

INITIATING COVERAGE

PCBL

**Improved market dynamics and product mix
to accelerate growth ahead...**

10 October 2022

Sailesh Raja
Research Analyst
sailesh.raja@bksec.com
+91-44-6122 7009

Radha Agarwalla
Research Analyst
radharani.agarwalla@bksec.com
+91-33-6651 3208

Initiating Coverage | Auto Ancillary | 10 October 2022

BUY**Share Data**

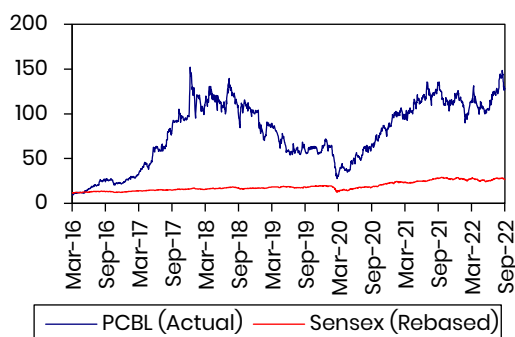
| | |
|----------------------------------|-----------------------------|
| Market Cap. | Rs 50.9 bn (US\$ 615 mn) |
| Price | Rs 135 |
| Target Price | Rs 251 |
| BSE Sensex | 58,191 |
| Reuters | PCBL.BO |
| Bloomberg | PCBL IN |
| 6M avg. daily turnover (US\$ mn) | 2.5 |
| 52-week High/Low (Rs) | 154/89 |
| Issued Shares | 377 mn |

Valuation Ratios

| Year to 31 Mar | FY23E | FY24E | FY25E |
|--------------------|-------|-------|-------|
| EPS (Rs) | 12.1 | 14.0 | 16.8 |
| +/- (%) | 7.5 | 15.6 | 19.4 |
| PER (x) | 11.1 | 9.6 | 8.1 |
| PBV (x) | 1.7 | 1.5 | 1.4 |
| Dividend/Yield (%) | 3.0 | 3.0 | 3.7 |
| EV/Sales (x) | 1.1 | 1.1 | 0.9 |
| EV/EBITDA (x) | 7.9 | 6.6 | 5.5 |

Shareholding Pattern (%)

| | |
|-----------------|----|
| Promoters | 51 |
| FII's | 9 |
| MFs | 2 |
| BFSI's | 3 |
| Public & Others | 34 |

Relative performance

PCBL, the largest carbon black player in India, is successfully transforming its business model to reduce earnings cyclicality. With incremental capacity operationalising in six months (increasing its effective capacity from ~4.8L mtpa to ~6.0L mtpa), the company is well positioned to capitalise on the favourable market dynamics. This will aid in reporting 13.8% volume CAGR over FY23-25E. We initiate coverage on PCBL with a Buy rating, the stock can deliver ~35.0% CAGR return over the next two years. Key risks: Slowdown in tyre after-market segment and drop in feedstock prices in China.

Industry tailwinds to aid in filling newer capacities faster: PCBL is witnessing significant industry tailwinds due to Chinese government's aggressive environmental protection programme, global structural realignment of tyre manufacturing industry from China to rest of the world and also rising cost of Chinese feedstock – carbon black oil (CBO). This is expected to drive PCBL's volume growth and aid in filling the new capacities at faster pace. We expect volume CAGR of 9.5% over FY22-25E.

Increase in VAP mix and process yield will lead to expansion in return ratios: Through leveraging its R&D capabilities, PCBL is set to reduce the variability in its operating profit by increasing share of Value-Added Product (VAP) mix – Specialty Carbon Black (SCB) and improving its process yields. VAP EBITDA mix is expected to improve from 17.5% in FY22 to 22.2% in FY25E. This will lead to an improvement in post-tax net RoCE by 170 bps to 15.5% in FY25E (pre-tax RoCE will improve by 250 bps to 19.5%).

