SECTOR STUDY . JULY 2024

Together. Creating Value.

Coal Mining & Trading

Research Team

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Global | Overview

- Coal is a combustible organic rock, composed mainly of carbon, hydrogen and oxygen. It is formed from vegetation, which has been consolidated between other rock strata and altered by the combined effects of pressure and heat over millions of years to form coal seams.
- Coal uses can be classified across two broad categories, as follows:
  - **Metallurgical Coal** (or "coking coal") is mined to produce the carbon used in steelmaking and allied products.
  - **Thermal Coal** is used to make steam that generates electricity and provide thermal energy.
- In CY22, global coal reserves were recorded at ~1,157.4bln MT (CY21: ~1,279.8bln MT). The USA holds highest reserves of coal in the world ~248.9bln MT, forming ~21.5% of the global share (CY21: ~277.3bln MT, 22.0% global share).
- However, during CY22, despite highest proven reserves, coal production of USA (~539mln MT) was lower than the coal production of China (~4,558 mln MT) that holds fourth largest proven reserves in the world. This may be linked with the rate of depletion of coal reserves that is higher for China than USA. Additionally, global production to reserve ratio of ~0.8% depicts that the global reserves are expected to last for ~131 years.
- Meanwhile, China is the largest producer and consumer of coal, forming ~51.8% and ~55.9% in CY23, respectively (SPLY: ~51.7% and ~54.2%, respectively) (this is covered later). In terms of reserves. However, the country ranked fourth globally in CY22.

Country	Proven Reserves (bln MT) | CY22*	Share in Global Reserves (%)	Production (mln MT)| CY22	Production (% of reserves)
USA	248.9	21.5%	539.0	0.2%
Russia	162.2	14.0%	439.0	0.3%
Australia	150.2	13.0%	440.1	0.3%
China	143.2	12.4%	4,558.6	3.2%
India	111.0	9.6%	910.8	0.8%
Germany	35.9	3.1%	130.8	0.4%
Indonesia	34.8	3.0%	687.4	2.0%
Ukraine	34.4	3.0%	24.1	0.1%
Poland	28.6	2.5%	107.8	0.4%
Kazakhstan	28.5	2.5%	117.8	0.4%
Others	179.6	15.5%	865.9	0.5%
Total	**1,157.4**	**100%**	**8,821.3**	**0.8%**

Note: **Latest Available.*
Proven Reserves depict the coal that can be mined with mining technology currently available.

Source: Mining-Technology, EIA, IEA

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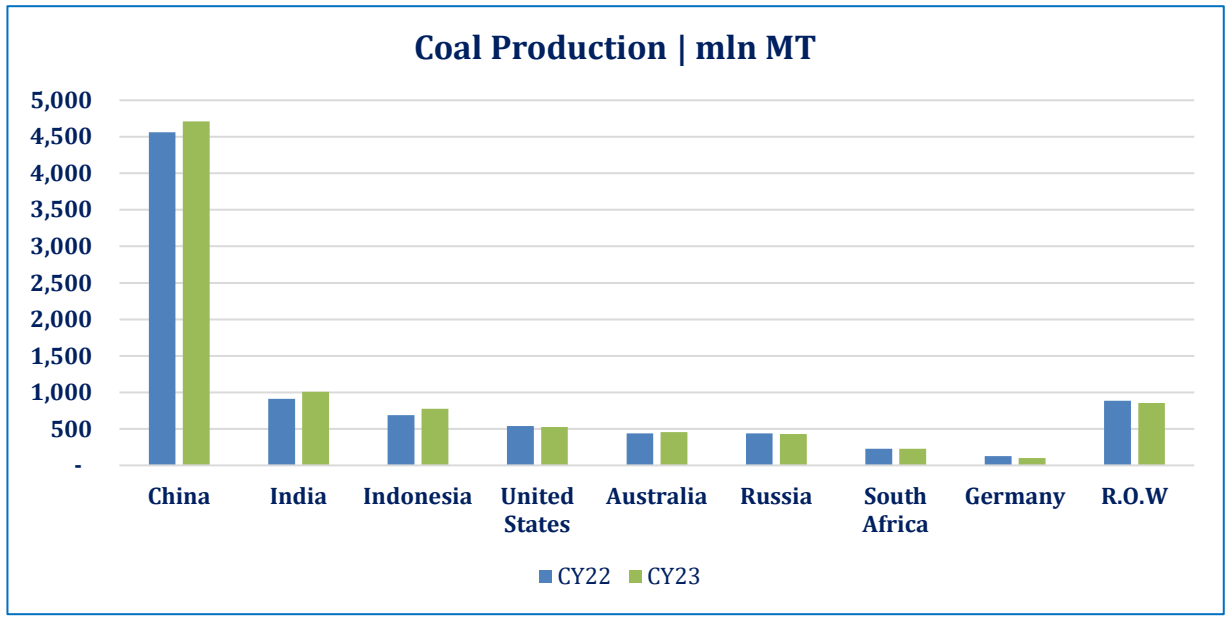
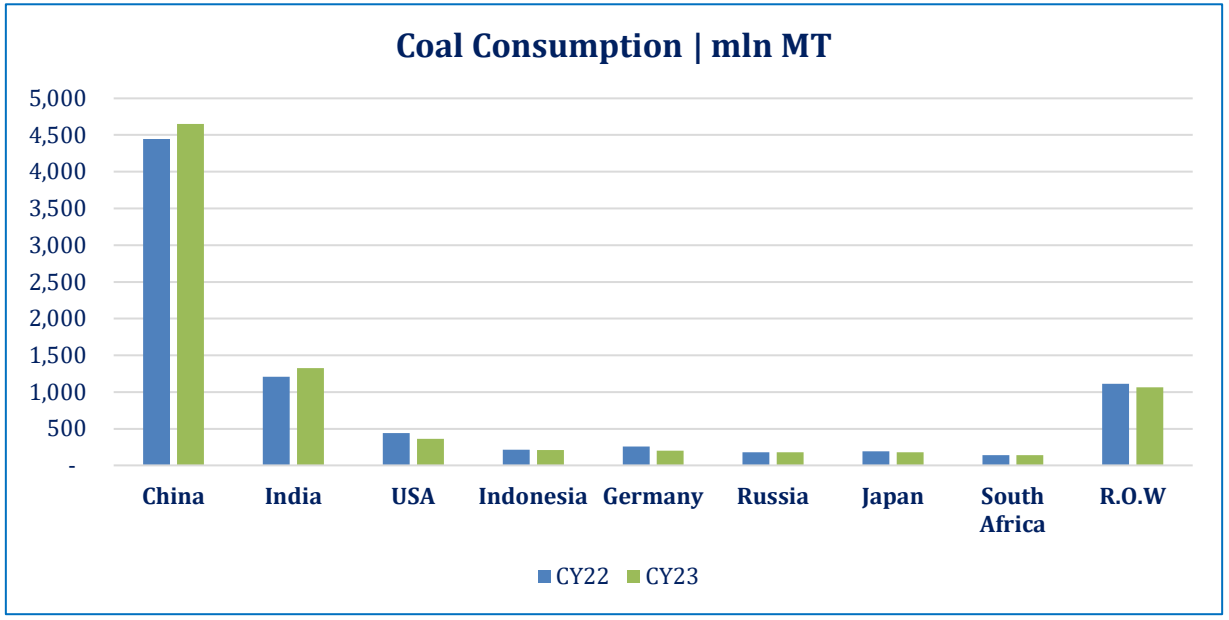
Global | Production & Consumption

- In CY23, global coal production expanded to ~9,096mln MT (highest recorded), up ~3.1% YoY. This growth was predominantly driven by Indonesia and India, which ramped up domestic production by ~12.8% and ~11.0% YoY, respectively, in order to reduce their reliance on imports.
- During the year, China recorded ~3.3% YoY increase in coal production, reaching a record high of ~4,710mln MT and formed ~51.8% of global coal extracted. The Asia Pacific region contributed ~80.0% of the world's coal production (SPLY: ~79.2%), with output concentrated in three countries - China, India, and Indonesia.
- Global coal demand surged to a historic high of ~8,324mln MT in CY23, marking ~1.6% YoY increase. This increase was ~7.0x greater than the average growth rate observed over the previous decade. The growth was primarily driven by countries relying substantially on coal for power generation and industrial applications, notably China and India. These respectively made up ~55.9% and ~15.9% of global coal consumed in CY23.
- Globally, ~60.0% of coal is utilized for electricity generation, cement production and in the metallurgy sector. However, rising environmental concerns about coal consumption due to its carbon content poses a major threat to demand, going forward.





***Note**: Conversion rates for each of the country is calculated based on bp Stats conversion rate of production from Exa Joules to mln MT for the respective country. Coal includes both solid coal as well as Bituminous coal*

Source: IEA, BP Stats

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Global | Trade

Coal Imports | (mln MT)						
Sr.	Countries	CY19	CY20	CY21	CY22	CY23
1	China	324	335	338	295	514
2	India	284	286	282	301	323
3	Europe	459	354	401	446	321
4	South Korea	301	265	270	270	257
5	Japan	194	180	192	191	174
	Pakistan	16	16	19	18	9
R.O.W		133	240	198	121	200
Total		1,711	1,676	1,700	1,642	1,798

Coal Exports | (mln MT)						
Sr.	Countries	CY19	CY20	CY21	CY22	CY23
1	Indonesia	418	433	442	453	492
2	Australia	375	365	375	321	351
3	Russia	272	266	283	249	253
4	USA	98	77	97	99	110
5	Mongolia	55	43	26	47	103
R.O.W		493	492	477	473	489
Total		1,711	1,676	1,700	1,642	1,798

- In CY23, the global coal trade registered ~9.5% YoY increase, reaching its highest level since CY18. China, with ~28.6% share in global coal imports, emerged as the leading coal importer in CY23. The country's imports surpassed India's by ~2.0x, amounting to ~514mln MT, up ~74.2% YoY because of increased demand of coal by the cement sector.
- Restrictions of granting of new mortgages and on the purchase of housing were relaxed in China during CY23, as well as several incentive mechanisms were introduced to encourage developers to complete projects already underway. Overall, the Asia Pacific region accounted for ~82.0% of global coal imports during the year (SPLY: ~69.0%). Meanwhile, Europe saw its coal imports decline to ~321mln MT, lowest level since CY20.
- On the other hand, Indonesia, Australia, and the Russia collectively accounted for ~61.0% of global coal exports during CY23 (SPLY: ~62.3%), with Indonesia alone contributing ~40.0% and recording ~8.6% increase YoY during the year.

***Note**: Pakistan coal imports are on FY basis*

Source: IEA, Ener Data

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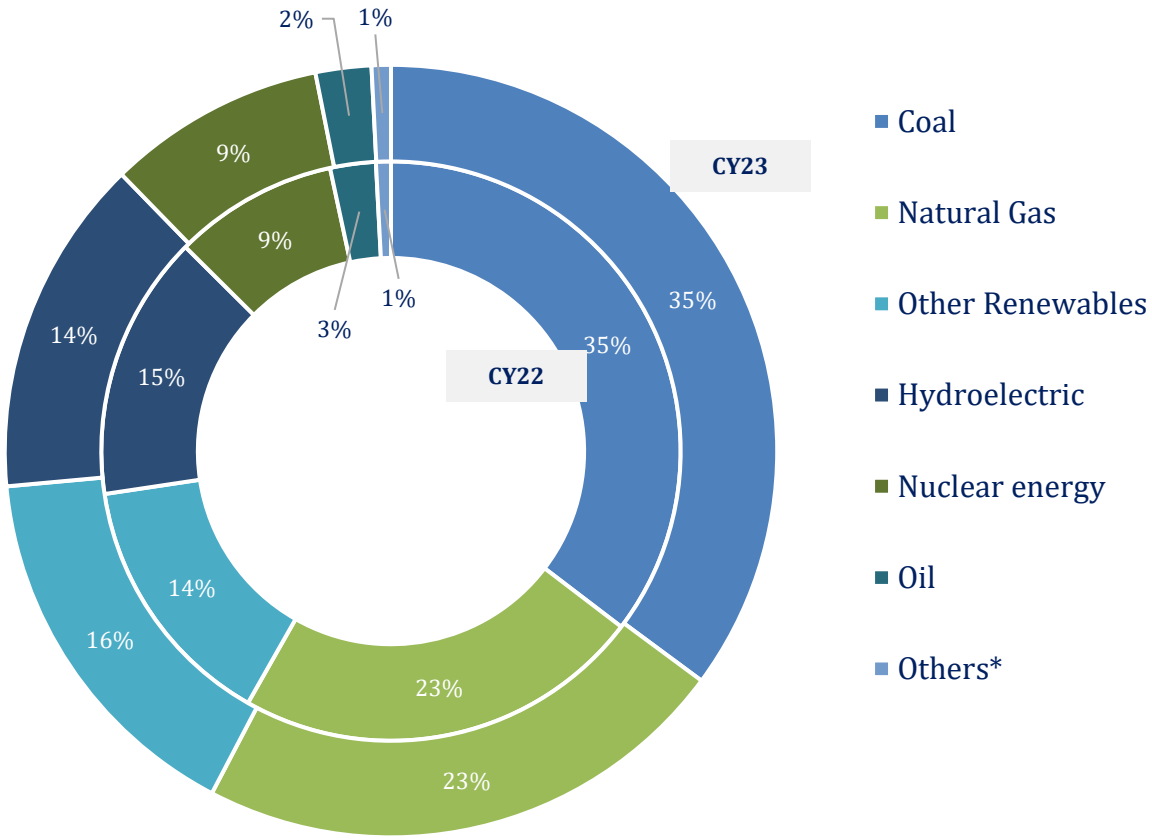
Global | Power Generation Mix

- In CY23, global power generation was up ~2.5% YoY increase, reaching a record high of ~29,925 TWh (CY22: ~29,188 TWh).
- Coal maintained its dominant position in power generation, accounting for about ~35.0% of the global power generation in CY23 (SPLY: ~35.0%). In Pakistan, during CY23, the share of coal in the power generation mix was recorded at ~17.2% (CY22: ~17.3%).
- Natural gas also held steady share, comprising ~23.0% in the global power generation mix.
- Oil-fired plants contributed slightly over ~2.0% of the total power generation mix. The share of renewables in total power generation increased from ~29.0% in CY22 to ~30.0% in CY23.
- The share of nuclear power remained stable at ~9.0%. Despite new nuclear builds in China and the return to service of plants in France and Japan, these gains were offset by the closure of Germany's remaining nuclear plants.

