long while, stable oil prices in the local market are one of the reasons for this fall in revenue.
- Owing to declining local oil reserves amid low discoveries, the dependence on imported crude and POL products is increasing with each passing year. However, during FY24, local refineries produced a higher quantity of POL products compared to FY23. Local production increased from ~10.4mln MT to ~11.2mln MT.

Overviewc	FY21	FY22	FY23	FY24
Total Revenue (PKR bln)	**1,214**	**1,665**	**1,911**	**2,381**
Total Revenue Growth (YoY%)	*15.8%*	*37.2%*	*14.8%*	*24.6%*
Sector Players		**5**		
Total Refining Capacity (mln MT)	21.1	21.1	21.1	21.1
Avg. Capacity Utilization	56.1%	56.4%%	49.2%	53.2%
Structure		Oligopoly		
Regulator		OGRA		
Association		OCAC		

Upstream	FY21	FY22	FY23	FY24
Est. Local Crude Production (mln MT)	3.7	3.7	3.5	3.6
Imported Crude (mln MT)	8.8	9.3	7.9	9.1
Crude Condensate Exports (mln MT)	0.3	0.4	0.3	0.1
Crude Supply (mln MT)	**12.2**	**12.6**	**11.1**	**12.6**

Midstream	FY21	FY22	FY23	FY24
Refinery Offtake/Crude Processed (mln MT)	12.2	12.6	11.1	12.6
Refinery Production of POL products (mln MT)	**11.7**	**11.9**	**10.4**	**11.2**

Downstream	FY21	FY22	FY23	FY24
Local POL Production (mln MT)	11.7	11.9	10.4	11.2
POL Imports (mln MT)	14.1	18.1	11.1	10.4
POL Product Exports (mln MT)	0.2	0.1	0.1	0.7
Est. POL Storage (mln MT)	0.1	0.0	0.0	0.2
POL Consumption (mln MT)	**25.8**	**30.0**	**21.5**	**21.6**

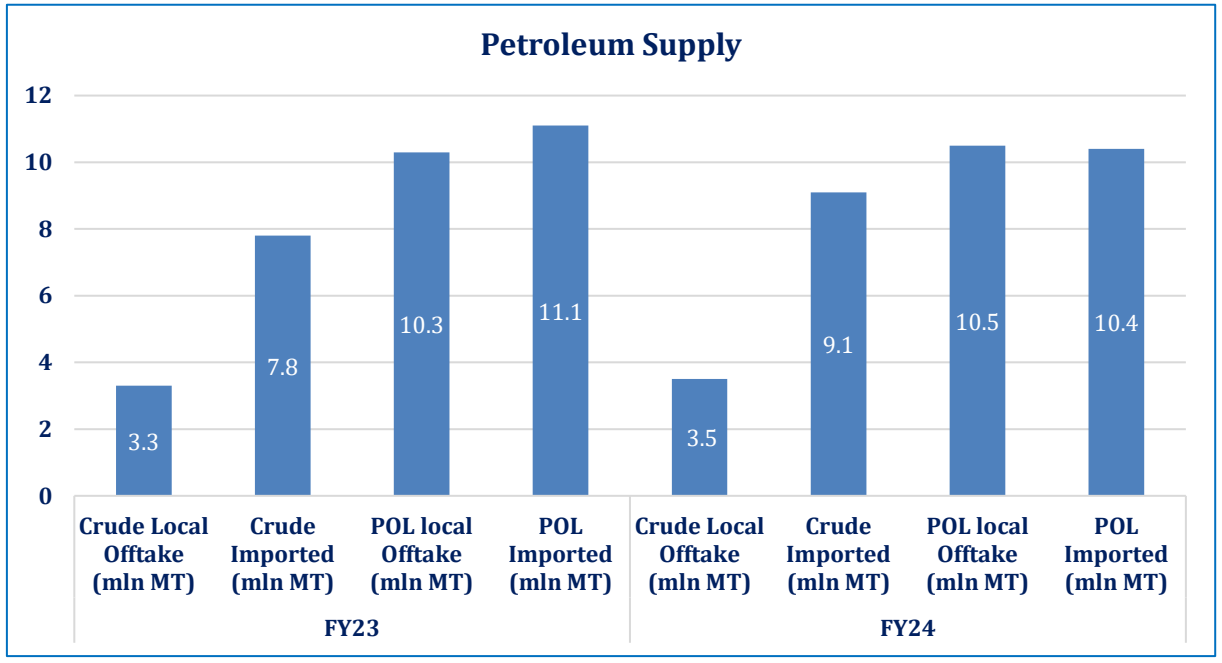
Note: *Revenue figures are based on 5 PACRA-rated/ listed Sector players. Crude Exports comprise Crude Condensates; POL Product Exports comprise Naphtha and FO.*

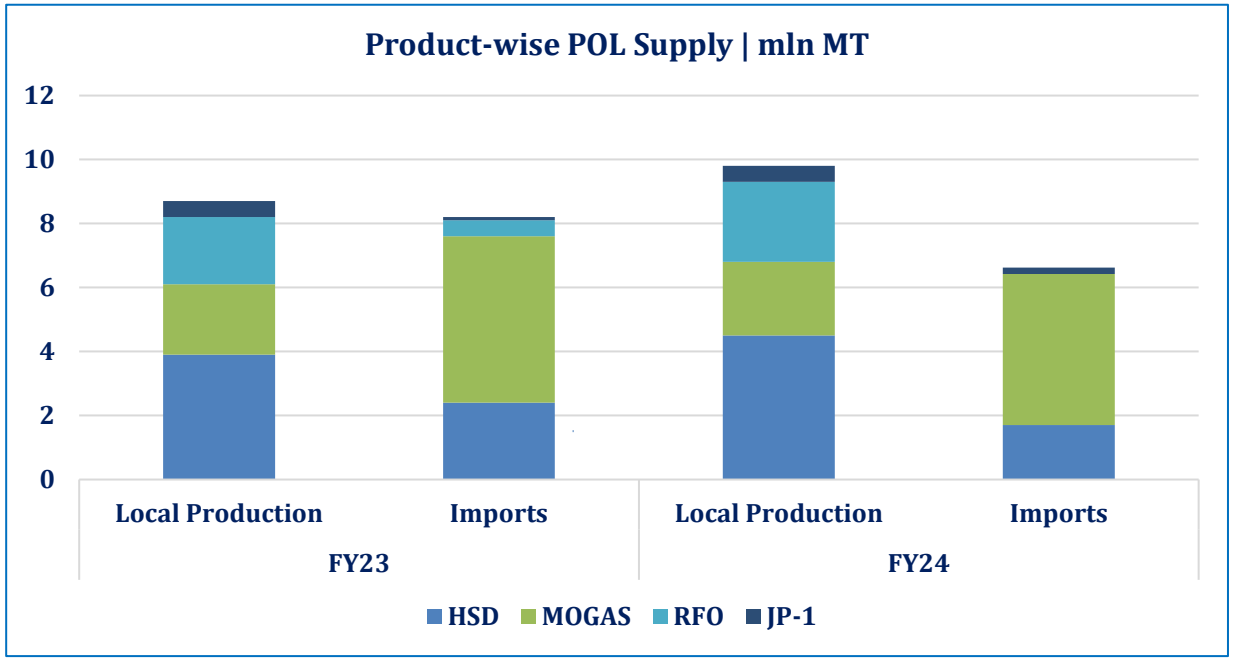
Source: OGDC, PBS, OGRA., OCAC, Company Financials

Refineries

Local | Supply

- In FY24, local crude oil offtake was recorded at ~3.5mln MT, a YoY increase of ~6.1%. Meanwhile, ~9.1mln MT of crude oil was imported, marking an increase of ~16.7% YoY. Imported crude oil comprised ~72.2% during FY24 (FY23: ~70.3%) of total crude consumption in the country.
- In FY24, local POL production stood at ~10.5mln MT (FY23: ~10.3mln MT). Of the total oil imports, crude oil imports accounted for ~46.7% in FY24 (FY23: ~41.3%), indicating a reduction in Pakistan's dependence on imported refined POL products, as higher crude was imported in comparison to refined products. This shift reflects the increased production of POL products by local refineries, which ramped up their output. As a result, POL exports surged to ~0.7 million MT in FY24, up from 0.1 million MT in FY23.
- Similarly, total POL product imports stood at ~10.4mln MT (FY23: ~11.1mln MT), declining by ~6.3% YoY. MOGAS imports comprised ~64% of the total POL products imported, whereas HSD imports made up ~29% (FY23: ~51% and ~31%, respectively). Meanwhile, RFO imports declined ~78% YoY and formed only ~ 6% of the total POL product imports (FY23: ~17%).