Why should the stock re-rate?: PCBL is no longer a pure commodity player, implied by reducing correlation between its operating performance and crude oil prices. However, we believe, the stock valuation of 9.6x/8.1x FY24/25E appears to be at a commodity valuation, considering the company achieving 17.0-18.0% RoE profile and thus fails to capture the structural changes in the industry and stability in the operating performance achieved by the company. 1) Faster ramp-up of expanded capacities and 2) stable operating performance during prevailing volatility in the crude prices due to focus on higher VAP mix and improving production yield, will be key triggers for valuation re-rating. **We initiate coverage on PCBL with a Buy rating on the stock with a target price of Rs 251 (based on 15.0x FY25E). On two-year perspective, we believe the stock can deliver ~35.0% CAGR return.**

Summary financial information (FY22-25E)

Benefit of newer capacities is expected to effectively come from FY24 onwards

Volume CAGR from FY23-25E is expected to be at 13.8%

Post-tax RoCE is expected to improve by 170 bps to 15.5% by FY25E

| (Rs mn) | Mar 22 | Mar 23E | Mar 24E | Mar 25E | CAGR (%) |
|------------------------------|---------|---------|---------|---------|----------|
| Total capacity (MT)* | 603,000 | 770,000 | 790,000 | 790,000 | 9.4 |
| Effective capacity (MT) | 482,400 | 616,000 | 632,000 | 632,000 | 9.4 |
| Volumes (MT) | 454,187 | 463,501 | 525,501 | 600,501 | 9.8 |
| Revenue | 44,464 | 52,574 | 51,160 | 58,409 | 9.5 |
| EBITDA | 6,530 | 7,227 | 8,213 | 9,516 | 13.4 |
| EBITDA (Rs per tonne) | 14,376 | 15,591 | 15,628 | 15,846 | - |
| EPS (Rs) | 11.3 | 12.1 | 14.0 | 16.8 | 14.1 |
| Pre-tax RoCE (%) – incl. WC | 17.0 | 16.3 | 17.6 | 19.5 | - |
| Post-tax RoCE (%) – incl. WC | 13.8 | 13.1 | 14.1 | 15.5 | - |
| FCF/PAT (%) | (93) | 15 | 88 | 72 | - |

Source: B&K Research. **Note:** FCF calculation includes change in current investments.

*New capacities are expected to get commissioned by 4QFY23.

PCBL has performed better than tyre companies due to stability in earnings

| Particulars | PCBL | NOCIL | Rajratan | Apollo | MRF | JK Tyre | CEAT | Balkrishna |
|---|-------------|-------------|-------------|------------|------------|------------|------------|-------------|
| Current Market Price (Rs) | 135 | 253 | 1,196 | 279 | 81,833 | 166 | 1,572 | 1,884 |
| 52W High (Rs/share) | 154 | 321 | 1,409 | 303 | 93,855 | 198 | 1,788 | 2,639 |
| 52W Low (Rs/share) | 89 | 191 | 381 | 165 | 62,945 | 96 | 890 | 1,682 |
| % fall from 52W High | (12) | (21) | (15) | (8) | (13) | (16) | (12) | (29) |
| % rise from 52W Low | 52 | 32 | 214 | 69 | 30 | 72 | 77 | 12 |
| Stock price – 30 Sep. 2016 (Rs/share) | 27 | 71 | 50 | 221 | 50,873 | 145 | 1,183 | 507 |
| 6 years stock return (%) (2016-22) | 408 | 256 | 2,293 | 26 | 61 | 15 | 33 | 272 |
| 6 years CAGR Return – From beginning of structural changes in industry dynamics for PCBL (2016-22) (%) | 26.1 | 19.9 | 57.4 | 3.4 | 7.0 | 2.0 | 4.1 | 20.6 |

Source: B&K Research

Valuation matrix – PCBL is more stable when compared with tyre companies (ex-Balkrishna) but have valuations lower than tyre companies. PCBL is focused on reducing this volatility factor from medium to low.