Global | Fuel-wise Power Generation Mix (%)



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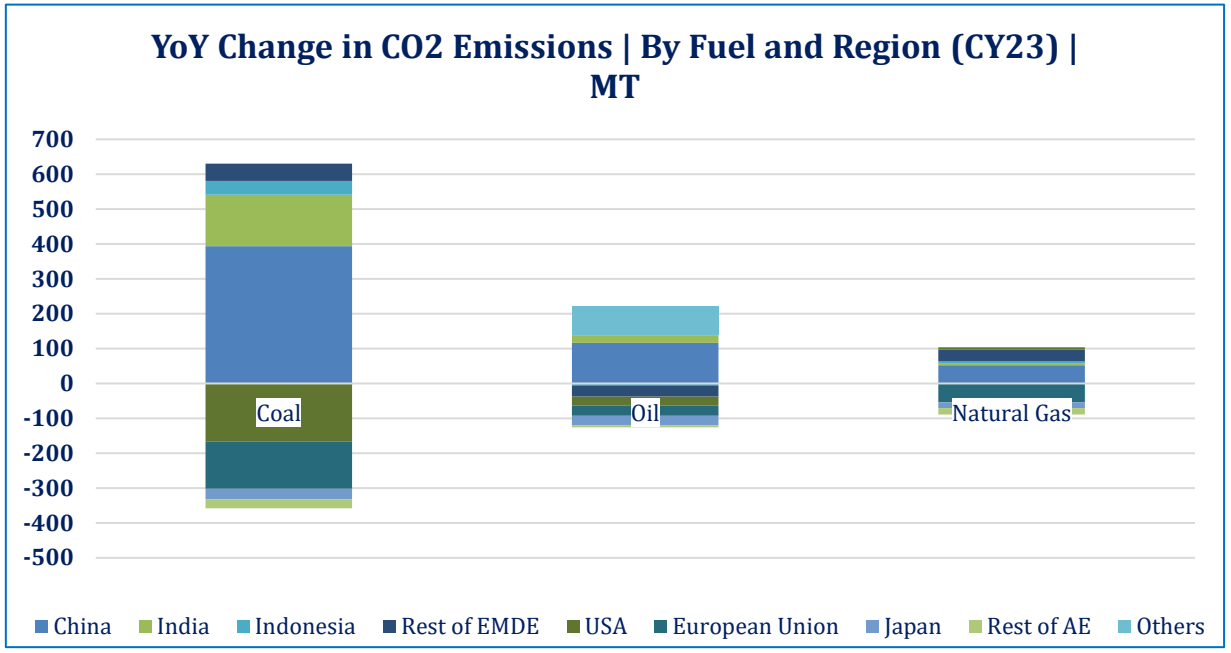
Global | Carbon Emissions

- Coal has contributed to the rise in global carbon emissions in the post-pandemic period. Since CY19, global carbon emissions have risen by ~850mln MT. Carbon emissions from coal increased to ~900 MT, while gas emissions have risen modestly, and oil emissions remain slightly below CY19 levels.
- In CY23, coal accounted for ~70.0% of the increase in global emissions from energy combustion. Significant rises in coal emissions in China and India were partially offset by declines in more developed economies. Carbon emissions from oil increased globally by ~95mln MT due to the reopening of China and the resurgence in global aviation. Natural gas emissions saw only a slight increase at the global level.
- Historically, a significant amount of CO2 emissions were primarily from Western Europe (including countries like the UK and Germany) and USA. This was largely driven by the Industrial Revolution in these regions. However, recently, Asia, particularly China, has become the largest producer of CO2 emissions. This shift can be attributed to China's rapid economic and industrial growth over the past few decades, transforming it into a global manufacturing hub. China's large population and extensive infrastructure projects have also played significant roles in this increase in emissions.

Country-wise Carbon Emissions | CY23		
Sr.	**Countries**	**bln MT**
1	**China**	10.7
2	**USA**	4.7
3	**India**	2.4
4	**Russia**	1.6
5	**Japan**	1
	R.O.W	17
	Total	**37.4**



***Note**: AE = Advanced Economies; EMDE = Emerging Market and Developing Economies.*

Source: IEA, EIA, wisevoter

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Global | Carbon Emissions

- Coal continues to dominate as the primary energy source for electricity generation, steelmaking, and cement production, playing a pivotal role in the global economy. However, it also stands as the leading contributor to human-induced carbon dioxide (CO2) emissions post pandemic (Covid'19), necessitating reductions in its consumption to achieve international climate goals.

- In CY23, global energy-related carbon emissions rose by ~1.1%, adding ~410mln MT to reach a new peak of ~37.4bln MT of carbon emissions. In CY23, coal emissions contributed ~70.0% to the overall increase in CY23. Additionally in CY23, coal maintained its leading role in power generation, holding a consistent share of ~35.0% in the global power mix.

- China and India experienced significant rises in emissions from coal combustion, which were only partly counterbalanced by declines in advanced economies. In advanced economies, GDP expanded by ~1.7% in CY23, while emissions experienced a notable decline of ~4.5%, marking the largest drop seen outside of recessionary periods. The decrease in emissions in CY23 among advanced economies was driven by a blend of structural and cyclical factors, including robust adoption of renewables and a shift from coal to natural gas in USA. This shift was driven by advantageous gas prices compared to coal since CY22, combined with the ongoing retirement of coal-fired power plants.

- In CY23, energy-related CO2 emissions in USA saw a slight decrease compared to CY22. While emissions declined across multiple economic sectors, over ~80% of the reductions in energy-related CO2 emissions occurred within the power sector. This reduction was primarily driven by decreased generation from coal-fired power plants, as natural gas and solar power expanded their share in the generation mix. This shift away from coal, known for its high carbon intensity among fossil fuels, led to a ~7.0% decrease in CO2 emissions from the electric power sector compared to CY22.

- Studies are currently exploring ways to mitigate CO2 emissions from coal combustion. One approach involves carbon capture, which isolates CO2 from emission sources and concentrates it for subsequent use. The captured CO2 can be stored permanently underground. Additionally, reusing and recycling waste generated from coal combustion can help minimize the environmental impact associated with coal production and utilization.

Source: IEA, EIA

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Global | Outlook

Consumption

- India, Indonesia, and other emerging and developing economies are projected to continue relying on coal to fuel robust economic growth, even as they commit to accelerating the adoption of renewables and other low-emission technologies. However, coal-fired power plants are being frequently closed down in these regions, and industrial coal usage is projected to decrease due to sluggish industrial output, enhanced efficiency measures and a greater shift towards alternative fuels. Consequently, it is anticipated that there will be a decline in global coal demand in CY24, which is expected to stabilize through CY26, even without significant announcements or implementations of stricter clean energy and climate policies by governments. Hence, ~2.3% reduction in global coal consumption is forecasted by CY26 compared to CY23.

- China's coal consumption is expected to decrease in CY24 and stabilize through CY26. During this period, hydropower output is projected to recover, alongside significant increases in electricity generation from solar Photovoltaics (PV) and wind sources. Hydropower availability is a critical factor in the near term, as coal serves as a substitute when hydroelectric output in China is below expectations. In CY26, China and India are expected to account for more than ~70.0% of global coal consumption. By contrast, the European Union and United States are expected to each account for around ~3.0% of global coal consumption in CY26.

Production

- It is anticipated that there will be a net decline in global coal production starting CY24, in contrast to the peak in global coal demand observed in CY23. The ongoing declines in USA and the European Union are expected to be supplemented by reduced production levels in Indonesia, as Chinese demand for seaborne thermal coal is projected to diminish. India, on the other hand, is expected to stand out as with significant growth in coal production, driven by increasing demand from its power sector. However, declines in other countries will likely outweigh coal production growth in India, with global production reaching ~8,394mln MT by CY26.

Trade

- Starting CY24 through CY26, ~12.0% reduction is expected in global coal trade, influenced by increased domestic production in coal-intensive economies like China and India, as well as coal phase-out initiatives in regions such as Europe. Thermal coal exports are projected to decline by ~16.0% by CY26, while metallurgical coal exports are expected to increase slightly by ~2.0% during this period.

Source: IEA, Ener Data

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Local | Snapshot

- Local coal supply comprises local extraction and imports. Meanwhile, the country's coal exports are almost negligible. The country holds ~186.0bln MT of coal reserves, with ~99.0% coal reserves found in Sindh.
- However, out of ~186.0bln MT of coal reserves, ~3.5bln MT are proven coal reserves (measured reserves), ~12bln MT indicated reserves, ~57bln MT inferred reserves, while remaining ~113.0bln MT are hypothetical coal reserves (not yet discovered). Pakistan ranks 20th in world in terms of proven coal reserves.
- During 9MFY24, coal imports stood at ~3.4mln MT (SPLY: ~6.6mln MT), recording ~48.5% YoY decline (In FY23, the decline was recorded at ~50.8% YoY). Meanwhile, local production registered a ~58.0% YoY increase in 9MFY24 (FY23: up ~56.3% YoY).
- In terms of sectoral demand, the local power sector utilized ~69.0% of the total coal supply during 9MFY24 (SPLY: ~47.0%), while the cement sector made up ~16.0% demand during the same period (SPLY: ~31.0%).
- Local coal price is linked to international prices, exposing consumers to international price fluctuations due to reliance on imported coal and exchange rate risk that increases import costs in case of currency devaluation.