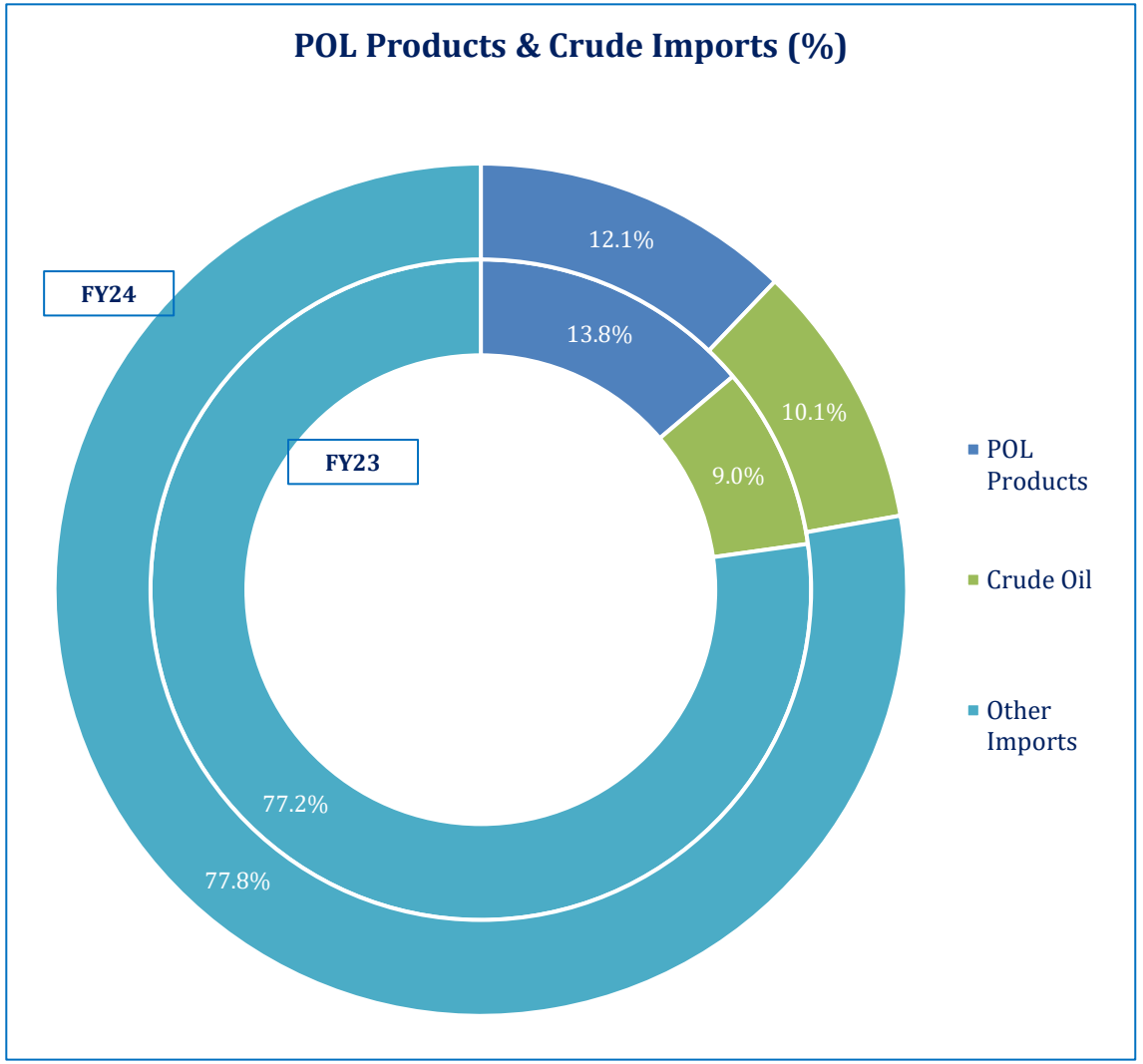


Source: OCAC

Refineries

Local | Imports

- Pakistan significantly relies on imports to meet the demand for its crude oil and POL products. On average (FY22-FY24), ~8.7mln MT of crude oil and ~13.2mln MT of POL products were imported into the country, cumulatively forming ~22.3% of the country's total import bill during the period.
- Total imports for the country marginally declined to USD~54.8bln in FY24, (FY23: USD~55.2bln)
- Total crude oil imports for FY24 amounted to USD~5.6bln, up from USD~5.0bln in FY23.
- Total POL product imports FY24 amounted to USD~6.6bln, down ~12.9% YoY.
- Collectively, crude oil and POL products import bill reduced to USD~12.2bln (FY23:USD~12.6bln). This was mainly due to more crude oil and less refined POL products being imported during the year.
- Other major imports included machinery at USD~7.2bln (FY23: USD~4.3bln) and products of chemical and allied industries which amounted to USD~6.6bln in FY24 (FY23:USD~6.0bln).

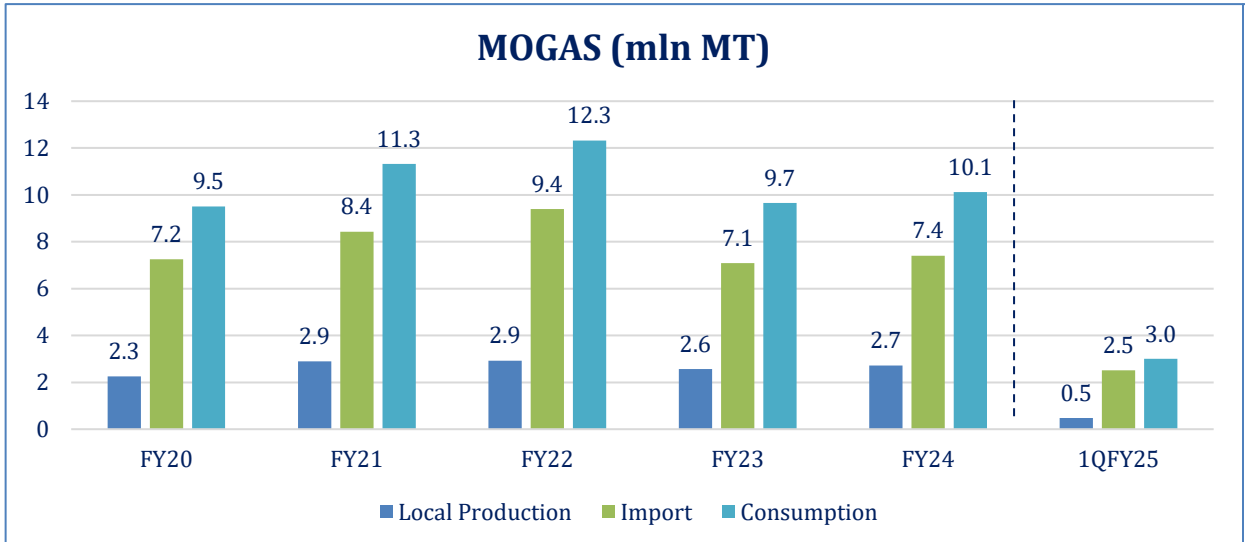


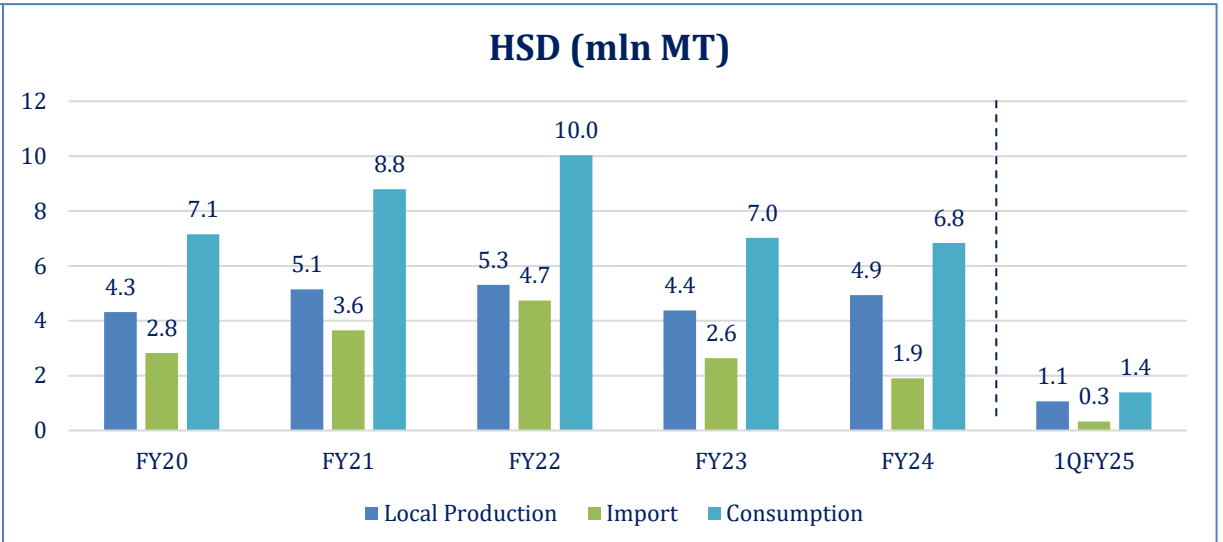
Note: *Other Imports represent country's imports excluding petroleum products and crude.*