Valuation matrix

| Particulars | PCBL | NOCIL | Rajratan | Apollo | MRF | JK Tyre | CEAT | Balkrishna |
|--|---------------|-------------|-------------|-------------|-------------|-------------|-------------|------------|
| Current Market Price (Rs) | 135 | 253 | 1,196 | 279 | 81,833 | 166 | 1,572 | 1,884 |
| Market Cap (Rs mn) | 50,958 | 42,106 | 60,742 | 177,098 | 347,064 | 40,936 | 63,602 | 364,277 |
| Lowest PBT margin in last 6 years (FY17-22) (%) | 8.5 | 11.6 | 6.7 | 3.2 | 4.6 | (0.2) | 0.7 | 22.6 |
| Highest PBT margin in last 6 years (FY17-22) (%) | 15.1 | 26.6 | 17.1 | 10.1 | 14.1 | 6.4 | 6.8 | 28.0 |
| Volatility factor* | Medium | High | High | High | High | High | High | Low |
| RoE in FY22 (%) | 18.7 | 12.9 | 43.8 | 5.5 | 4.9 | 7.2 | 2.6 | 21.9 |
| RoCE in FY22 (%) | 17.0 | 17.6 | 38.8 | 7.0 | 7.1 | 9.3 | 6.4 | 23.8 |
| Adjusted PAT – TTM (Rs mn) | 4,483 | 1,950 | 1,370 | 7,010 | 6,270 | 1,920 | 560 | 14,120 |
| Market Cap to TTM PBT (x) | 9.1 | 15.8 | 35.8 | 19.1 | 40.9 | 14.1 | 90.9 | 19.0 |
| Valuation – EV/EBITDA (x) TTM | 8.0 | 13.3 | 31.5 | 8.8 | 18.0 | 8.5 | 12.3 | 20.0 |
| Valuation – PE (x) TTM | 11.3 | 21.6 | 44.3 | 25.2 | 55.3 | 20.4 | 112.6 | 25.8 |

Source: B&K Research. *Volatility factor is considered high when delta between highest and lowest PBT margin is more than 100.0%.

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Investment arguments

a) Significant industry tailwinds to aid in filling newer capacities faster:

Global structural realignment of tyre manufacturing industry from China to rest of the world

Tyre production in China has declined at a CAGR of 3.1% from CY14 to CY21, whereas tyre production in India has grown at a CAGR of ~3.2% in the similar period

- China is the world's largest producer and exporter of tyres. Currently, China represents the world's largest tyre market, accounting for ~42.0% of the total global demand. The two factors that have driven the tyre industry in China previously has been the rising demand for tyres globally and the cost advantage of Chinese tyres over global peers. However, after touching a high of 1.1 bn units production in CY14 and was growing at a CAGR of 9.6% from CY10 to CY14, the Chinese industry has witnessed a continuous decline in tyre production. Tyre production has declined in China at a CAGR of 3.1% from CY14 to CY21. This was primarily due to following reasons:

- **International trade barriers:** China is a leading exporter of tyres to USA and UK. However, anti-dumping duty imposed on Chinese tyres by USA in 2015, EU in 2018 and by India in 2020 have led to a decline in tyre production in China. This has boosted production of tyres in markets ex-China, of which India is a prime beneficiary.
- **China +1 strategy:** The pandemic has highlighted a need for proximate and diversified supply chains. Globally, there is a resistance in importing from China. India emerges as an alternate to China and is witnessing increased demand for the products. Tyre companies are increasingly partnering with those suppliers who will integrate their business strategy with its expansion plans. PCBL has remained proactive and flexible in adapting to customer's needs.
- **Rising cost of labour for Chinese manufacturers:** As of date, Chinese labour cost is ~2.0x of India. Rapid expansion of Chinese economy over the past decade has driven the wages up. This cost advantage is contributing to rise of manufacturing in India.