Figures in mln MT unless otherwise stated

Particulars	FY22	FY23	9MFY23	9MFY24
Coal Consumption (A+B)	**27.7**	**23.9**	**15.4**	**17.3**
Power	12.8	15.5	7.3	11.9
Cement	5.6	5.4	4.8	2.8
Brick Kilns	9.3	3.0	3.3	2.6
Local Production (A)	**9.6**	**15.0**	**8.8**	**13.9***
Imports (B)	18.1	8.9	6.6	3.4
Avg Coal Price (USD/MT)[1]	200.8	178.6	200.8	106.4
Regulatory Authority	Ministry of Energy (Petroleum Division)			
Association	All Pakistan Mines & Minerals Association			

[1]*Price of South African coal. For 9MFY24 production figures = Consumption –Imports as Coal production for Balochistan is available up to Dec'22, while for Punjab it is available up to Feb'23.*

Source: PBS, PES, WB

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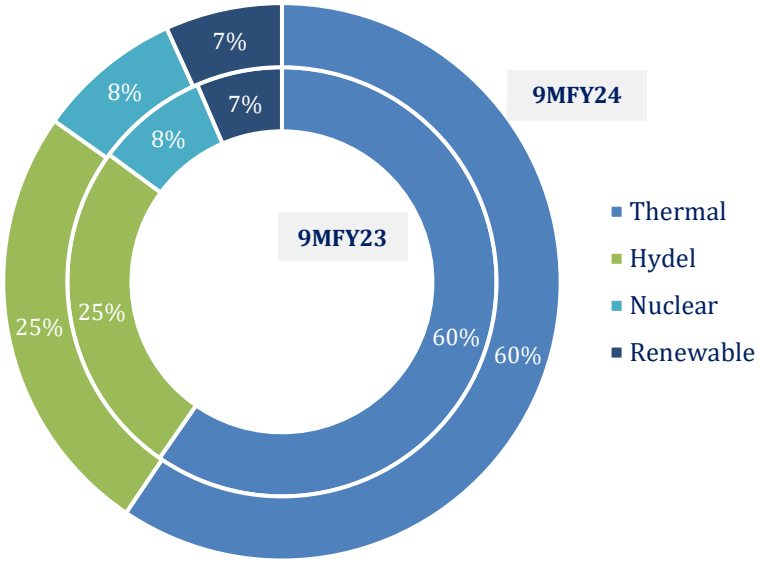
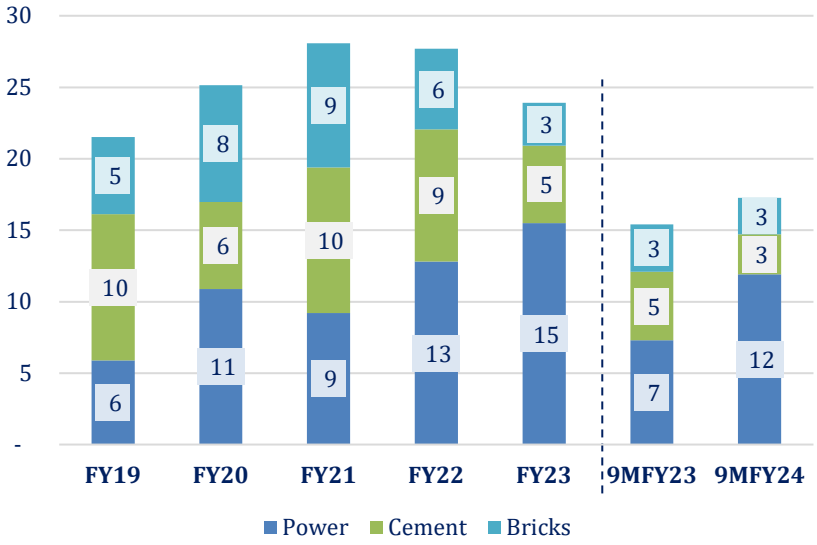
Local | Demand

- During 9MFY24, coal consumption by power sector rose to ~11.9mln MT, up ~63.0% YoY (9MFY23: ~7.3mln MT) and was recorded at ~69.0% of country's total consumption (9MFY23: ~47.0%). However, the share of coal in power generation mix during 9MFY24 recorded at ~16.4% (9MFY23: ~15.4%).
- Cement sector accounted for ~16.0% of the total coal consumed during the same period (9MFY23 ~31.0%). This reduction came on the back of economic slowdown as well as slower construction activities owing to higher input prices. Resultantly, local cement production declined by ~4.1% YoY and amounted to ~30.5mln MT during the period under review.
- Collectively, power and cement sectors accounted for ~85.0% of the total coal consumption in the country during 9MFY24. Meanwhile, coal consumption by brick kilns also reduced to ~15.0% in 9MFY24 (SPLY: ~22.0%).

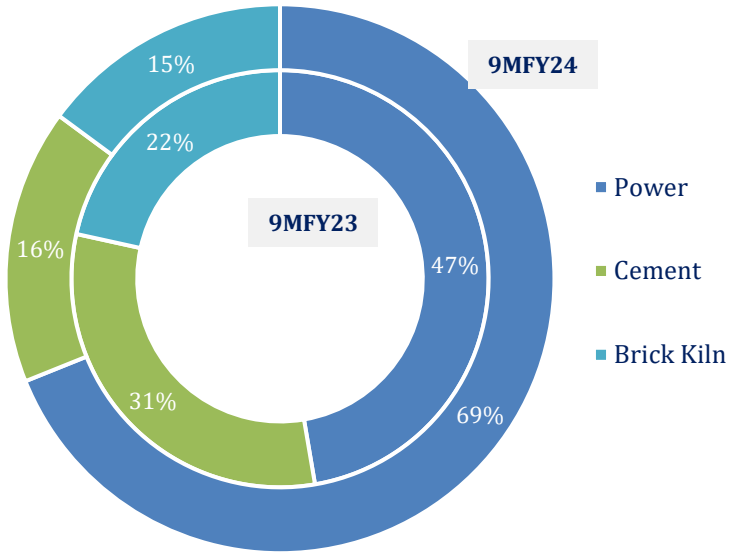
Power Fuel Breakup (Installed Capacity)



Coal Consumption Trend (mln MT)



Coal | Sectoral Consumption (%)



Note: *Power fuel breakup data in ES is available up to Apr'22. Renewables include wind, solar and bagasse, Thermal includes RLNG, RFO, coal and gas.*

Source: PES

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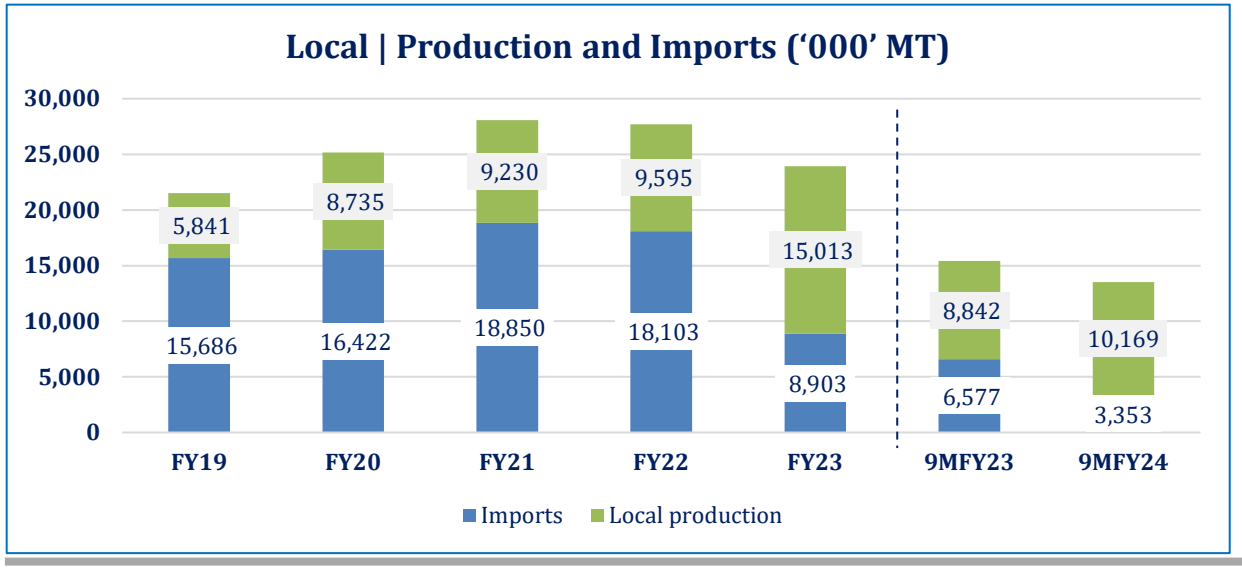
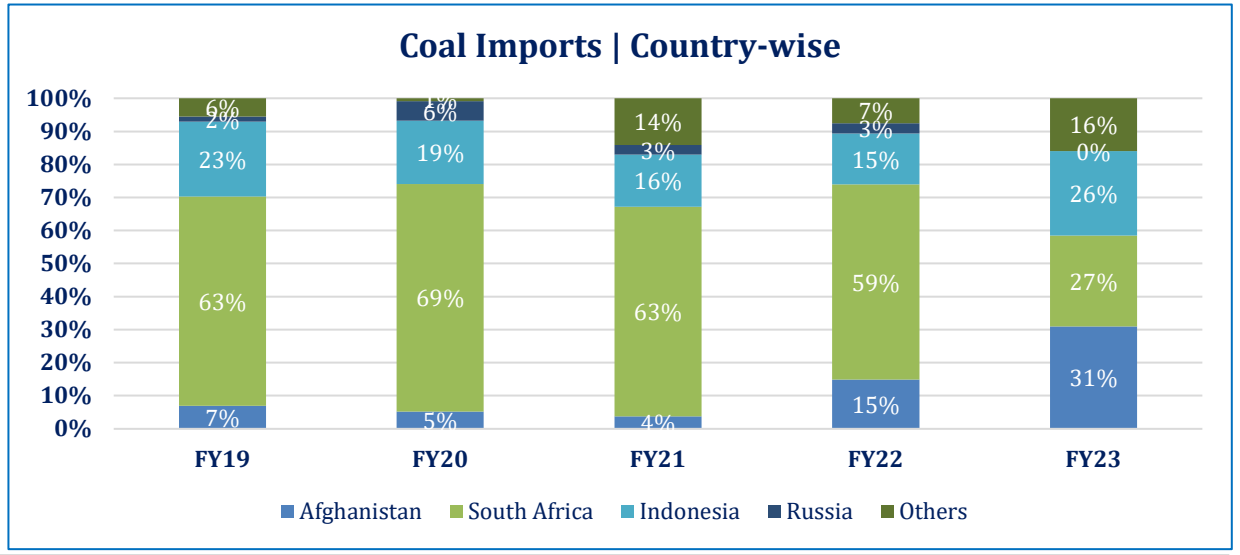
Local | Supply

- Prior to FY22, Pakistan was majorly reliant on imported coal. During FY19-22 imports averaged ~68.0% of country's total coal supply. However, in order to preserve foreign exchange reserves and mitigate price uncertainties in the international market, the GoP's policy stance has increasingly shifted towards local coal from imported coal. Therefore, beginning FY23, the proportion of local to imported coal has reversed to ~63%: 37% ratio.
- The share of imported coal has further declined to ~24.7% in 9MFY24 period (SPLY: ~42.7%), largely owing to higher coal prices when compared with pre-COVID19 levels (prices stood at USD~106.35/MT during 9MFY24 while PKR depreciated ~20.5% YoY against the USD..
- During FY23, Pakistan imported ~27.5% of coal from South Africa (SPLY: ~59.1%), ~25.5% from Indonesia (SPLY: ~15.3%) and ~31.0% from Afghanistan (SPLY: ~14.9%). This shift in import destinations during FY23 came on the back of a ~39.0% devaluation of PKR against USD that rendered coal imports from Afghanistan a cheaper option than South African coal. Additionally, as a result of importing Afghan coal, import price reduced from USD~117.0/MT in FY22 to USD~100.1/MT in FY23. Coal imports during 9MFY24 were recorded at USD~579.mln (9MFY23: USD~809.5mln).





Note: *For country-level import data, figures are the latest available and are limited to three HS code, namely – 2701.1200, 2701.1900 and 2704.0010.*

Source: PES, PBS, SBP

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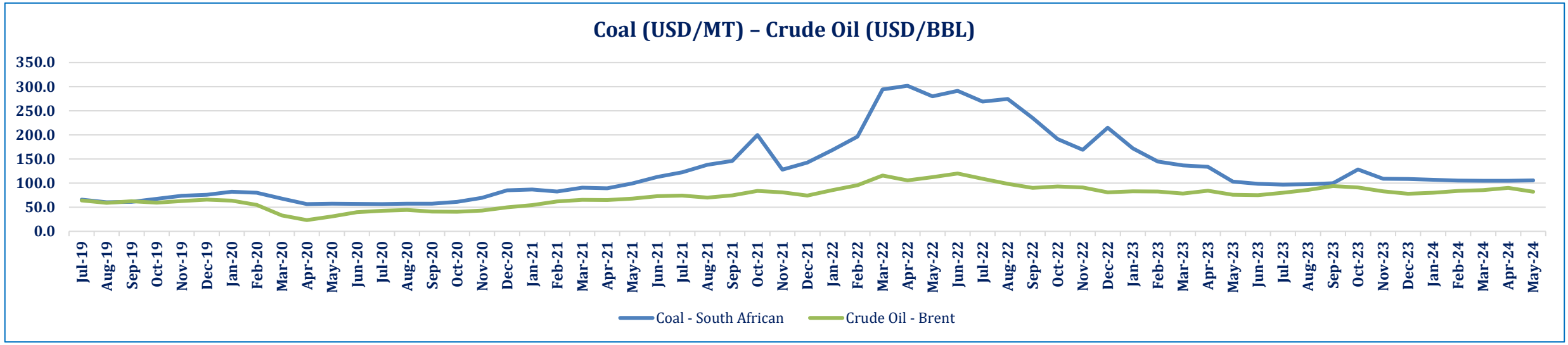
Business Risk | Pricing

- International crude oil plays a vital role in determining global coal price as coal prices have historically been influenced by supply and demand disruptions in the oil market. Rising concern about global warming, negativity towards fossil fuels and a shift towards decarbonization as well as Russia-Ukraine war led to an increase in prices of both coal and as well as oil in CY22.
- Coal prices in CY22 soared to record levels (Apr'22: USD~302.0/MT; Mar'22: USD~294.4/MT), driven sharply by rising gas prices resulting from Russia and Ukraine conflict. However, increased coal supply and reduced gas prices caused coal prices to sharply decline by End-CY22 (Nov'22: USD~169.1/MT). Furthermore, this downward trend in coal prices continued during 9MCY23 amid diminished economic outlooks, low gas prices, resurgence in nuclear energy, and abundant power generation from renewable sources. However, in Oct'23 coal prices increased to USD~128.4/MT (Sep'23: USD~99.9/MT) due to strong demand from the Asian market. The period following the monsoon season typically sees increased demand, which strengthens coal prices.
- In 5MCY24, coal prices declined when compared with CY23 average prices owing to low economic activity and lower gas prices, which have dampened demand for coal in the power sector. Increased supply and higher adoption of renewable energy sources have further contributed to the downturn in global coal prices. Global coal prices as of May'24 stand at USD~105.6/MT, while Brent Crude Oil prices stand at USD~82.0/bbl.