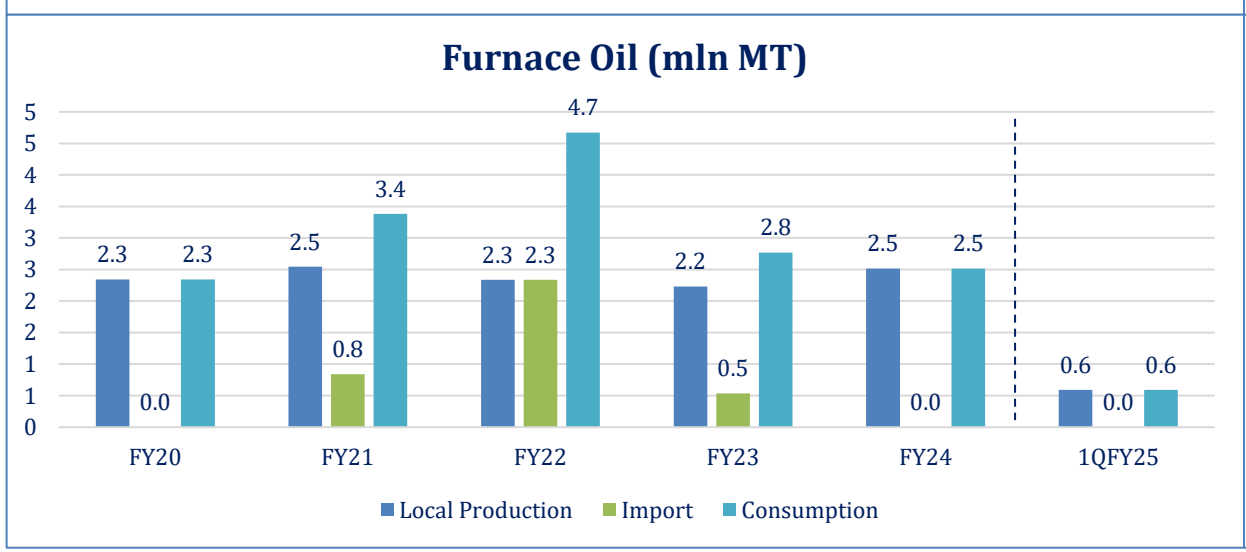
Source: PBS

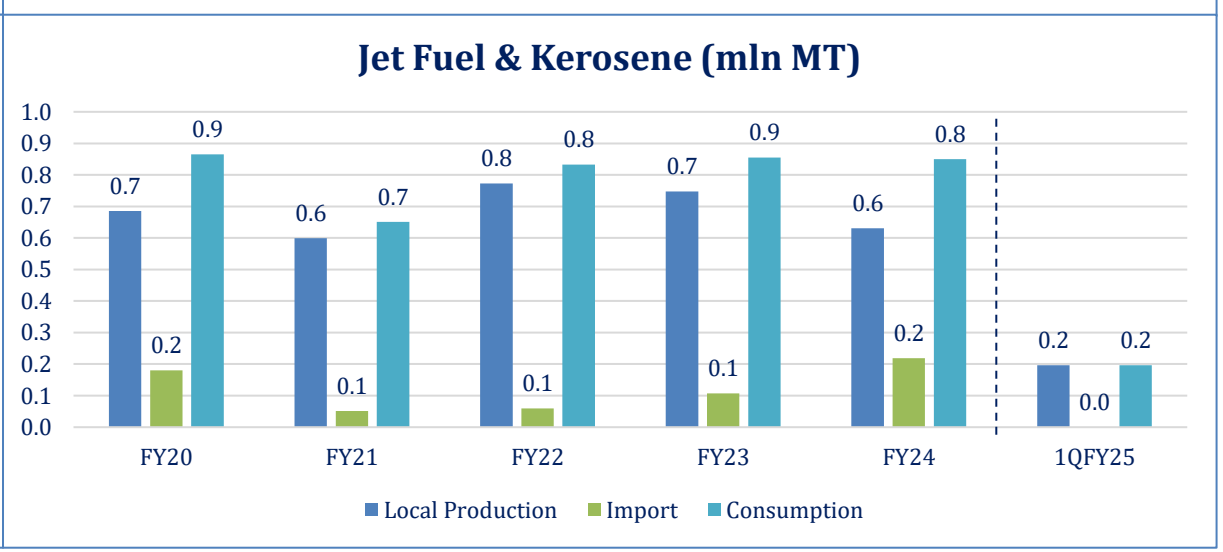
Refineries

Local | Product-wise Supply









Source: OCAC

Refineries

Demand | Product-wise POL Consumption

- Overall consumption of POL comprised ~86.8% white oils and ~13.2% black oils. The three major products, i.e., HSD, MOGAS, and RFO cumulatively accounted for ~92.8% of the total POL products consumption in the country during FY24 (FY23: ~94.4%), with RFO consumption down ~9.4% YoY (FY23: down ~42.9% YoY).

- MOGAS consumption remained stable at ~9.2mln MT, same as FY23, while HSD consumption saw a marginal increase to ~8mln MT (FY23: ~7.9mln MT), indicating another year of sluggish economic activity and elevated fuel prices.

- Sales of Passenger Cars experienced a drop of ~15.7% YoY in FY24 (FY23: down ~59.0% YoY), while those for Trucks and Buses dropped by ~30.6% (FY23: down ~41.0% YoY).

- In FY25 so far, these trends have reversed to an extent. The sales of the automotive sector have picked up and relatively low POL product prices are expected to improve volumetric sales.

- The latest month of Oct'24 saw sales increase to ~15,192 cars (SPLY: 11,588 cars), a ~30% rise in YoY sales.

- Average prices of HSD and MOGAS have also decreased in 1QFY25 by PKR~9.2 and PKR~18.1 respectively, in comparison to the average prices of FY24.

POL Consumption (mln MT)

Period	FY20	FY21	FY22	FY23	FY24	1QFY25**
White Oils	**18.0**	**21.7**	**24.4**	**18.3**	**18.8**	**4.6**
MOGAS	9.1	10.8	11.7	9.2	9.2	2.4
HSD	8.0	10.0	11.6	7.9	8.0	1.8
JP-1/ JP-8	0.7	0.5	0.7	0.7	1.0	0.3
Others*	0.3	0.4	0.5	0.4	0.3	0.1
Black Oils	**2.9**	**4.1**	**5.6**	**3.2**	**2.9**	**0.8**
RFO	2.9	4.1	5.6	3.2	2.9	0.8
Total	**20.9**	**25.8**	**30.0**	**21.5**	**21.6**	**5.4**

POL Consumption Mix (%)

Period	FY20	FY21	FY22	FY23	FY24	1QFY25
White Oils	**86%**	**84%**	**81%**	**87%**	**87%**	**86%**
MOGAS	43%	42%	39%	44%	43%	45%
HSD	38%	39%	39%	37%	37%	33%
JP-1/ JP-8	3%	2%	2%	4%	5%	5%
Others*	2%	1%	0%	2%	1%	3%
Black Oils	**14%**	**16%**	**19%**	**13%**	**13%**	**14%**
RFO	14%	16%	19%	13%	13%	14%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

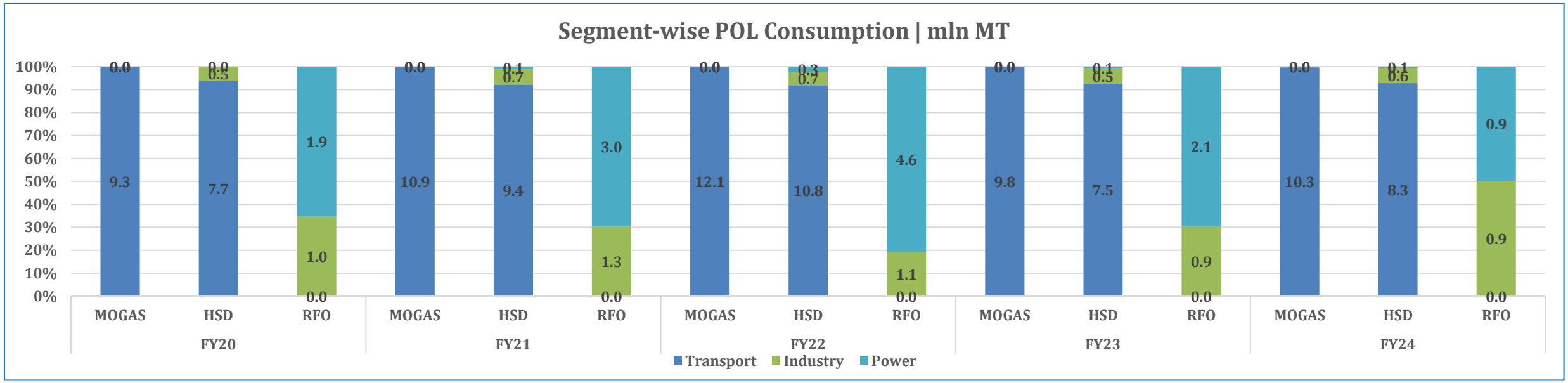
'Others' include Kerosene, LDO and HOBC,
*** estimated based on OCAC*

Source: PBS, OCAC

Refineries

Demand | Segment-wise POL Consumption

- Major demand drivers for POL products include the transport, industry, and power sectors of the country.
- Transport is the biggest fuel-consuming sector in Pakistan, using approximately 55.5% of MOGAS, with the remaining usage accounted for by HSD.
- The industrial sector's total consumption was dominated by RFO at approximately 58.8% (FY23: ~63.6%) and HSD at around 39.2% (FY23: ~36.4%). About 2% of MOGAS was also used, marking a significant increase in industrial usage compared to only ~0.1% in FY23.
- On the other hand, the power sector's POL consumption (comprising HSD and RFO) declined by approximately 64.7% YoY (FY23: down by ~54.1% YoY) to ~0.8mlnMT, due to a shift from FO to cheaper and more environmentally friendly alternatives.
- The power sector consumed approximately 93.8% (FY23: ~96.4%) of RFO and around 6.2% (FY23: ~3.6%) of HSD in FY24. This marks a change in trend, as the power sector exclusively used RFO until FY20.
- Agriculture is another important sector in the country. It primarily uses different varieties of diesel, mainly HSD and LDO (Light Diesel Oil).