International trade barriers, China+1 strategy and rising cost of labour for Chinese manufacturers is leading to better tyre production volume in India

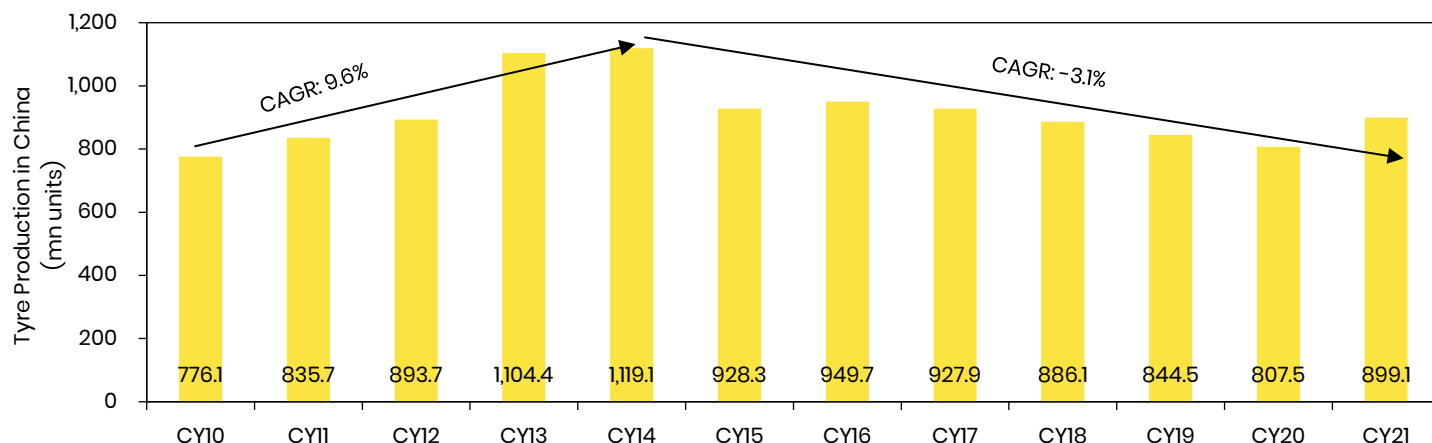
The above factors have boosted production of tyres in markets ex-China and India is one of the major beneficiaries of the same.

Indian tyre industry is expected to grow at 6–8.0% CAGR range over the next three years

Tyre production to remain strong in India: The import of tyres in India has been declining for the past few years and it stood at 2.7 mn nos. for CY21 as compared to 10.6 mn nos. in CY16, a CAGR de-growth of 23.7% in the last five years. **Tyre exports from India reached at an all-time high level, rising by ~68.1% YoY to 15.8 mn nos. in CY21.**

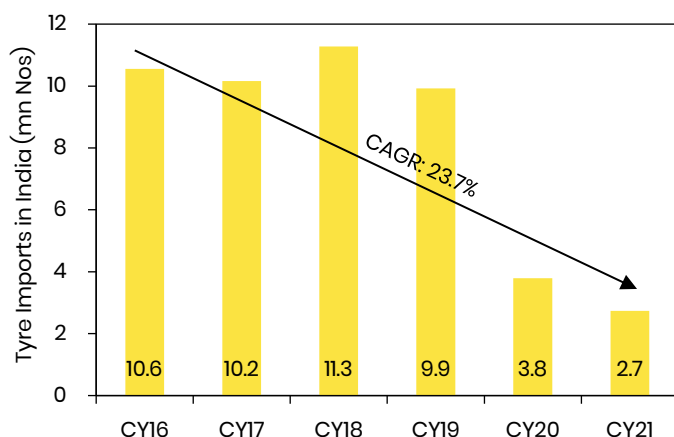
However, in the same period, there is an increase in tyre production in India leading to the conclusion that increased demand in India is being catered by Indian tyre manufacturers. **Going forward, we expect the tyre industry to grow at 6.0-8.0% CAGR range over the next three years.**