Note: *For coal; coal price of South African Coal has been taken. For crude oil; oil price of Brent crude have been compiled.*

Source: WB

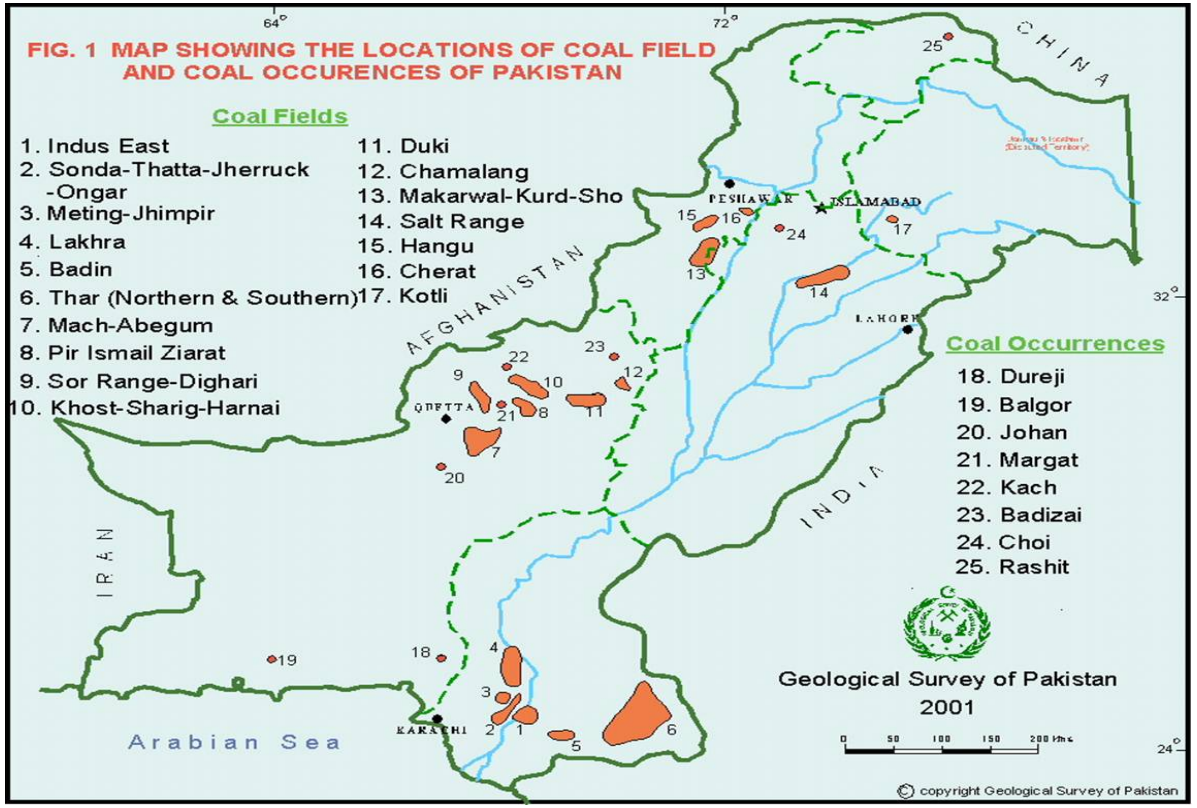
Coal Mining

Coal Mining & Trading

Coal Mining | Overview

- Pakistan possesses substantial coal reserves located in the provinces of Sindh, Punjab, and Baluchistan. These reserves stand at ~186bln MT as of FY24. Thar coalfield spans more than ~9,000 sq. kms in the Thar Desert of Tharparkar district, with ~175.0bln MT coal reserves (includes proven, hypothetical, inferred and indicated reserves). Sindh Engro Coal Mining Company (SECMC) holds 100% ownership of Thar coalfields.
- Sindh Engro Coal Mining Company (SECMC) stands as Pakistan's foremost coal producer, managing the country's initial open-pit lignite mine in Block II of the Tharparkar region within Sindh province. Operating at a current annual mining capacity of 7.6mln MT, is dedicated to supplying high-quality lignite coal to power producers across Pakistan.

Coalfields | Overview (FY24)		
Sr.	**Province & Mines**	**Reserves (bln MT)**
1	**Sindh:** Lakhra, Sonda, Thatta, Jherruck, Thar, Haji Coal and others	184.6
2	**Punjab:** Eastern Salt Range, Central Salt Range, Makerwal	0.2
3	**Balochistan:** Khost-Sharig-Harnai,Sor Range/Degari, Duki, Mach- Kingri, Musakhel Abegum, Pir Ismail Ziarat,Chamalong	0.2
4	**KPK**	0.1
5	**AJK**	0.8
	Total	**186.0**



Note: *Data based on 1 PACRA-rated client.*

Source: SECMC

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Coal Mining | Thar Coalfield Blocks

Thar Coalfields Reserves | Operational Blocks | mln MT					
Block	**Block Name**	**Measured**	**Indicated**	**Inferred**	**Total**
I	**Sinhar Vikian Varvai**	620.4	1,918.1	1,028.4	3,566.9
III	**Saleh Jo Tar**	225.9	938.9	288.3	1,453.2
IV	**Sonalba**	684.1	1,711.3	176.1	2,571.5
VII	**Dhaklo**	572.1	1,514.5	89.2	2,175.8
VIII	**Khario Ghulam Shah**	882.8	2,131.4	21.7	3,035.9
IX	**Katan**	661.8	2,048.0	152.4	2,862.3
X	**Mithrio Sumra**	609.1	1,920.6	418.2	2,947.8
XI	**Baprana**	315.6	1,014.3	282.2	1,612.1
XII	**Janib Ali Shahjo Tar**	510.0	1,755.9	79.7	2,345.6

Source: GSP, Thar Coal Energy Board – Govt of Sindh

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Coal Mining | Business Risk

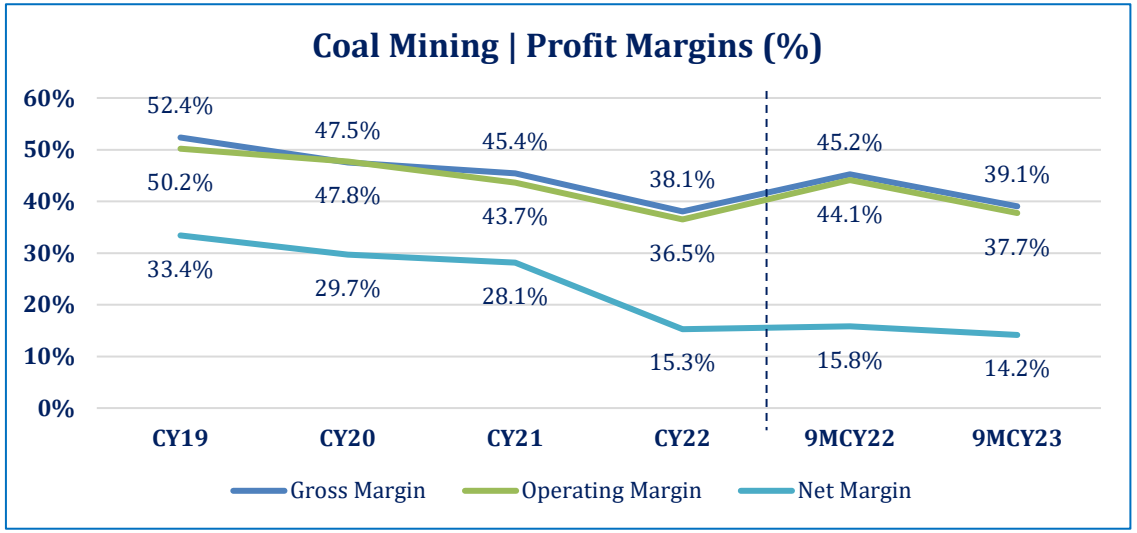
- The primary operation of local mining companies comprises mining of coal. Sindh Engro Coal Mining Company (SECMC) is the largest coal mining player in the segment and provides lignite quality coal to power producers in Pakistan.

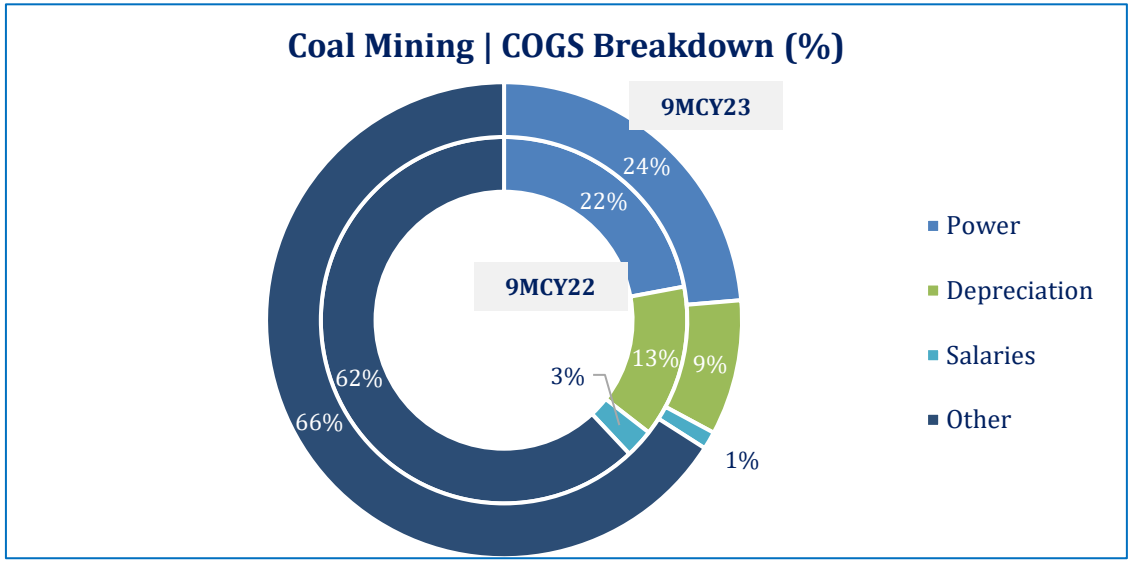
- Segment operations are planned in different phases (blocks), due to which operations and management (contractors) cost is high. Depreciation in total cost accounted for ~9.2% during 9MCY23 (9MCY22: ~13.4%), since coal mining is capital-intensive in nature (however, smaller players have labor-intensive operations). Power accounted for the highest proportion in the cost of sales (~23.7% in 9MCY23, 9MCY22: ~22.1%).

- During 9MCY23, the segment's gross margin declined to ~39.1% (9MCY22: ~45.2%) due to ~134.4% higher cost of sales while revenue increased by ~110.7% YoY.

- In 9MCY23, net profit significantly increased by ~88.4% YoY to clock in at PKR~11,009mln, owing to ~110.7% increase in sales despite high cost of financing for the mining segment.

- During 9MCY23, Power constituted ~24.0% of segment's total costs (9MCY22: ~22.0%). Other costs include operating and maintenance contractor costs, accrued royalty, travelling, security and site expenses among others.