***Note**: Others in first chart represent household and government, whereas that in second chart represent kerosene and jet fuels.*
** Exports have increased in recent/ Data unavailable*

Source: OCAC

Refineries

Capacity Utilization

- Pakistan's total refining capacity was recorded at ~21.1mln MT p.a. during FY24 (FY23: ~21.1mln MT). All refineries are committed to upgradation of their refinery facilities. However, the timing of that announcement is largely dependent on the talks between government and refineries on various conflicting issues.

Capacity figures are in mln MT

Period	FY19		FY20		FY21		FY22		FY23		FY24	
Refineries	**Capacity**	**Utilization**	**Capacity**	**Utilization**	**Capacity**	**Utilization**	**Capacity**	**Utilization**	**Capacity**	**Utilization**	**Capacity**	**Utilization**
Cnergyico (formerly Byco)	7.6	32.5%	7.6	30.8%	7.6	26.4%	7.6	16.3%	7.6	13.0%	7.6	15.9%
PARCO	5.8	80.3%	5.8	52.0%	5.8	80.6%	5.8	94.1%	5.8	78.1%	5.8	88.2%
NRL	2.9	76.9%	2.9	58.7%	2.9	63.3%	3.1	62.2%	3.1	52.0%	3.1	50.8%
ATRL	2.5	93.5%	2.5	69.5%	2.5	77.0%	2.5	78.7%	2.5	78.0%	2.5	75.0%
PRL	2.1	76.3%	2.1	59.3%	2.1	61.0%	2.1	62.7%	2.1	62.9%	2.1	69.5%
Total	**20.9**	**63.6%**	**20.9**	**48.0%**	**20.9**	**56.1%**	**21.1**	**56.4%**	**21.1**	**49.3%**	**21.1**	**53.2%**

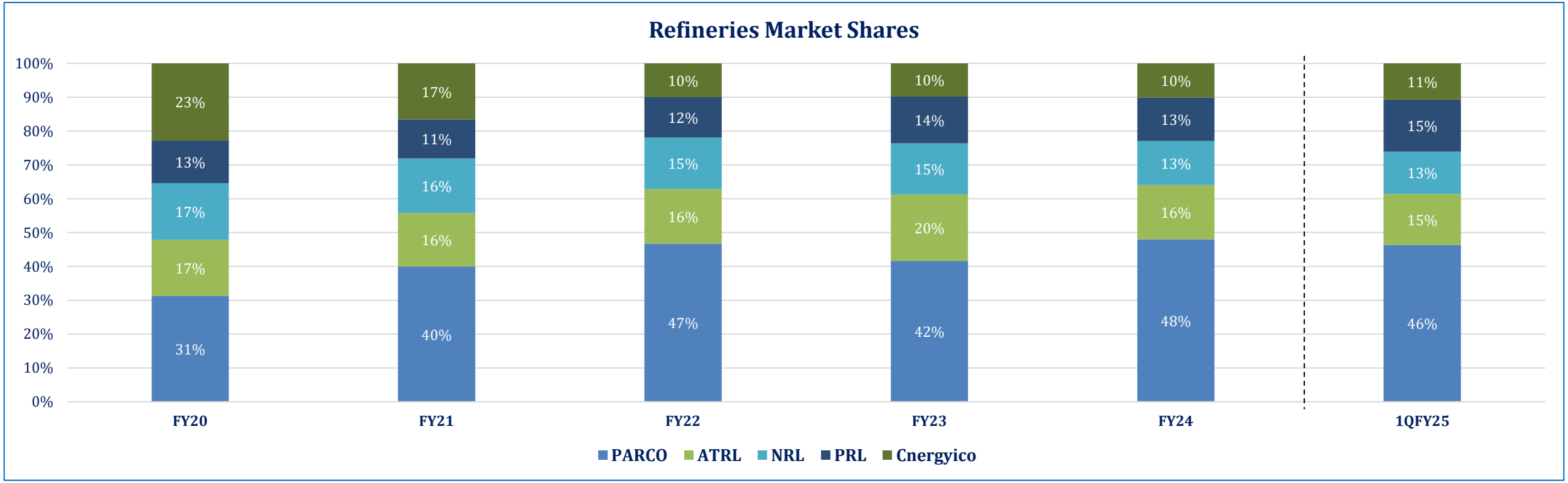
Source: Financial Statements

Refineries

Market Share

- PARCO comprised the highest market share of ~48% in FY24 in terms of total revenue, increasing its market share from ~42% in FY23. Among all refineries, ATRL and PARCO are based in the North, while all other refineries are based in the South, i.e., Karachi, near the port.

- ATRL mostly consumes ~100% of local crude oil to meet its demand, whereas all other refineries are largely dependent on imported crude to meet their demand.



Source: Financial Statements

Refineries

Local | Pricing Mechanism

- The pricing structure of POL products (MOGAS & HSD) is a computation of six different price components (discussed in the previous slide) embedded in a price formula.
- While OMC Margins and Dealer Commission are fixed, the Petroleum Levy, Sales Tax, and IFEM are variable components, the former two depending on the GoP's discretion, and the latter computed through a freight pool mechanism. Currently, the Sales Tax has been declared exempt on the POL products in Finance Bill 2024 (previously, it was categorized as 'zero-rated').
- The starting point for the pricing mechanism is the **'Ex-Refinery Price'.** This price is determined by OGRA and was earlier determined based on PSO's weighted average costs of POL products in the preceding monthly and ~30 days International prices published in Platt's Oilgram.
- Since September 01, 2020, the pricing mechanism has been shifted from a monthly basis to a fortnightly basis and the price benchmark based on PSO's oil imports has been shifted to Platt's Index. This development is expected to shield the Industry from Inventory losses.
- As per OGRA Rules, OMCs are required to build storage/ depots in different areas of the country to maintain a stock of at least 20 days so as not to end up with dry petrol stations. Ex-Refinery Price, PL, IFEM, and OMC margin add up to Ex-Depot Price, while Dealer Commission is added on the next step. Sales Tax is applied to an aggregate of Ex-Depot Price and Dealer Commission.

Source: OCAC, OGRA

Refineries

Local | Price per Liter Breakdown

Ex-Refinery Price: The refinery output price for finished inventories of HSD and MOGAS. It is variable based on global prices, refinery costs, and margins.

Petroleum Levy (PL) & Sales Tax (ST): PL is a **variable** development tax imposed by the GoP subject to variations on the GoP's disposal. Sales Tax was collected by the OMCs at a monthly fixed percentage charged to the Ex-Depot price and dealer commission. The government charges PL at PKR~60/liter, and a maximum PL has been set at PKR~80/liter in FY25 on both MOGAS and HSD. Sales tax is no longer collected.

In-Land Freight Equalization Margin (IFEM): The element of pricing structure that allows pricing of petroleum products to remain at par across the country. A freight pool managed by OGRA is developed to keep the prices equalized countrywide.

Distribution Margin (OMCs): Fixed Commission per liter earned by the OMCs upon sales of HSD and MOGAS to Industrial and retail clients. At present, this is fixed at PKR~7.9/liter for both MOGAS and HSD by OGRA.

Dealer's Commission: Fixed Commission per liter earned by the dealer or owner of the petrol pump. At present, this is fixed at PKR~8.6/liter for MOGAS and HSD.

Source: OGRA

Refineries

Local | Fuel Retail Prices

- For FY24, OMC margins averaged PKR~7.2/liter (FY23: PKR~4.9/liter) for MOGAS, whereas for HSD, these clocked in at PKR~7.4/liter (FY23: PKR~4.8/liter). For MOGAS, OMC margins formed ~2.5% of average retail prices (FY23: ~2.0%), while for HSD, this was recorded at ~2.1% during FY24 (FY23: ~1.9%).
- The average ex-refinery price for MOGAS and HSD increased ~10.5% and ~4.8% YoY in FY24, despite international Brent crude prices falling ~3.0% YoY during the year. During FY24, the PKR lost ~14.4% YoY against the USD (FY23: ~39.0%).
- The petroleum levy as of Jul'24 stands at PKR~60/liter for MOGAS and HSD and remains contingent upon IMF's conditions as per the Extended Fund Facility program (subject to IMF Board's approval).
- IFEM differs for different products due to differences in transportation methods, transportation costs, and usage. MOGAS is primarily used in transportation (cars, motorbikes, light commercial vehicles), while HSD is used in transportation (commercial vehicles), industries, and agricultural activities.
- OGRA has proposed an increase in OMC and Dealer Margins to support the digitization and automation of fuel pumps over the next three years. OMC margin would increase by PKR~1.35/liter to PKR~ 9.22/liter. Dealer margins would increase by PKR~1.40/liter to PKR~10.04/liter, as proposed.