Decline in Chinese tyre production

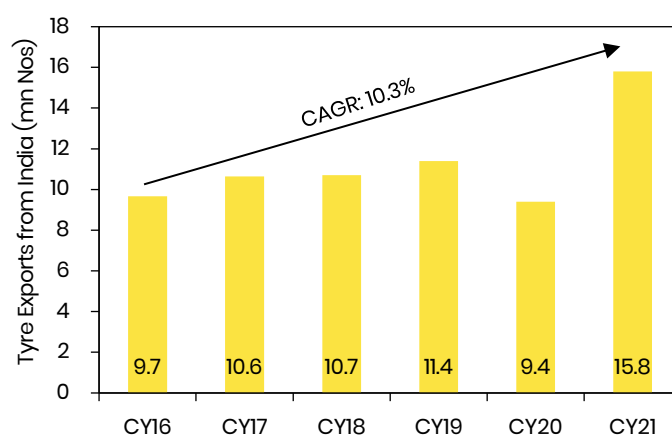


Source: Industry Data, B&K Research

Decline in tyre imports in India

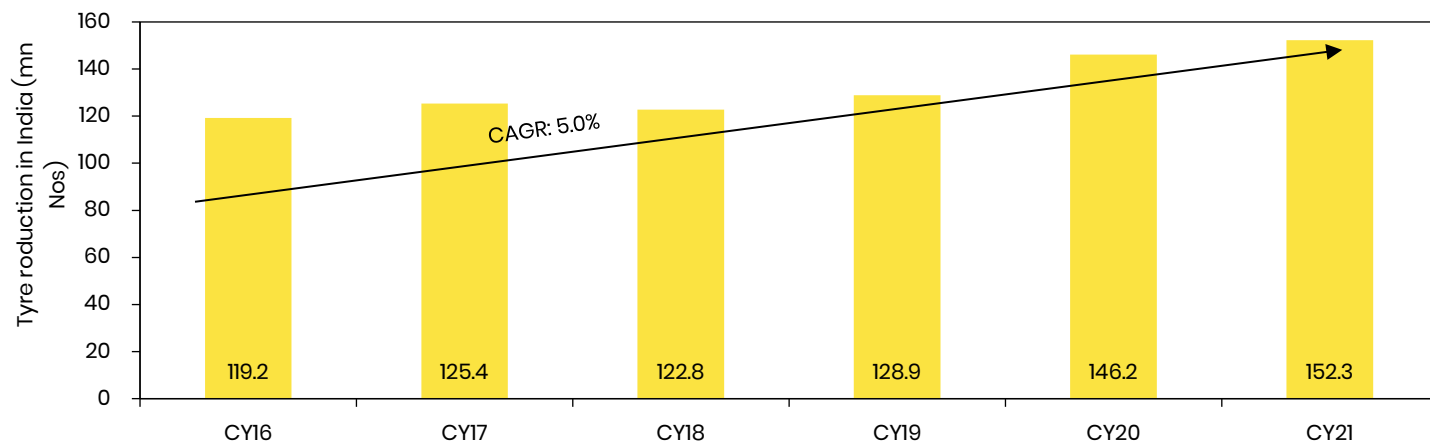


Increase in exports from India



Source: ATMA, B&K Research

Rising tyre production in India



Source: Industry Data, B&K Research

Rising cost of manufacturing in China is beneficial for Indian producers

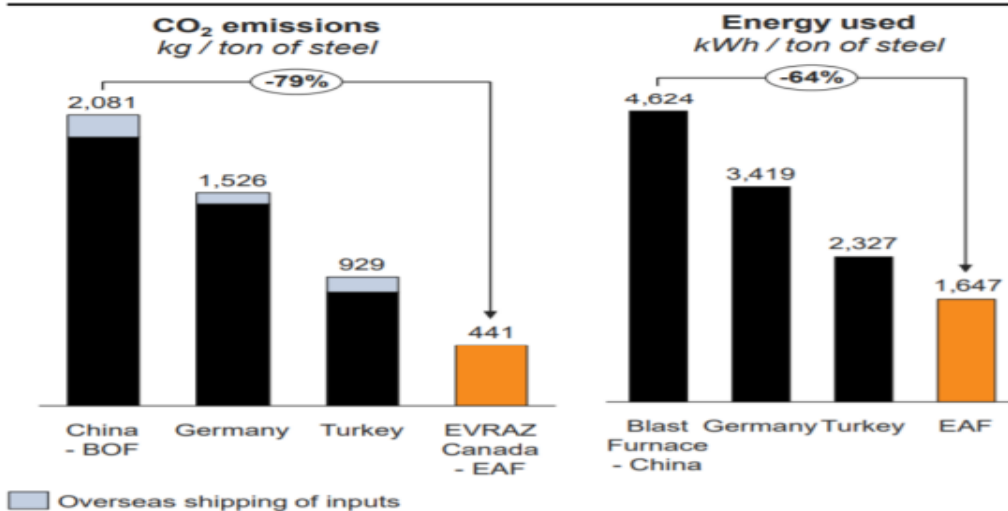
The difference in feedstock price is increasing over the years and we believe the same will continue. This is beneficial for Indian CB manufacturers

- Rising cost of environment clearance for Chinese manufacturers:** In 2016-17, the Chinese government came up with new effective measures that led to a large-scale closure and consolidation of plants engaged in manufacturing of products that pollute the environment. This policy impacted the production of carbon black, as the prevalent manufacturing process by small players was by use of coal tar derivative called carbon black oil (CBO) which caused emissions that exceeded new permissible levels. There was an intense environmental compliance check in line with the new policy which led to a crackdown on small players within the industry. This resulted in the consolidation of carbon black production among large players, which complied with environmental regulations. **The small industry players, which were attempting to