Note: *Data based on 1 PACRA-rated client.*

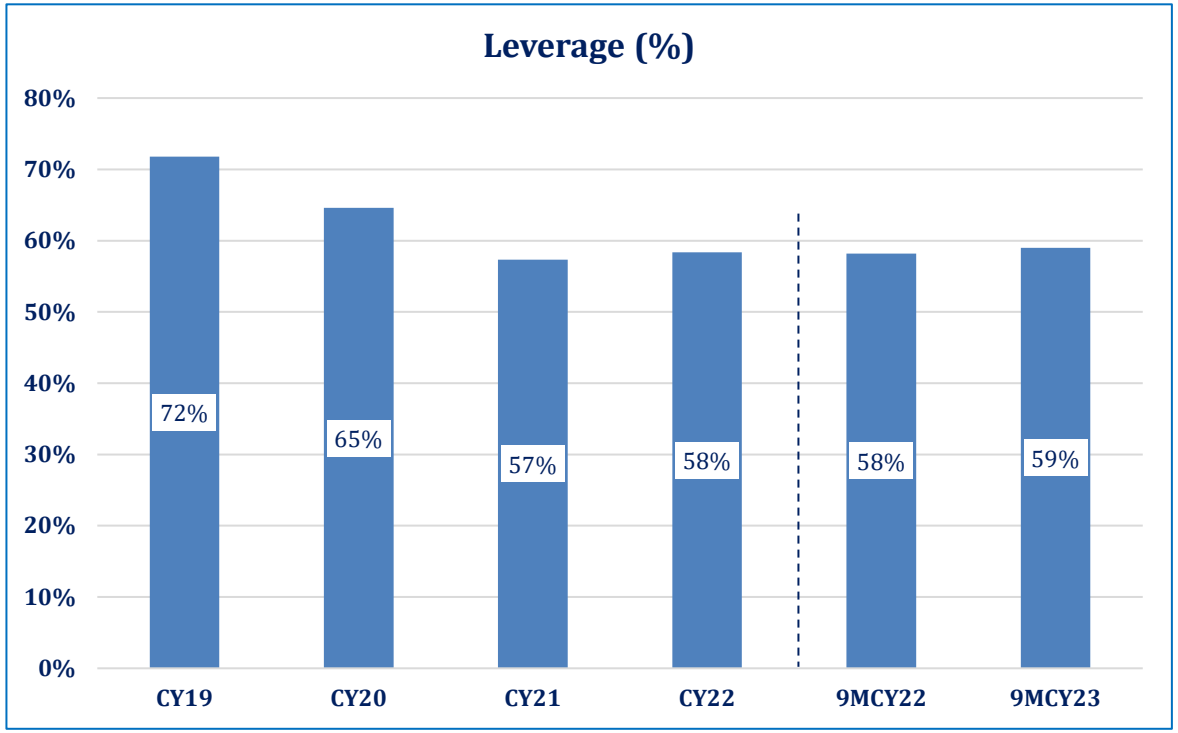
Source: PACRA Database

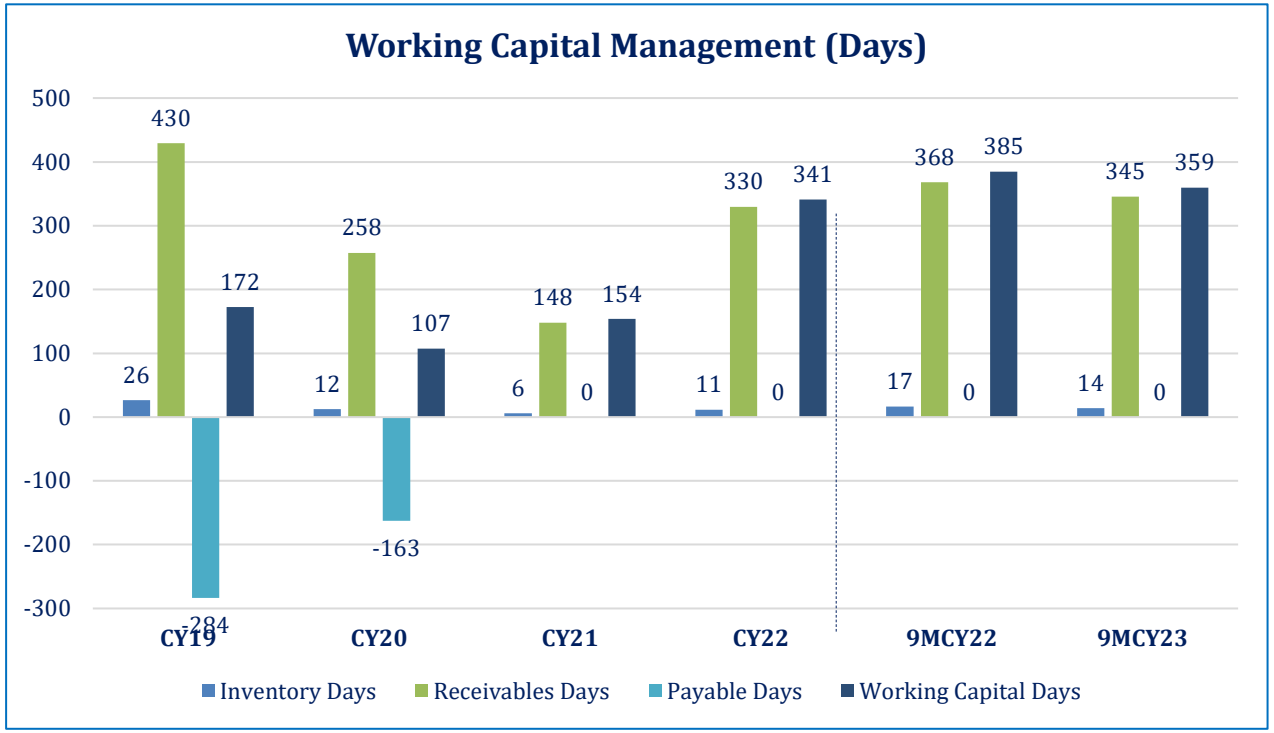
Coal Mining & Trading

Financial Risk | Mining

- The working capital cycle improved by ~26 days from~385 days in 9MCY22 to ~359 days in 9MCY23 owing to decrease in receivable days.

- Leverage ratio has remained range bound (~57-59.0%) since CY21. However, the sector still remains highly-leveraged at ~59.0% in 9MCY23. Interest coverage deteriorated from ~4x in CY22 to ~2.3x in 9MCY23 owing to high interest rates during this period (~22.0%). Overall, the financial risk of the segment remains high. However, with interest rates reduced by ~250bps w.e.f June 10,2024, it is expected to reduce the finance costs.





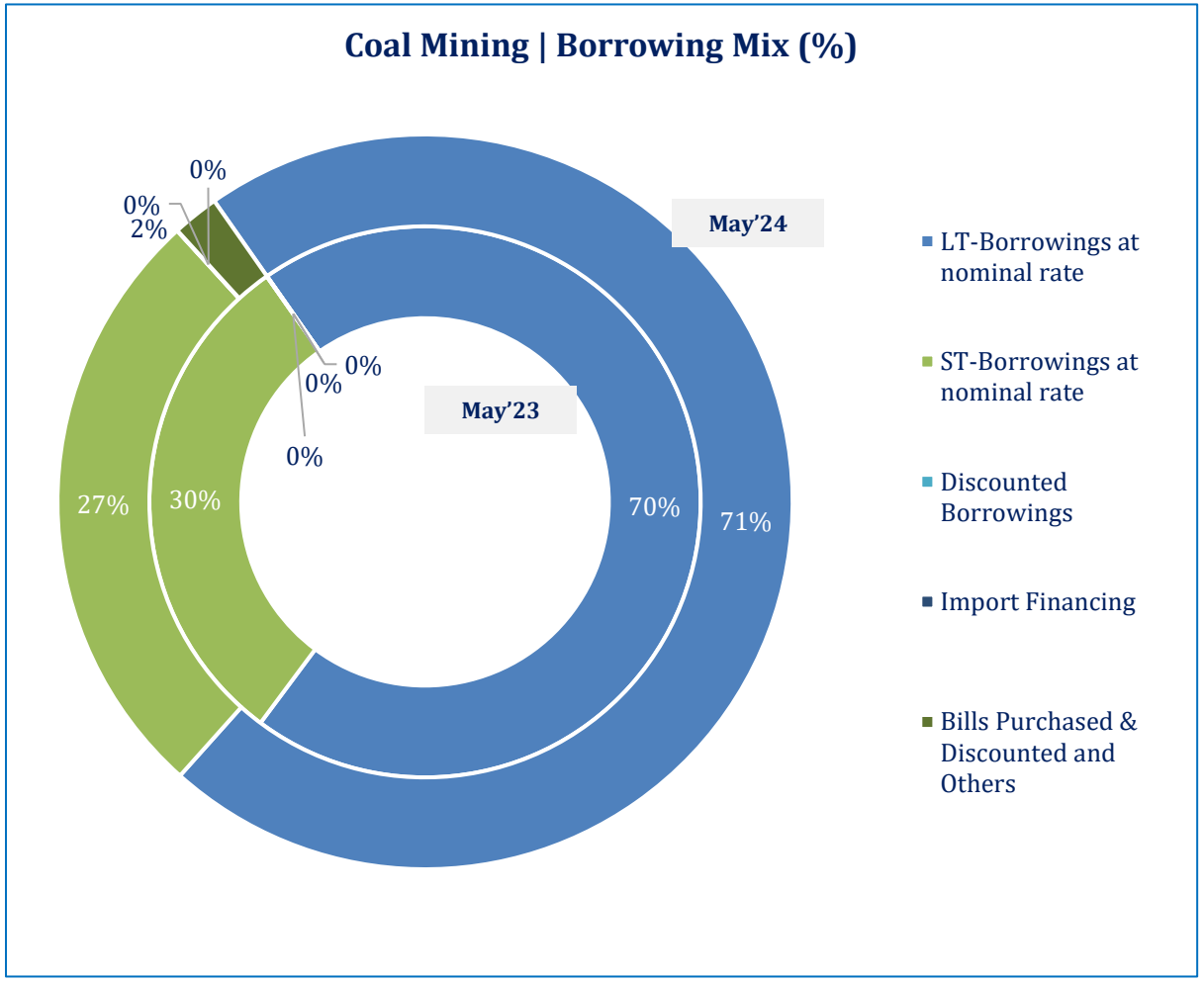
Note: *Data based on 1 PACRA-rated client.*

Source: PACRA Database

Coal Mining & Trading

Financial Risk | Mining

- Total borrowings of the segment, as at End-May'24, stood at PKR~48.0bln (End-May'23: PKR~52.9bln), down ~10.2% YoY.
- Long-term borrowings at normal rates formed ~71.0% of total borrowings during the period (End-May'23: ~70.0%) and stood at PKR~34.3bln (End-May'23: PKR~37.0bln), down~7.4% YoY.
- Short-term borrowings at normal rates, as at End-May'24, made up ~27.0% of total borrowings (End-May'23: ~30.0%) and decreased by ~19.7% YoY to clock in at PKR~12.8ln (End-May'23: PKR~15.9bln).
- Meanwhile, discounted borrowings comprising LTFF and EFS represented ~0.02% of total borrowings and stood at PKR~8.0mln as at End-May'24 (End-May'23: PKR~8.0mln).



***Note**: Data pertains to SBP Classification of "Mining of coal and lignite".*

Source: SBP

Terminal Handling

Coal Mining & Trading

Terminal | Overview

- Pakistan International Bulk Terminal Limited (PIBTL) undertakes the construction, development, operation, and management of a terminal for coal, clinker, and cement at Port Muhammad Bin Qasim under a build, operate, and transfer contract. PIBTL is revolutionizing Pakistan's handling of bulk cargo by investing in a cutting-edge, fully mechanized dirty bulk cargo terminal at Port Qasim. Port Qasim is situated 50kms from Karachi along the Arabian Sea coastline. It features a 45km navigation channel that ensures safe and efficient vessel navigation. Port Qasim manages ~40% of Pakistan's cargo.

- PIBTL commitment includes applying innovative technologies and adhering to the highest environmental standards for coal handling, in line with the World Bank Group Environmental Health & Safety (EHS) guidelines. PIBT leads the market as the premier facility for bulk cargo handling in Pakistan.

- The terminal has become an integral component of the nationwide coal supply chain, stimulating related industries near the seaport, such as coal-fired power plants and cement factories. By modernizing the country's port infrastructure, the terminal reduces the cost of importing commodities, ensuring faster and more cost-effective cargo transport. PIBTL has established Pakistan's inaugural Coal, Clinker, and Cement Terminal at Port Qasim, with a total investment of USD~305mln.

- Karachi Port Trust (KPT) serves as a trans-shipment hub for coal used in Pakistan's power plants.