MOGAS – Average Retail Price/ Liter (Breakdown)

Price Components	FY20	FY21	FY22	FY23	FY24	FY25	
						1QFY25	Nov'24
Cost of Supply	61.5	60.5	131.3	185.5	204.9	182.9	164.0
IFEM Margin	3.4	3.6	4.0	3.1	5.7	7.5	7.9
OMC Margin	2.8	2.9	3.3	4.9	7.2	7.9	7.9
Dealer Commission	3.6	3.7	4.4	6.9	8.1	8.6	8.6
Petroleum Levy	19.8	20.3	5.4	43.5	59.2	60.0	60.0
Sales Tax	15.5	15.5	4.6	0.0	0.0	0.0	0.0
Max Ex-Depot Sales Price	106.6	106.6	145.1	243.9	285.1	267.0	248.4

HSD – Average Retail Price/ Liter (Breakdown)

Price Components	FY20	FY21	FY22	FY23	FY24	FY25	
						1QFY25	Nov'24
Cost of Supply	66.3	65.0	135	218.0	214.9	200.1	177.6
IFEM Margin	1.2	1.0	-1.3	-3.5	1.7	3.9	1.0
OMC Margin	2.8	2.9	3.4	4.8	7.4	7.9	7.9
Dealer Commission	3.1	3.2	3.8	6.6	8.2	8.6	8.6
Petroleum Levy	21.1	21.1	5.2	28.6	57.5	60.0	60.0
Sales Tax	16	15.8	6.9	0.0	0.0	0.0	0.0
Max Ex-Depot Sales Price	110.4	108.9	153	254.5	289.7	280.5	255.1

Source: OGRA, PSO

Refineries

Greenfield Refinery Policy

- There have been numerous developments towards the proverbial “New Refinery Policy”, aimed at resolving the prevailing shortcomings in refining capabilities (cracking and cocking) of market players.
- As per the latest development, the Government is more inclined toward incentivizing greenfield refineries rather than the existing refineries.
- Following are the salient features of the Greenfield Policy -
  - Duty protection in the form of 10% import duty on MS and HSD of all grades as well as imports of any other white product used for fuel of any kind of motor or engine. The protection will be effective Jan’22 through Dec’27.
  - The government aims to restrict its share in overall investment to ~30%, with refineries expected to contribute the remaining ~70%.
  - A special reserve account for upgradation/ modernization/ expansion will be maintained by each refinery in a separate bank account to be opened in National Bank of Pakistan. The refineries will transfer any incremental revenue (net of taxes) based on the revised tariff structure to the special reserve account.
  - The refineries will be entitled to withdraw from the reserve account once the EPC (engineering, procurement and construction) contract has been awarded for the relevant project. The withdrawal from the reserve account will be on a proportionate basis.
  - To be eligible for the incentives, the existing refineries had to commit before December 31, 2021 and provide an undertaking to the PD (Petroleum Division) with a proposed timeline along with potential size, configuration, product slate and all relevant information, ensuring production of Euro-V MS and HSD. The refineries that do not provide such an understanding and do not have a waiver, will not be allowed to sell their products in Pakistan after June 30, 2022. However, since there were no new refineries that registered during this period, therefore PD (petroleum Division) introduced the brownfield policy ‘23 (discussed later in the report) that requires the existing refineries to upgrade their refining facility to produce POL products as per Euro V specifications.

Source: Taurus Securities

Refineries

Brownfield Refinery Policy

- Therefore, the Brownfield Policy has been formulated to provide incentives and tariff protection to the existing refineries to upgrade their plants to produce increased quantity of cleaner fuels (Euro V Fuels- Motor Spirit and Diesel) and reduce the production of less environmentally-friendly fuels such as Furnace Oil (FO).
- The maximum time stipulated for the upgradation of plants from hydro-skimming into deep conversion is 6 years, after which, the refineries will not be allowed to produce products not meeting Euro-V specifications. The Policy also aims to achieve energy security and reduce dependence on imports of refined products which at present fulfills ~55% of the local demand.
- Following are the salient features of the upcoming refinery policy –
  - For an existing refinery to be eligible for the fiscal incentives provided in the Brownfield Policy, it shall have to execute a legally binding Upgrade Agreement with OGRA within 3 months after the notification of this Policy (i.e., August 11, 2023). There will be a minimum customs duty of 10% on Motor Gasoline and High-Speed Diesel imported for a period of 6 years from the date of notification of this Policy. Any custom duty above ~10% will be reimbursed to the refineries through IFEM (Inland Freight Equalization Margin). OGRA will monitor the progress of the upgrade Projects . Failure to meet the timelines committed in the Upgrade Agreement will result in a default notice by OGRA to the respective refinery.
  - The respective refinery and OGRA will open a joint Escrow Account (special reserve account) within 3 months after the notification of this policy in the National Bank of Pakistan. The refineries will transfer any incremental revenue (net of taxes) based on the revised tariff structure to the special reserve account. Additionally, refineries will submit a bank guarantee of PKR~1bln to OGRA.
  - The Escrow Account can only be used for the capital expenditure required on the upgradation of the plant (and no other purpose) and as follows:
    i. To buy used Plant & Machinery, allowed withdrawal of up to ~22% of the total upgradation cost.
    ii. To buy new Plant & Machinery, allowed withdrawal of up to ~25% of the total upgradation cost.

***Note**: IFEM is the Inland Freight Equalization Margin ensures that products from OMC's are available to consumers at a uniform price across the country*

Source: Petroleum Division

Refineries

Refinery Policy Current Status

- During CY23, the Government of Pakistan introduced a new oil refining policy under the brownfield refinery policy to boost the production of Euro-V grade fuels.
- The policy states that refineries will aim to increase Euro-V grade petrol production by approximately 99% and Euro-V grade HSD by approximately 47%, while simultaneously reducing the production of fuel oil by around 78%.
- Moreover, refineries will now be allowed to retain some of the duties instead of passing them on to the government. These withheld duties will enable refineries to upgrade themselves.
- The duty relaxations include an additional ~2.5% relief on HSD (in addition to the current ~7.5%) and 10% on petrol in the form of a deemed duty for six years. This duty must be submitted to an escrow account maintained by OGRA until the refinery collects ~25% of its upgrade costs.
- The refinery upgrade plan includes the installation of hydro-desulfurization units to reduce the sulfur content in diesel, as well as isomerization plants for upgrading petrol quality.
- The government has been urging local refineries to upgrade their plants to minimize the production of furnace oil. However, this will require a capital investment of around USD~4bln – USD~5bln.
- However, four out of the five refineries have raised concerns about this policy, and therefore the policy is under contestation as the government and refineries are in talks to resolve the issue.
- These concerns include the continuation of the 7.5% deemed customs duty on HSD beyond the proposed six-year period, tax exemptions on incremental incentives, flexibility in confirming product quality and outcomes, objections to the unilateral appointment of an arbitrator, and requests for clarity on contractual issues such as force majeure, termination, relinquishment, and timeline extensions.
- The refinery policy issue is yet to be resolved. Most of Pakistan's refineries operate at hydro-skimming levels and need to upgrade to produce better-quality products. At this level, gross margins are low, and demand for the produced petroleum products is also low. Upgrading the refineries would benefit them by making them competitive, producing environmentally friendly Euro-V fuel, and enabling them to compete with international refineries, thus increasing their GRMs and profit margins. Refineries are currently facing financial challenges due to various factors. The approval of the new policy would help alleviate this pressure.