operate their plants under the radar faced stringent checks from regulatory authorities, which curtailed the total capacity utilisations (utilisations are at 60.0-65.0% currently versus effective plant utilisation levels of 80.0%) in the country. Such rising cost of manufacturing in China is beneficial for ex-Chinese producers.**
- Rising cost of feedstock for Chinese manufacturers:** China mainly produces Carbon Black from coal-based feedstock (CBO) which is a by-product of Blast furnace steel manufacturing process. Indian players on the other hand mainly use fuel oil which is a derivative of crude. In the past, Chinese players had a significant advantage over Indian players as manufacturing was cheaper in China due to cheap CBO prices.

However, due to stringent environmental norms and limited availability of coal tar which have raised the prices of CBO, steel manufacturers in China have started shifting from Blast Furnace to Electric Arc Furnace (in line with global economies) which has raised the prices of CBO. **Currently, their feedstock is ~US\$ 250 higher than the feedstock price for PCBL and this spread has been increasing gradually. Going forward, we believe the difference in feedstock prices will continue increasing.**

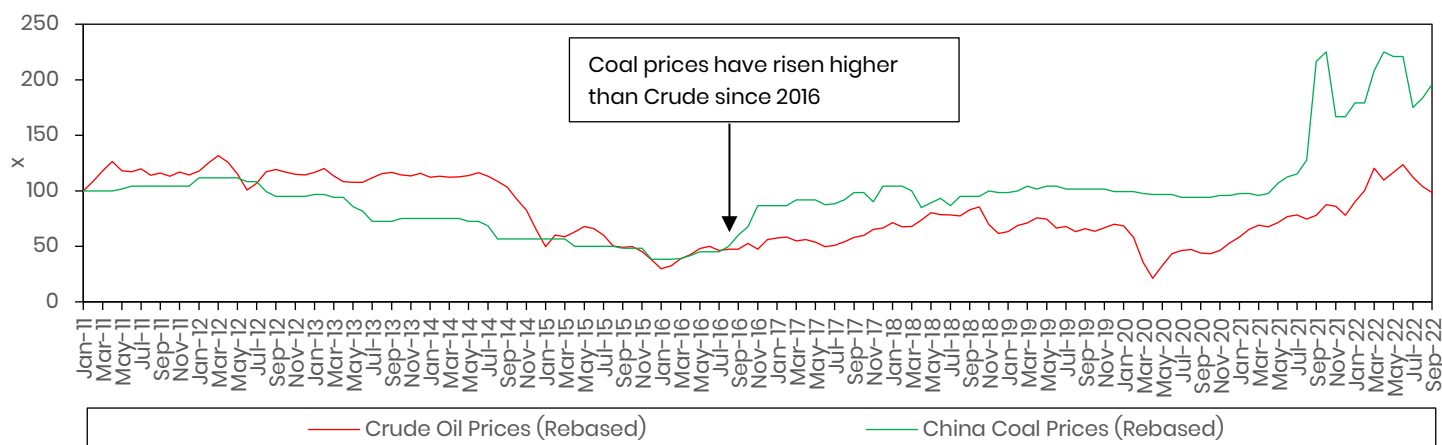
Due to stringent environmental norms, steel manufacturers in China have started shifting from BOF to EAF–EAF is environment friendly