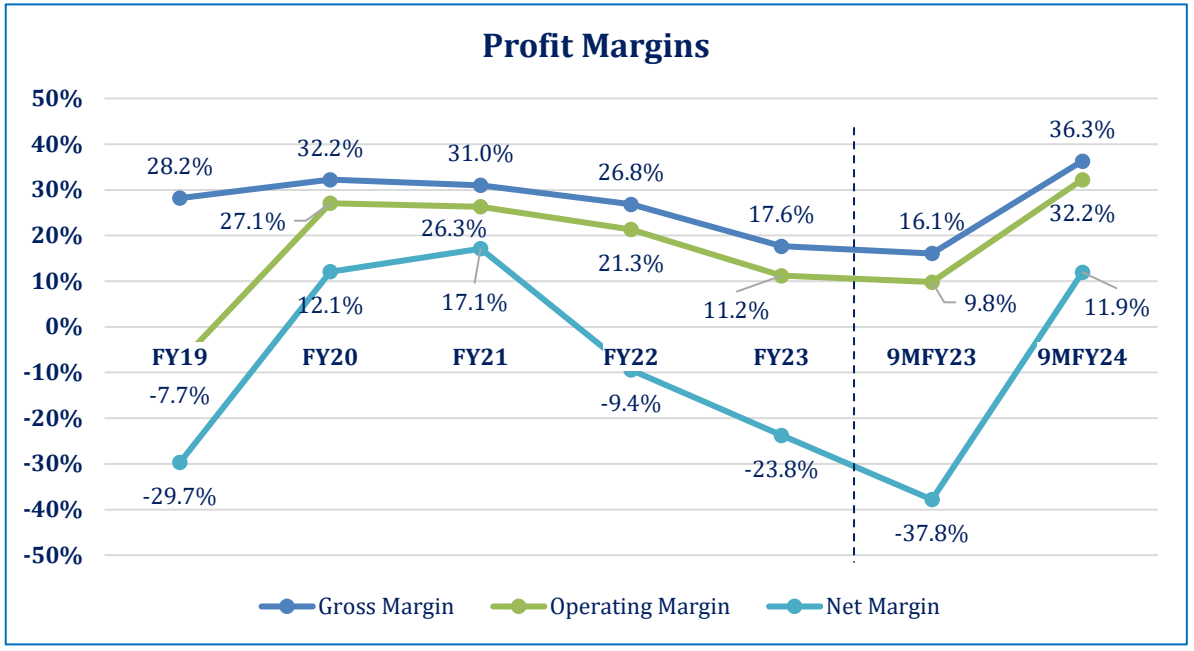
Note: *Data based on 1 PACRA rated client. Trans-shipment: The process of shipping goods or containers to an intermediate destination before forwarding them to their final destination.*

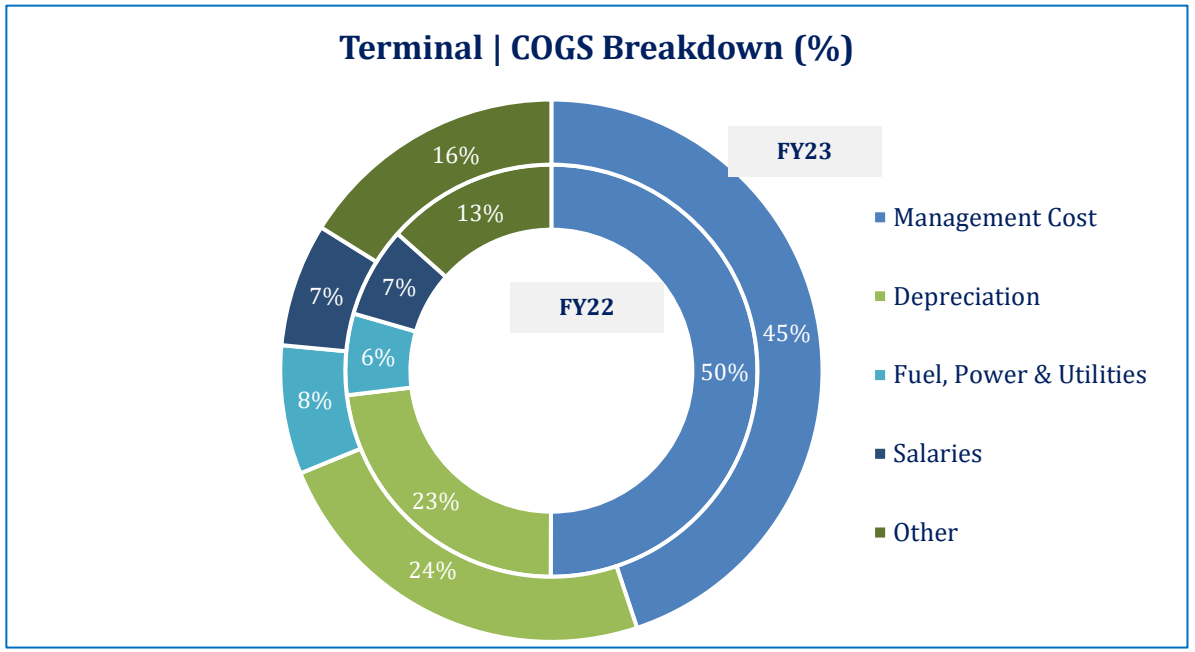
Source: PIBTL

Coal Mining & Trading

Business Risk | Terminal Handling

- The primary operations of the terminal segment comprise handling of imported coal at the port. Dominated by a single player in the segment, competitors' presence is non-existent.
- With respect to the segment's margins, gross profit margins declined from ~26.8% in FY22 to ~17.6% in FY23, however, subsequently recovered to ~36.3% during 9MFY24 owing to ~70.8% YoY increase in revenue (SPLY: ~16.1% YoY growth). Similarly, during FY23, operating margin declined to ~11.2% from ~21.3% in FY22 but rose to ~32.2% during 9MFY24 (SPLY ~9.8%), due to ~462.5% higher operating profit during this period. Net margins improved considerably from~-37.8% in 9MFY23 to ~11.9% in 9MFY24 due to ~153.9% higher net profit. Net profits were in the negative zone in both FY22 and FY23.
- Management cost constitutes major portion of the terminal operations. In FY23, management costs were ~45.0% of the total cost of sales (FY22: ~50.0%) , followed by depreciation ~24.0% (FY22: ~23.0%), 'fuel power, & utilities' and salaries, with ~8.0% and ~7% shares, respectively.





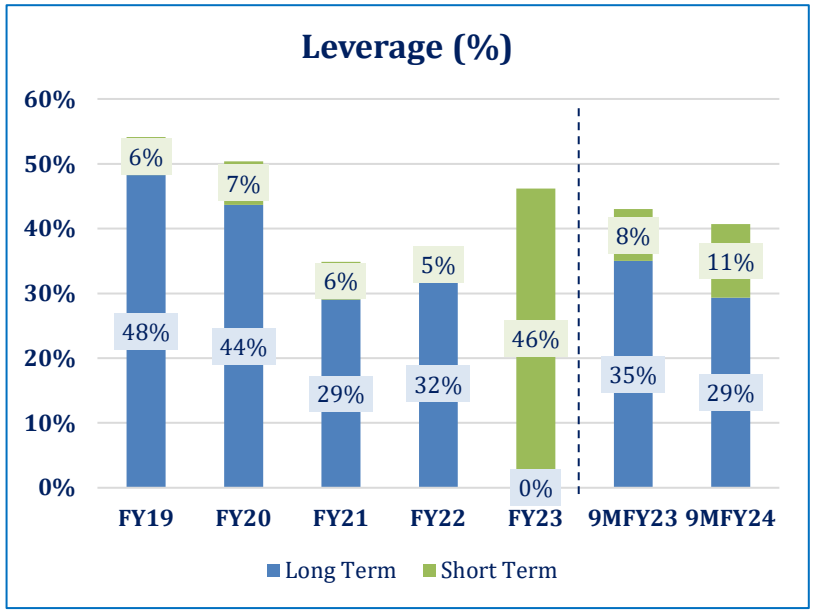
Note: *Data based on 1 PACRA rated client. Trans-shipment: The process of shipping goods or containers to an intermediate destination before forwarding them to their final destination.*

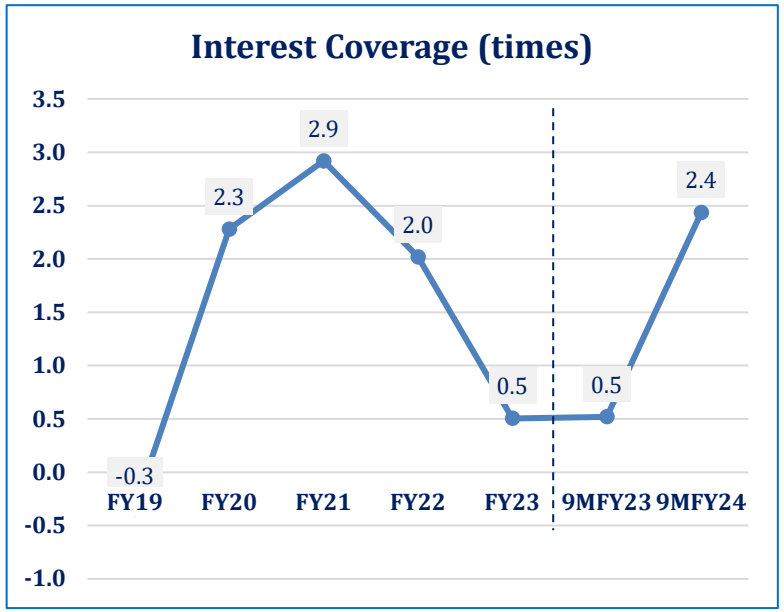
Source: PACRA Database

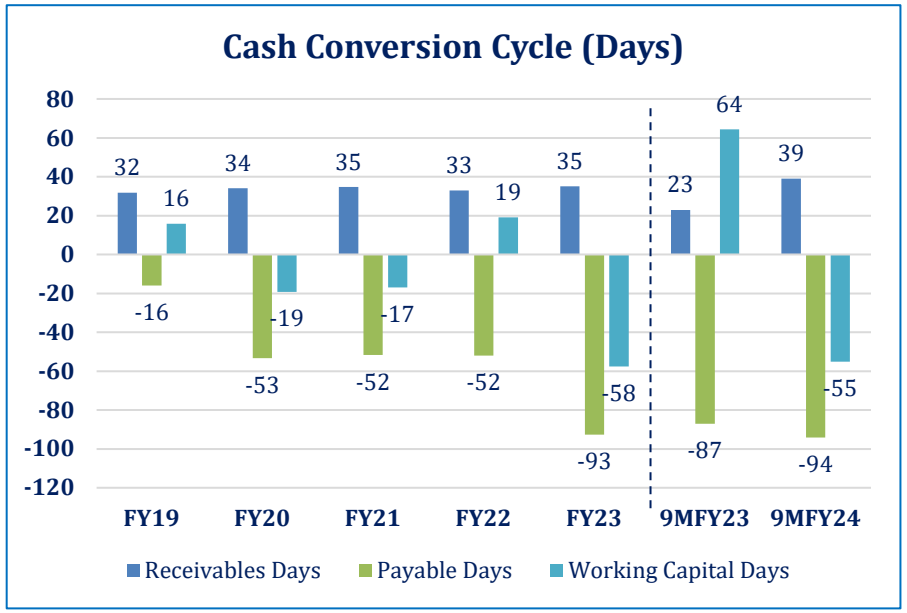
Coal Mining & Trading

Financial Risk | Terminal Handling

- The segment's leverage ratio increased to ~46.0% in FY23 (FY22: ~37.0%). This resulted from ~27.9% YoY higher short-term borrowings (STBs), likely owing to working capital needs of the segment. In line with higher STBs, along with ~54.7% YoY lower operating profits, interest coverage declined to ~0.5x in FY23 (SPLY: ~2.0x).
- In 9MFY24, the total borrowing mix comprised ~29.0% long-term (9MFY23: ~35.0%) and ~11.0% (SPLY: ~8.0%) short-term borrowings. During FY23, interest coverage deteriorated to 0.5x (FY22: ~2.0) on the back of ~54.7% lower operating profits and ~81.6% higher finance costs amid SBP hawkish interest rates regime (~22.0%).
- There is only one commercial coal terminal in the country which started its operations in FY17. Working capital days were recorded at ~-58 days during FY23. However, working capital stood at ~-55 days during 9MFY24 (9MFY23: ~64 days), owing to increase in the receivable days and payable days by ~16 days and ~7 days, respectively. The terminal segment does not record inventory of its own.