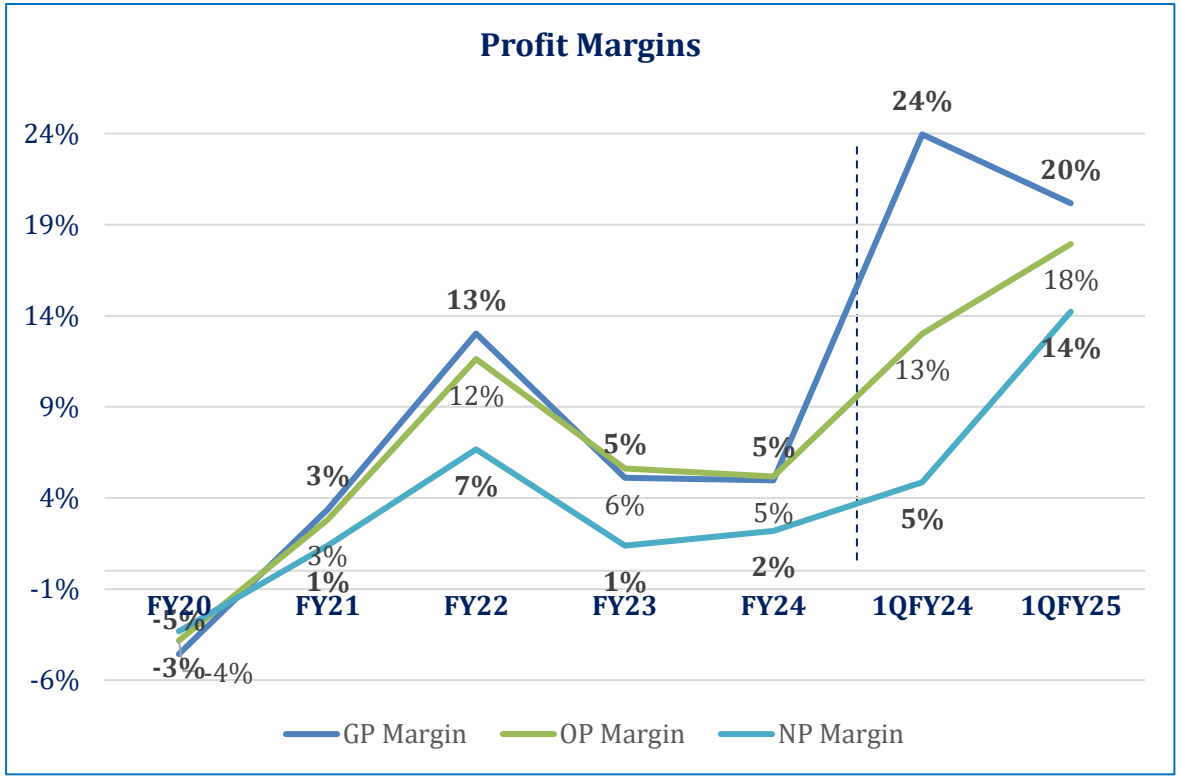
Source: Petroleum Division

Refineries

Business Risk | Margins

- Total consumption of petroleum products during FY24 was recorded at ~21.6mln MT (SPLY: ~21.5mln MT), increasing by ~0.5% YoY. Although local POL product production in FY24 rose by ~7.1% YoY (FY23: fell by ~12.6%). Net Revenue of POL products inched up by ~24.6% in FY24 (FY23: ~14.8%), while COGS per MT of POL Products grew by ~19.1% YoY (FY23: up ~53%).

- During FY24, the margins remained largely the same as the previous year. Operating expenses increased by ~24% YoY, as inflationary pressure remained high. However, in 1QFY25 the profit margins saw a healthy increase due to an improved economic environment. Gross margins stood at ~20.0% (1QFY24: ~24%) owing to increased spreads between prices of refined products and crude oil. Operating profit margins of ~18.0% in 1QFY25 (1QFY24: 13%) depict a stable performance. A rise in interest expense of ~11.0 % was on account of increased short-term borrowings. Despite this, the net margin increased to 14% (1QFY24: ~5%).



- Gross refining margin (GRM) is an important indicator of the operational efficiency of a refinery. It is the difference between the total revenue generated from the sale of refined products and the cost of crude incurred. A higher GRM reflects that a refinery can add more value from each barrel of crude oil processed. With local refineries using hydro-skimming technology, their refining margins on average (CY17-CY22) are ~23% lower than refineries with more advanced deep-conversion capabilities (i.e. Cracking & Coking). However, the GoP, through its Brownfield Policy, has made it mandatory for all refineries to upgrade from hydro-skimming to deep conversion within a stipulated period of ~6 years from Aug'23. This is likely to reduce the aforementioned delta in GRM.

Source: Financial Statements, BP Stats, PACRA Internal Database

Refineries

Business Risk | Petroleum Storage

In FY23, the gross national petroleum storage capacity declined by ~1.2% to ~4.03mln MT from ~4.08mln MT in FY22. The decrease in storage capacity was due to the reduction of storage capacity of OMCs at ports.

Gross National Petroleum Storage Capacity (000 MT) – FY23*										
	OMCs Port Installations	OMCs Up Country	ATRL	Cnergyico	NRL	PRL	PARCO	Total OMCs	Total Refineries	Total Country
Crude	0	0	94	128	155	148	374	0	899	899
HSD	324	701	21	63	32	20	98	1,025	234	1,259
MS	463	463	22	33	16	11	25	926	107	1,033
FO	337	88	49	36	34	26	56	425	201	626
Jet Fuel	15	8	14	1	8	4	19	23	46	69
Kerosene	3	11	7	1	1	3	6	14	18	32
Naphtha	0	0	20	0	19	19	0	0	58	58
Others	37	11	1	0	0	0	10	48	9	57
Total	**1,179**	**1,282**	**228**	**262**	**265**	**229**	**588**	**2,509**	**1,572**	**4,033**