EAF route is efficient to reduce CO₂ emission



Source: Industry Data, B&K Research

Crashing oil prices and rising coal prices is beneficial for non-coal tar-based manufacturers



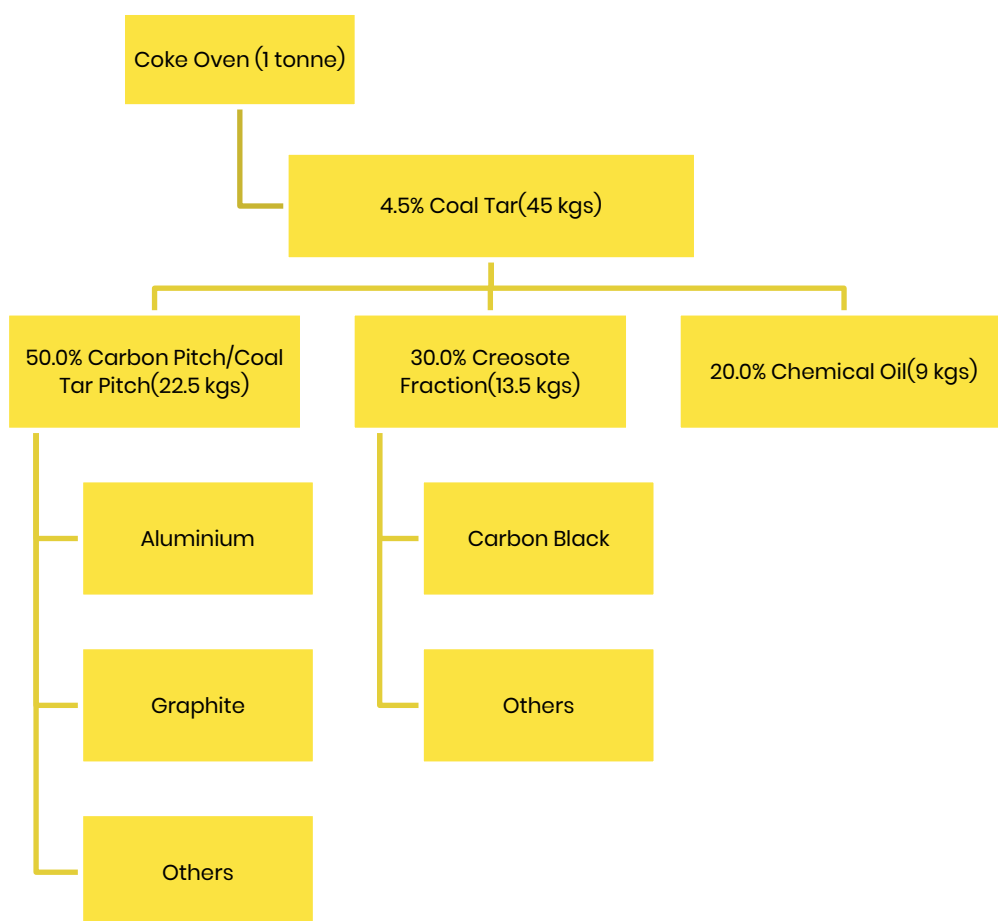
Source: Industry, B&K Research

Why will coal tar prices continue to rise?