***Note**: Data based on 1 PACRA-rated client.*

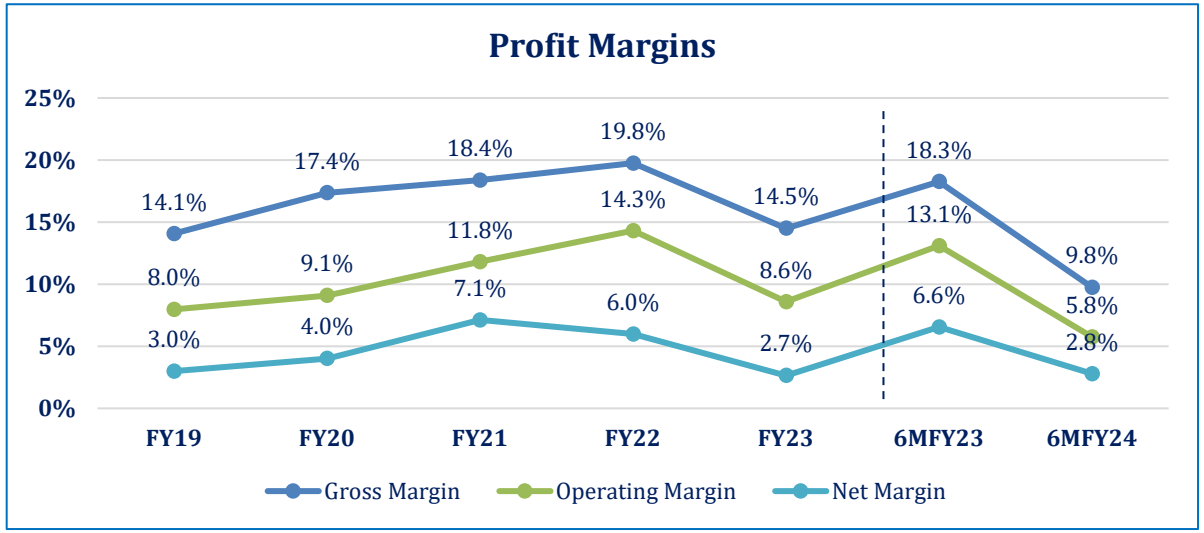
Source: PACRA Database

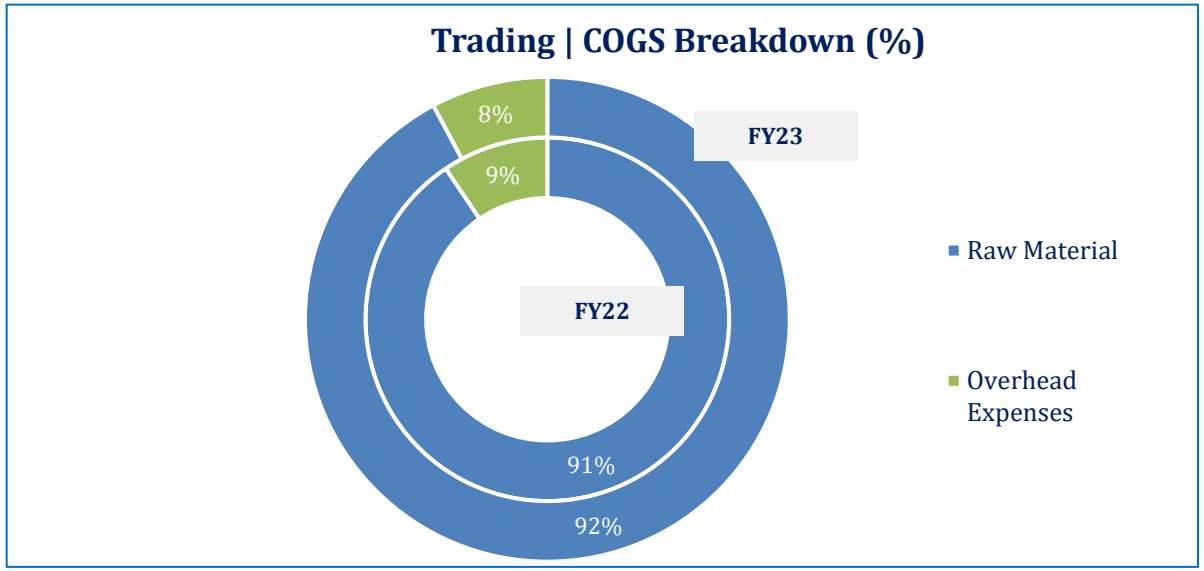
Trading

Coal Mining & Trading

Business Risk | Trading

- The trading segment engages in the activity of storage and supplying of coal to various sectors of the economy, mainly cement, steel and textile.
- Due to the nature of trading operations, raw material makes up the largest portion to its cost of sales, followed by transportation. Imported coal is exposed to exchange rate risk and international coal price which bear the risk loss on inventory if prices declined and vice versa.
- Trading segment operates with tight margins due to competition from large number of players. Due to the presence of competitors and lower barriers to entry, increase in cost of operation cannot be fully passed on to consumers at times.
- The segment's margins had been steadily increasing till FY22 owing to the overall increase in coal consumption leading to higher volumes over the last five years. However, due to lower coal demand, revenue and thus margins declined during FY23 and subsequently during 6MFY24.
- Gross margin during FY23 declined to ~14.5% (FY22: ~19.8%) and further declined to ~9.8% during 6MFY24. Whereas, net profit margin fell to ~2.7% (FY22: ~6.0%) and clocked in at ~2.8% in 6MFY24.





***Note**: Data based on PACRA-rated client. Overhead expenses include: . Overhead expenses include: Excise & Custom Duty, Port & PIBTL handling expenses, Insurance , clearing expenses, sampling and inspection expenses*

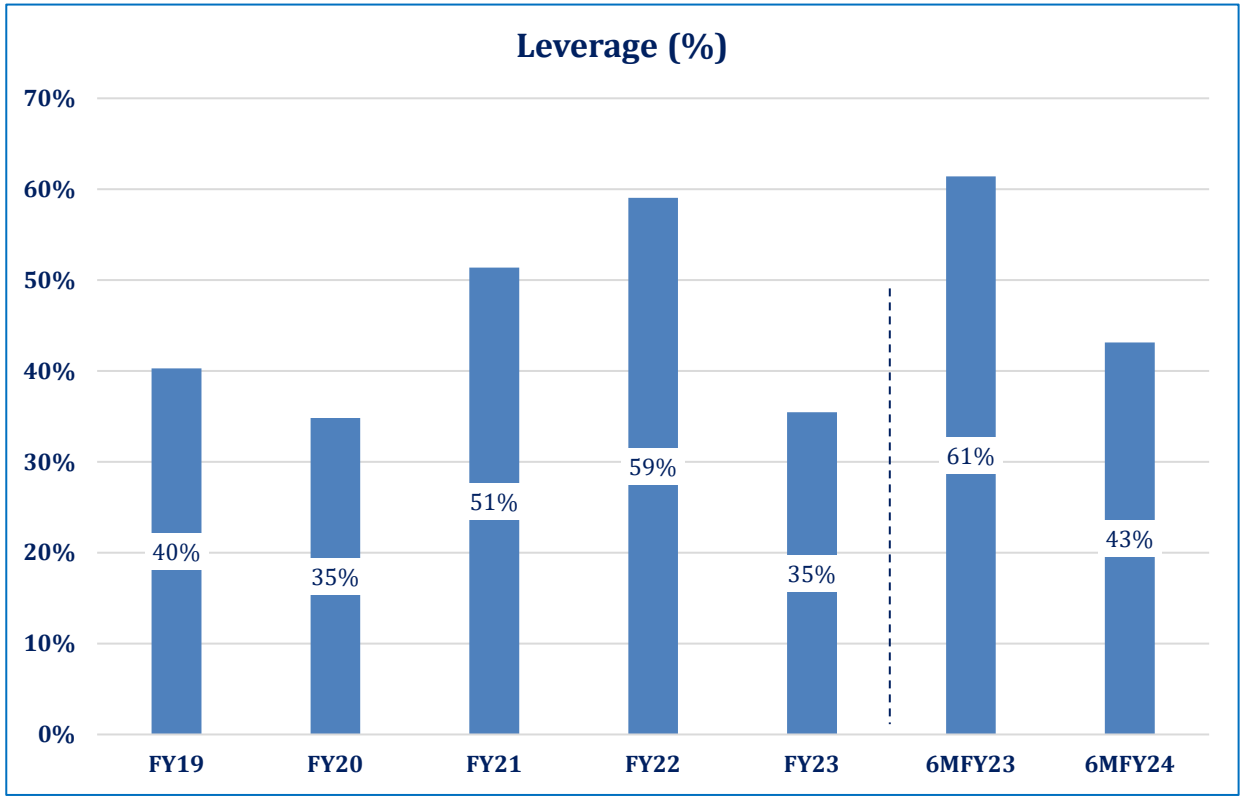
Source: PACRA Database

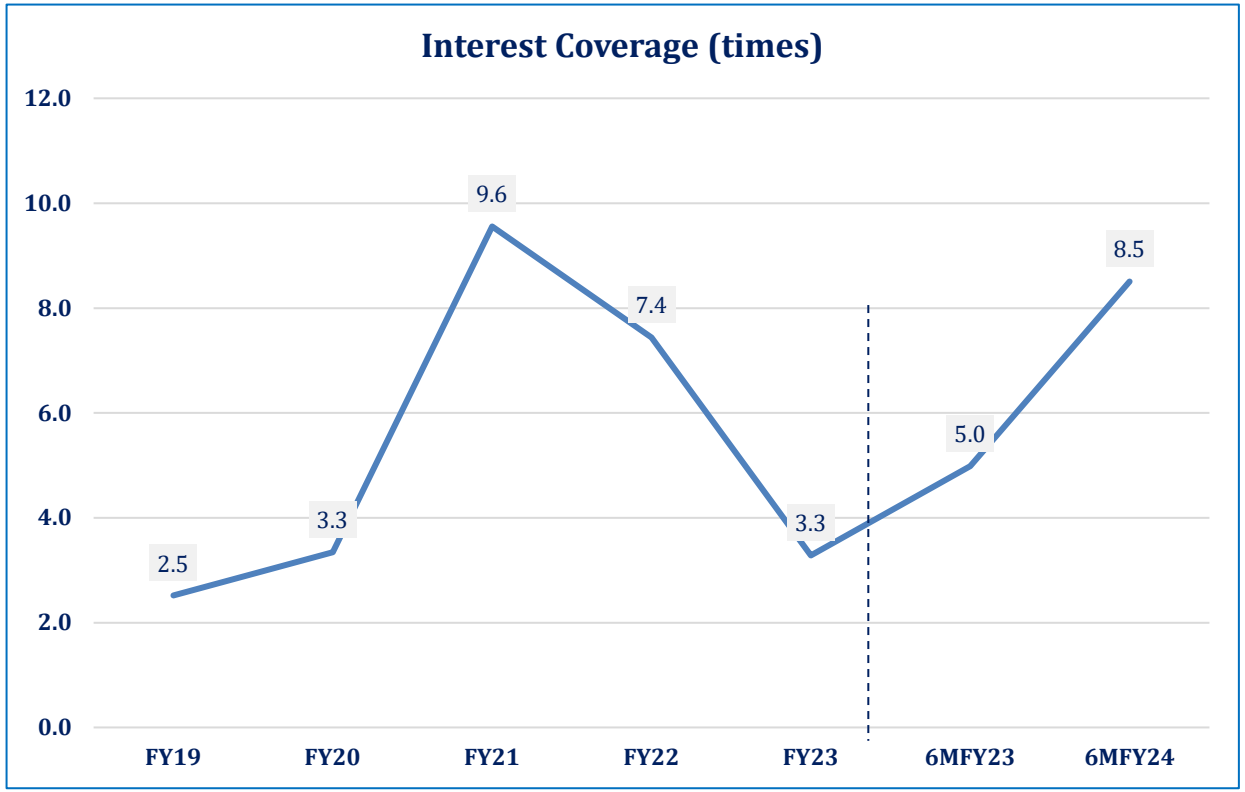
Coal Mining & Trading

Financial Risk | Trading

- Leverage ratio declined from ~59.0% to ~35.0% during FY23 but increased to ~43.0% during 6MFY24. Despite this increase in leverage, the trading segment of the coal sector is moderately leveraged.

- Meanwhile, interest coverage deteriorated from ~7.4x in FY22 to ~3.3 in FY23 but improved to ~8.5x during 6MFY24.