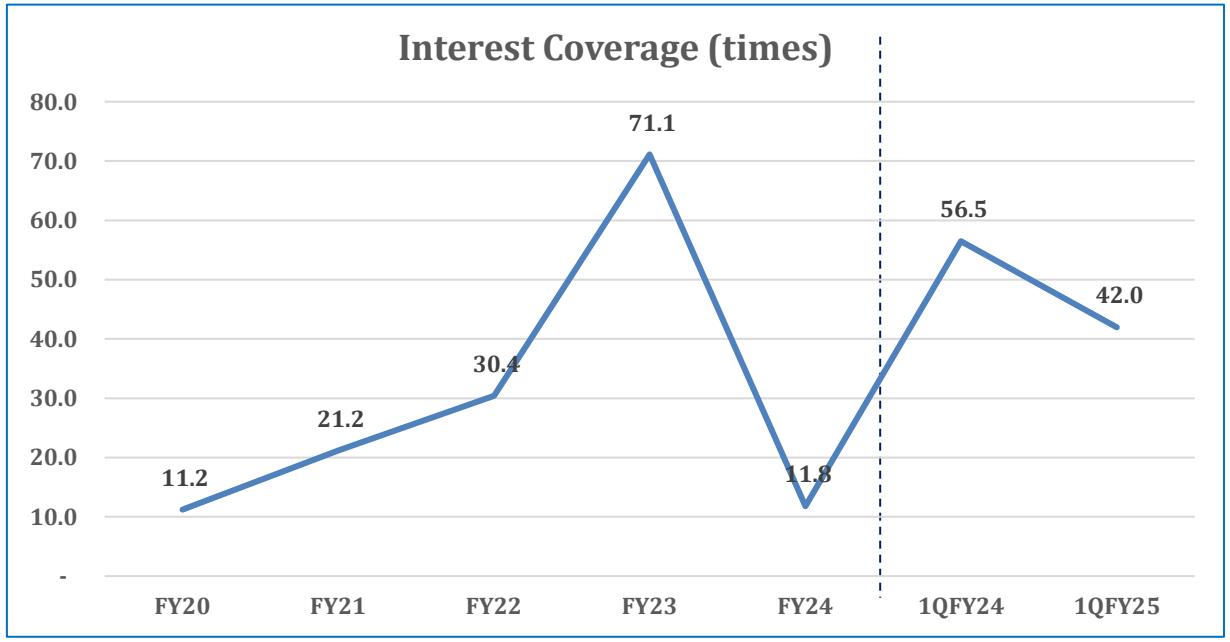
**Latest available data*

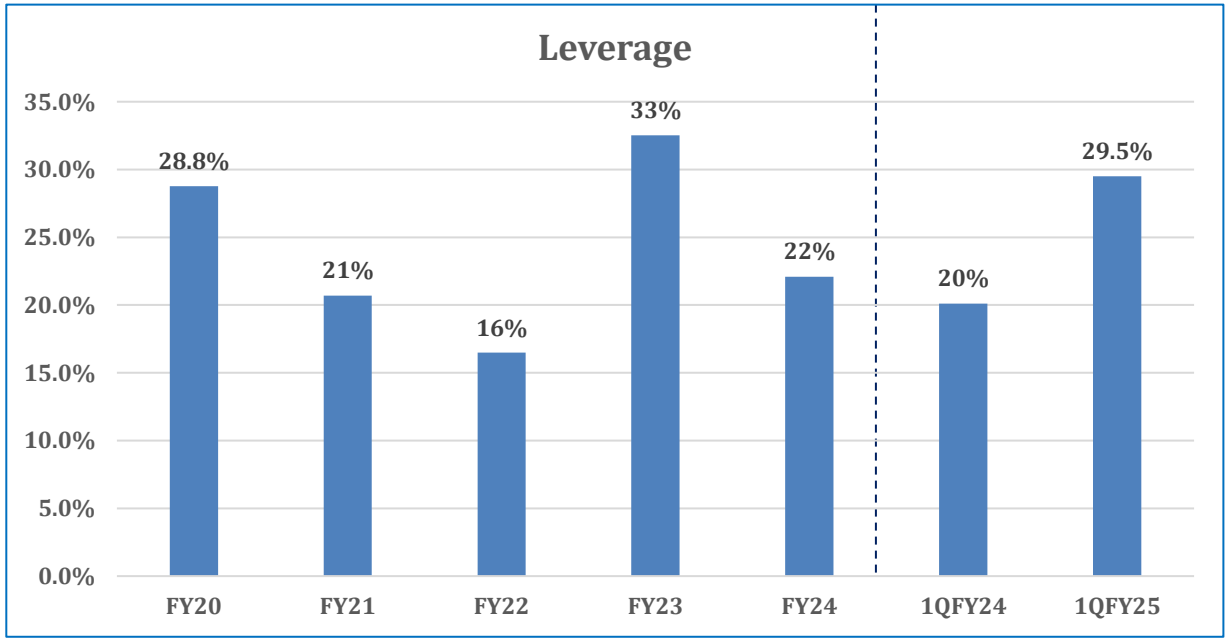
Source: OCAC

Refineries

Financial Risk | Coverage & Leverage

- In 1QFY25, improved cost management and better price spreads increased operating profits, resulting in a high-interest coverage of ~42.0x (1QFY23: ~56.5x). In contrast, FY24 saw a sharp decline in interest coverage to ~11.8x from a high of ~71.4x in FY23. This drop was mainly due to a significant rise in the average effective cost of debt, following the SBP's hawkish stance in FY23 when it raised policy rates to 22.0%, leading to a delayed impact on the sector. Retirement of long-term debt by Attock refinery contributed to a hike in coverage ratio in FY23, which was short-lived.
- The Sector's borrowings comprise a higher proportion of short-term borrowings compared to long-term borrowings. In FY24, the Sector reduced its long-term borrowings to ~13.0% of total borrowing (Sep'23: ~17%), while short-term borrowings grew by ~ 3%.
- Going forward, the Sector's leverage and cost of debt is expected to increase owing to the accumulation of debt which would be required for expansion and upgradation under the Brownfield Policy. However, the amount required to be borrowed by the local players would depend upon the required cost of upgradation. On the flip side, interest coverage ratios are still expected to remain stable amid a lower policy rate that would result in a lower finance cost, and an increase in economic activity that would likely increase the profits.





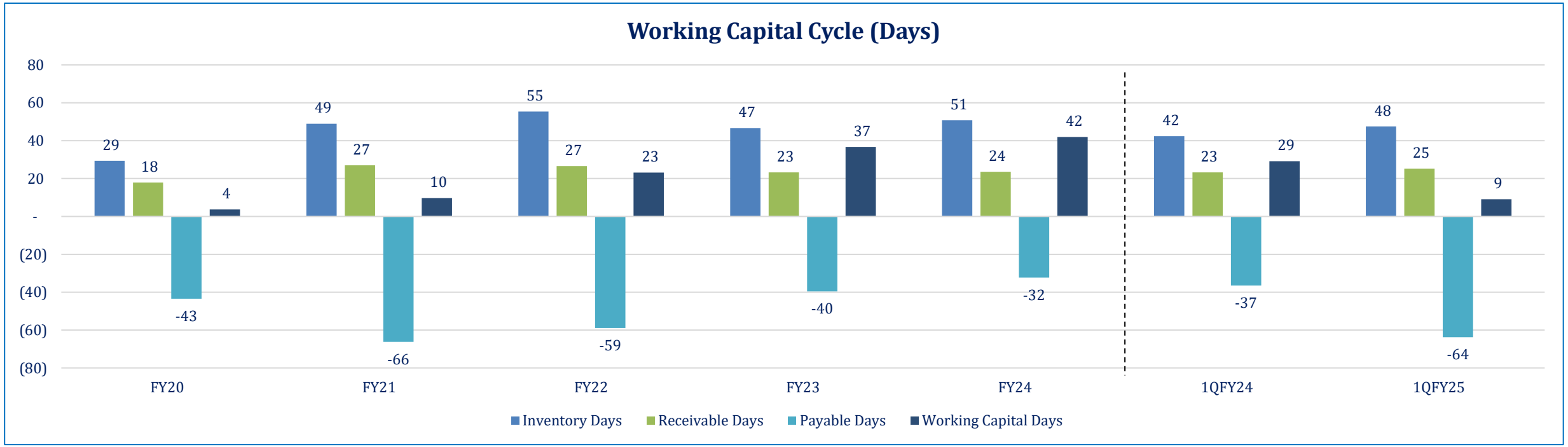
***Note**: 1QFY24 and 1QFY23 reflects data of 3 refineries only.*

Source: Financial Statements, SBP

Refineries

Financial Risk | Working Capital

- The working capital cycle is important in assessing the requirement to fund both the acquisition of crude oil inventory and outstanding payables.
- In FY24, the Sector's average inventory days stood at ~51 days (FY23: ~47 days), with a YoY decline of ~4 days, whereas average receivable days were recorded at ~24 days (FY23: ~23 days). Moreover, payable days in FY24 stood at ~32 days (FY22: ~40 days); the working capital days declined to ~29 days in FY24 (FY23: ~42 days).
- A similar trend was seen during 1QFY25, wherein the working capital days declined on a YoY basis to ~9 days (1QFY24:~29 days). Payable days, however, increased significantly and stood at ~64 days (1QFY24:~37 days).

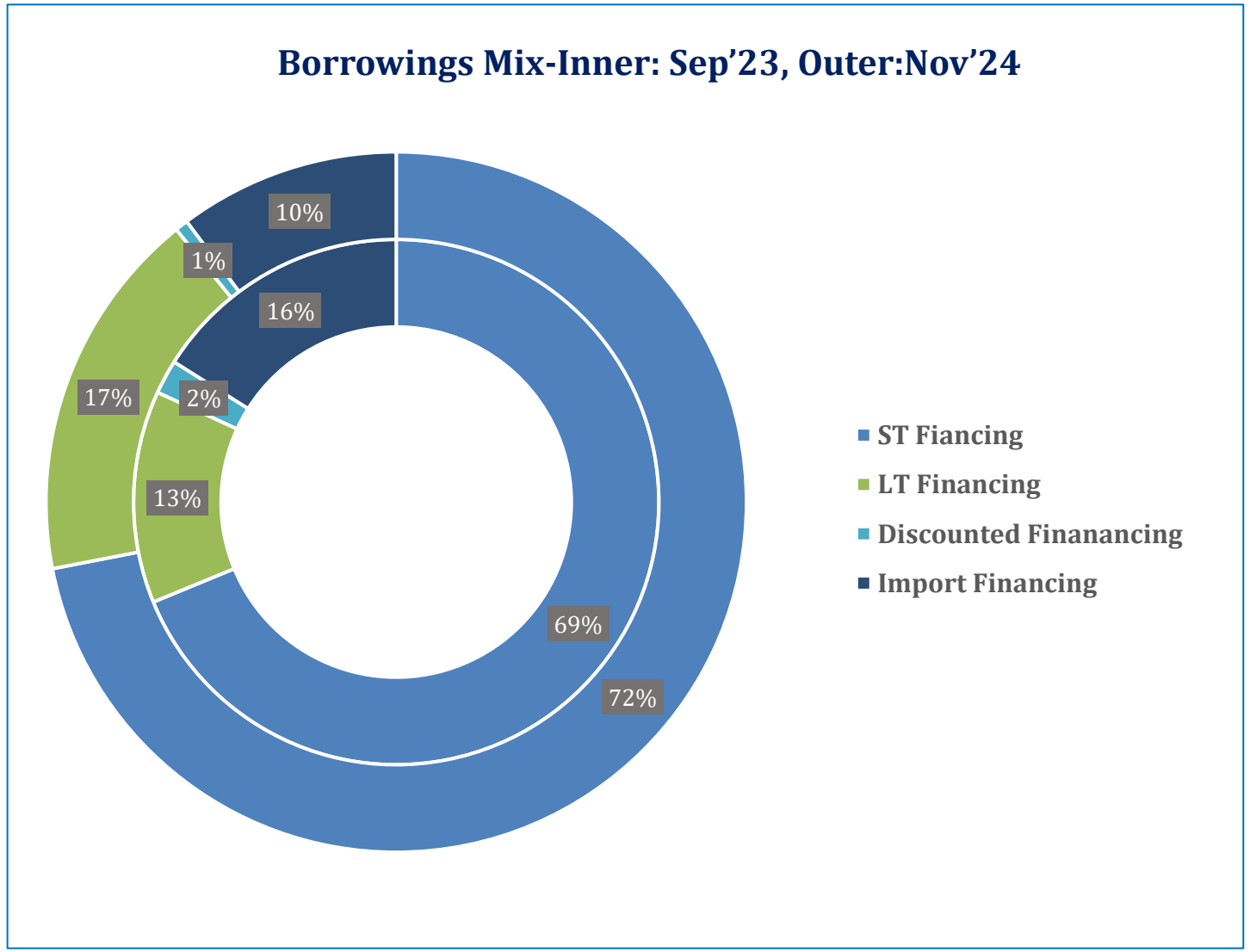


Source: Financial Statements

Refineries

Financial Risk | Borrowing Mix

- As per SBP's data for Nov'24, the Sector's borrowings stood at PKR~132bln (Sep'23: PKR~136bln), declining by ~3.0% YoY.
- Total short-term borrowings used for financing working capital made up ~72.0% (Sep'23: ~69%) of the total borrowings, while the remaining ~28.0% (Sep'23: ~31%) accounted for the long-term borrowings, discounted finance, and import finance.
- In Nov'24, import finance reduced to PKR~25bln (Sep'23: PKR~13bln) whereas long term financing also reduced to PKR~23bln (Sep'23: PKR~26bln) .