***Note**: Data based on PACRA-rated client.*

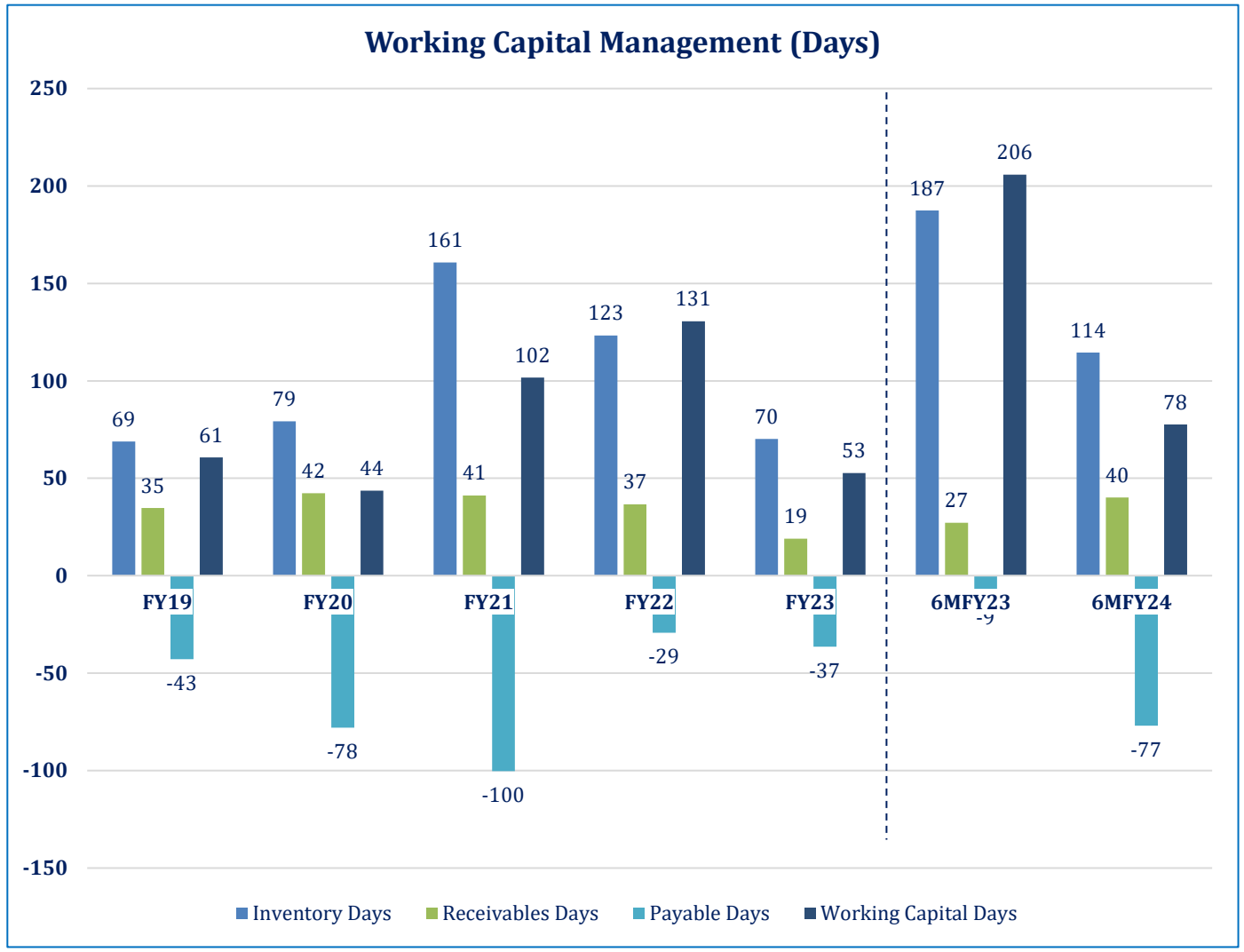
Source: PACRA Database

Coal Mining & Trading

Financial Risk | Trading

- The segment's working capital cycle improved from ~131 days in FY22 to ~53 days in FY23 owing majorly to a decline in both inventory days and receivable days by ~53 days and 18 days, respectively.

- However, the working capital cycle deteriorated by ~25 days during 6MFY24 when compared with FY23 owing to the same reasons as mentioned above.



***Note**: Data based on PACRA-rated client.*

Source: PACRA Database

Coal Mining & Trading

Duty Structure

- The duty structure is designed to keep the cost of coal low mainly to support power and cement sector - the two main coal consuming sectors.

HSD Code	Description	Custom Duty		Sales Tax		Income Tax		Additional Custom Duty		Regular Duty	
		FY24	FY25	FY24	FY25	FY24	FY25	FY24	FY25	FY24	FY25
2701.1200	Bituminous Coal	3%	3%	18%	18%	12%	12%	2%	2%	0%	0%
2701.1900	Other Coal	3%	3%	18%	18%	12%	12%	2%	2%	0%	0%
2704.0010	Coke of Coal	3%	3%	18%	18%	12%	12%	2%	2%	0%	0%

Source: FBR, Finance Bill

Coal Mining & Trading

Porters 5 Forces Model

- **Mining** | Low | Regulated and licensing.
- **Terminal** | Low| Huge investment and licensing.
- **Trading** | High | Less capital intensive.

- **Mining** | Low | Contract based customer base.
- **Terminal** | Low | PIBT only commercial purpose inbound terminal.
- **Trading** | High | Multiple coal suppliers in the country.

- **Mining** | Low | Homogenous source .
- **Terminal** |High| Risk of government policies to use local coal.
- **Trading** | Low | Homogenous source.

- **Mining** | Low | Mining contracts reduced uncertainty of supply
- **Terminal** | Low | PIBT only commercial purpose inbound terminal.
- **Trading** | High | Reliance on local and imported coal.

- **Mining** | Low | Small large scale of miners
- **Terminal** | Low | PIBT only commercial purpose inbound terminal.
- **Trading** | High | Multiple large and small scale trading companies.

PIBT : Pakistan International Bulk Terminal

Coal Mining & Trading

SWOT Analysis

- Low-cost skilled and unskilled labor
- Capital-intensive sector
- Good margins in periods of robust demand
- Demand potential
- PIBTL is the only bulk terminal

- Heavy reliance on imported coal
- Exposure to exchange rate volatility
- Low-quality local coal

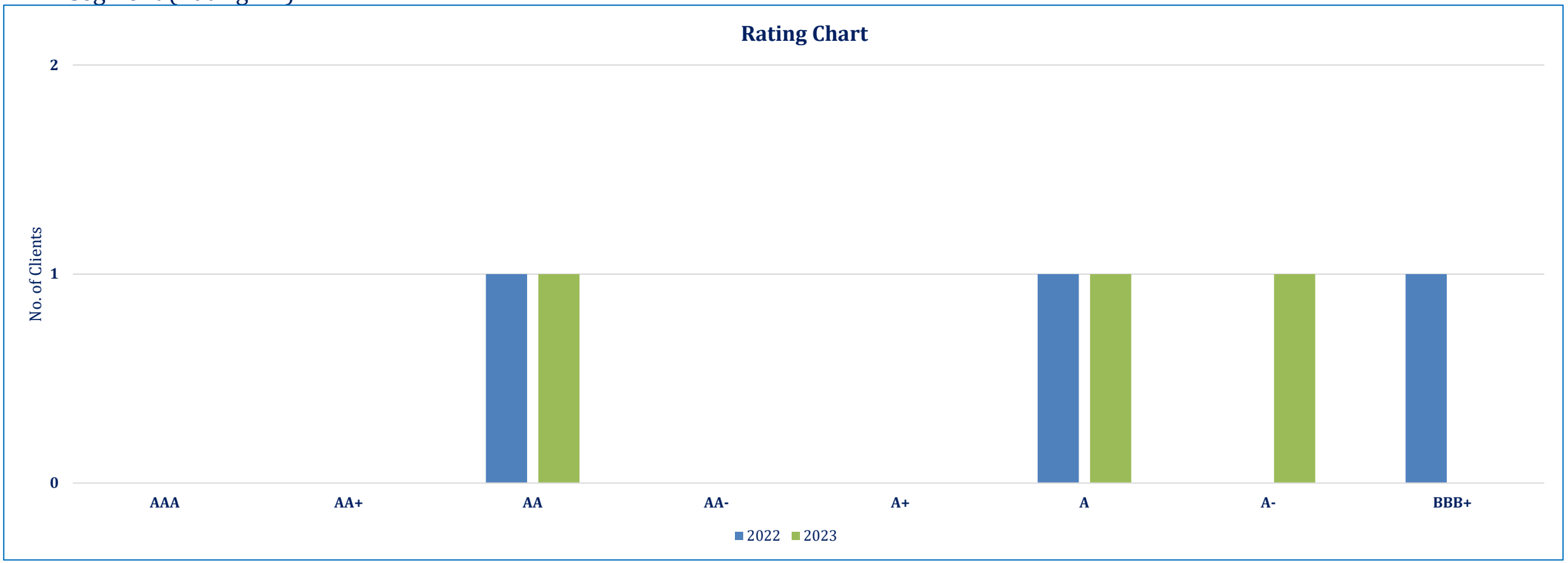
- Increasing freight rates
- Rising environmental concerns
- Inflow of Afghan coal
- Tight supply due to conflict in Eastern Europe

- Coal after power is mostly used in cement sector; cement companies have announced expansionary projects.
- New thermal power plants
- Growing dependence on thermal energy
- Increase in prices of other energy commodities.

Coal Mining & Trading

Rating Curve

- PACRA rates three players of Coal Mining & Trading sector. Rating bandwidth is from AA to BBB+. PACRA rates 3 clients in the sector, one client in trading segment (Rating: AA), one client in the terminal segment (Rating: A) and one client in the trading segment (Rating: A-).



Source: PACRA Database

Coal Mining & Trading

Outlook: Stable

Macro Overview

- In FY23, Pakistan's GDP (nominal) stood at PKR~83.9trn (FY22: PKR~66.7trn) and contracted, in real terms, by ~0.17% YoY (FY22: ~6.3% growth). However, country's nominal GDP during FY24 is forecast to clock in at PKR~106.0trn, with ~2.4% YoY growth in real terms, depicting improved economic activity. Moreover, the SBP estimates GDP growth at ~2-3% for FY24, while IMF's forecast for the same period stands at ~2.0%. In 9MFY24, Pakistan's GDP (nominal) stood at PKR~73.8trn, an uptick of ~2.04% YoY (real terms).
- Large Scale Manufacturing (LSM) in Pakistan is essential for the economic growth considering its linkages with other sectors, as it represented ~75.6% value of manufacturing activities in FY23. The country's LSM activity as depicted by the QIM showed a contraction (~10.3%) during FY23 unlike FY22 that showed a robust, performance and increased by ~11.5%. However, 10MFY24 QIM increased marginally by ~0.5% YoY reflecting signs of recovery in industrial sector.

Mining

- Segment operations are planned in different phases (blocks), due to which operations and management (contractors) cost is high. Depreciation in total cost accounted for ~9.2% during 9MCY23 (9MCY22: ~13.4%), since coal mining is capital-intensive in nature (however, smaller players have labor-intensive operations).

- Power accounted for the highest proportion in the cost of sales (~23.7% in 9MCY23, 9MCY22: ~22.1%). During 9MCY23, the segment's gross margin declined to ~39.1% (9MCY22: ~45.2%) due to ~134.4% higher cost of sales while revenue increased by ~110.7% YoY.

Coal Mining & Trading

Outlook: Stable

Terminal

- With respect to the segment's margins, gross profit margins declined from ~26.8% in FY22 to ~17.6% in FY23, however, subsequently recovered to ~36.3% during 9MFY24 owing to ~70.8% YoY increase in revenue (SPLY: ~16.1% YoY growth). Similarly, during FY23, operating margin declined to ~11.2% from ~21.3% in FY22 but rose to ~32.2% during 9MFY24 (SPLY ~9.8%), due to ~462.5% higher operating profit during this period. Net margins improved considerably from~-37.8% in 9MFY23 to ~11.9% in 9MFY24 due to ~153.9% higher net profit. Net profits were in the negative zone in both FY22 and FY23.

Trading

- The segment's margins had been steadily increasing till FY22 owing to the overall increase in coal consumption leading to higher volumes over the last five years. However, due to lower coal demand, revenue and thus margins declined during FY23 and subsequently during 6MFY24. Gross margin during FY23 declined to ~14.5% (FY22: ~19.8%) and further declined to ~9.8% during 6MFY24. Whereas, net profit margin fell to ~2.7% (FY22: ~6.0%) and clocked in at ~2.8% in 6MFY24.

Moving Forward

Due to governmental preference for utilizing domestic coal resources, demand for coal in both power generation and the industrial sector is expected to nearly double by CY30. Over the period from FY24 to FY30, coal is projected to ascend to the Pakistan's second-largest primary energy source to meet overall energy demands. Coal usage is anticipated to reach ~50mln MT in FY30, up from ~23.9mln MT in FY23.

Coal Mining & Trading

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