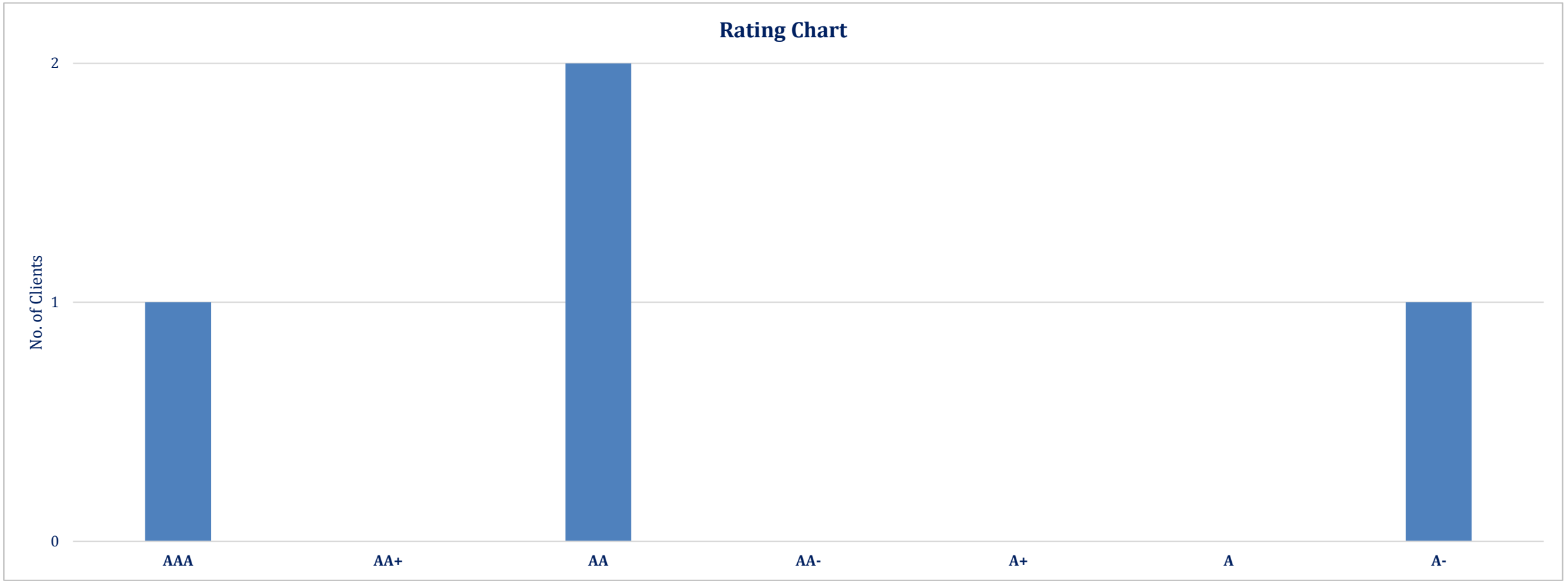


Source: SBP

Refineries

Rating Curve

PACRA rates 4 players in the Sector, all listed on PSX, in the rating bandwidth from A- to AAA.



Source: PACRA Database

Refineries

Duty Structure

- The Petroleum Division has mandated the refineries to upgrade their facilities as per the Brownfield Policy in order to produce products under the Euro-V specifications within 6 years from the date of the policy (August 11, 2023) and thereby have provided incentives and tariff protection to the refineries as also mentioned earlier in the report.
- There will be a minimum customs duty of 10% for a period of 6 years from date of notification of the Policy on Motor Gasoline and High-Speed Diesel imported into the country. Any customs duty imposed over 10% reflected in the Ex-refinery price will be deposited in the Inland Freight Equalization Margin (IFEM) pool. Any customs duty on crude oil will be reimbursed to refineries through IFEM.
- The refineries will be allowed 10% tariff protection (deemed duty) applicable on Motor Gasoline and Diesel's ex-refinery price for 6 years from the date of notification of the Policy.
- The current duty structure is as follows:

HS Code	Description	Custom Duty	Additional Custom Duty	Regulatory Duty	Total | FY25
2710.1210	Motor Spirit (MOGAS)	0%	2%	10%	**12%**
2710.1931	High Speed Diesel HSD (HSD)	11%	2%	-	**13%**
2710.1921	Light Diesel Oil (LDO)	3%	2%	-	**5%**
2710.1941	Furnace Oil (FO)	11%	2%	-	**13%**

Source: FBR

Refineries

SWOT

- Highly capital-intensive business.
- Government relations.
- Strategic importance.
- Robust local demand.

- Under-utilization of refining capacity.
- High proportion of low-value product (FO) in total product mix.
- Exposure to exchange rate and international oil price movement.
- Technological lags.

- Basic commodity – low bargaining power of customers
- Increasing demand of HSD due to increased industrial activity
- Exploration of new markets and development of retail branches
- Black oil export opportunity

- Outdated technology
- Russia-Ukraine war
- Iran-Israel conflict
- Non-approval of refinery policy.
- Abrupt reduction in petrol prices.
- Depleting local oil reserves.

Refineries

Outlook: Stable

- According to the IMF estimate, Pakistan's economy is expected to grow by ~3.2% in FY25 (FY24: ~2.5%). This is a positive sign for refineries, as economic activity directly catalyzes demand in the oil sector.
- A decline in the interest rate to ~15% in the recent MPC meeting in November'24 reflects contained inflation figures. Inflation is estimated to drop to a single-digit figure for FY25 at ~9.5% (FY24: ~23.4%). Concurrently, a further decline in interest rates could boost economic activity, leading to increased POL consumption and revenue for refineries. Refineries have suffered due to high finance costs in the past, and this reduction is expected to ease the pressure.
- The country's transport segment accounted for a significant share of POL product consumption. The segment's standalone consumption stood at ~18.7mln MT (FY23: ~17.4mln MT), marking a ~7.5% YoY increase (FY23: down ~24.0% YoY). Furthermore, the Oct'24 automotive sales witnessed a rise to ~15,192 cars (SPLY: 11,588 cars), a ~30% YoY increase, which reflects an opportunity for higher consumption in the sector, creating demand and room for refineries to increase their production.
- Although local POL product production in FY24 increased by ~7.7% YoY, revenue per MT of refined products grew by ~27.6% YoY (FY23: ~44.0%). Even though duties, levies, and taxes per MT increased as local refineries suffered due to their use of hydro-skimming technology, their refining margins on average (CY17-CY22) stood at ~23% lower than refineries with more advanced deep-conversion capabilities (i.e. Cracking & Coking). The GoP, through its Brownfield Policy, has made it mandatory for all refineries to upgrade from hydro-skimming to deep conversion within the stipulated period of 6 years from Aug'23. This is likely to reduce the aforementioned delta in GRMs. All refineries are in talks with the GoP and are willing to expand after gaining further clarity on the policies.
- With the economy starting to exhibit early signs of recovery post-FY24, stable interest rates (these are expected to be revised downwards), and anchored inflationary expectations, POL consumption is expected to pick up pace in FY25. Moreover, with the GoP's mandate in place for technology upgrades for local refineries, product yields are likely to improve, hence lowering the country's dependence on imports to meet local demand for POL products.
- Refinery upgrade projects can ease the pressure that refineries are facing at the moment. In the absence of such an upgrade, the sector's long-hauling issues are expected to persist, keeping the sector's business risk high. Approval and signing of the refinery policies are hence pivotal for the sector growth, as they would not only improve the GRMs but would also bring tax relief for the struggling sector.
- Furthermore, the GoP is also exploring opportunities with the Kingdom of Saudi Arabia to set up a new greenfield refinery, which would also be capable of producing hydrocarbons and renewables. This could improve Pakistan's refining capability significantly and would make the country capable of adapting to global shifts in energy consumption.

Source: PACRA Database, PBS, AKD, BIPL

Refineries

Bibliography

- Pakistan Bureau of Statistics (PBS)
- Economic Survey of Pakistan
- State Bank of Pakistan (SBP)
- Pakistan Stock Exchange (PSX)
- Oil Companies Advisory Council
- Oil & Gas Regulatory Authority
- World Bank
- IMF
- BP STATS
- JP Morgan
- EIA
- IEA
- S&P Global
- OPEC
- Financial Statements
- PACRA Database

Research Team	**Saniya Tauseef** *Senior Manager* saniya.tauseef@pacra.com	**Abdul Hanan** *Associate Research Analyst* Abdul.hanan@pacra.com

Contact Number: +92 42 35869504

DISCLAIMER