Coal tar distillation invariably produces all the below:

- Carbon Pitch – 50.0% (used for production of carbon anodes used in aluminium smelting and for production of needle coke used in graphite electrodes).
- Creosote Fraction – 30.0% (used as feedstock for production of carbon black).
- Other chemicals – 20.0% (naphthalene, BTX, etc.).

Process of production of Carbon Black



Source: Industry, B&K Research

As China has a huge gap to catch up with other nations, we believe the availability of coal tar will continue to decline due to ongoing shift from BoF to EAF and the cost of manufacturing CB for Chinese players will continue to rise; hence, benefiting ex-China players, including India.

Availability of coal tar will continue to decline: China currently has only 10.6% of total steel production via Electric Arc furnace as compared to global average of 29.2%. NAFTA is at 68.9% and EU is at 43.9%. **As China has a huge gap to catch up with other nations, we believe the availability of coal tar will continue to decline due to ongoing shift from BoF to EAF and the cost of manufacturing CB for Chinese players will continue to rise, hence benefiting ex-China players, including India.**

Process-wise Steel production: China still has a huge gap as compared to other nations

| Process wise steel production (%) | 2014 | | 2019 | | 2021 | |
|-----------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|
| | BOF | EAF | BOF | EAF | BOF | EAF |
| Middle East | 9.1 | 90.9 | 5.5 | 94.5 | 6.0 | 94.0 |
| India | 42.4 | 57.6 | 43.8 | 56.2 | 44.8 | 55.2 |
| NAFTA | 38.3 | 61.7 | 32.4 | 67.6 | 31.1 | 68.9 |
| EU | 61.0 | 39.0 | 59.1 | 40.9 | 56.1 | 43.9 |
| China | 93.9 | 6.1 | 89.6 | 10.4 | 89.4 | 10.6 |
| Total Global Production | 74.2 | 25.8 | 71.9 | 28.1 | 70.8 | 29.2 |

Source: Industry, B&K Research

China is targeting ~15.0% of steel production via EAF in 2025

To aid China's goal of **decarbonizing** the steel industry, crude steel produced via electric-arc furnaces will exceed 15% by 2025 and 20% by 2030, the Ministry of Industry & Information Technology (MIIT) said on Monday August 1.

Source: Media Articles, B&K Research

Supply of coal tar to continue to decline



CARBON MATERIALS AND CHEMICALS

2023 through 2025

- Should benefit from market trend to reduce reliance upon Chinese exports and unpredictability of worldwide shipping/logistics challenges
- More decarbonization projects to reduce/eliminate coke from steelmaking announced in 2021; expect trend to continue toward new Direct Reduced Iron and Electric Arc Furnace projects further reducing coke production which will result in less coal tar

Source: Koppers Presentation, B&K Research

Demand will continue to exceed supply: ~68.0% of coal tar is used in the production of Carbon Black, Aluminum & Graphite and balance is used in production of other chemicals. Total coal tar requirement is estimated to be 22.0 mn tonnes in China whereas production is 18.7 mn tonnes; hence, there is an estimated deficit of ~3.3 mn tonnes of coal tar. Such deficit in supply is leading to rise in coal tar prices in China. **Lower availability of coal tar due to limited expansions and rising demand of coal tar from Carbon Black, Aluminium, Graphite and other industries will ensure that there is a supply deficit and hence the coal tar prices are expected to continue rising. PCBL is expected to benefit from rising coal tar deficit in China.**

Deficit of Coal Tar

| CY21 | |
|--|-------------|
| Particulars | China |
| | mn tonnes |
| Steel production | 1,190 |
| Coke Oven production | 416 |
| Coal Tar Production | 18.7 |
| Estimated Total Coal Tar Requirement | 22.0 |
| Estimated Deficit | 3.3 |
| Coal tar usage by Carbon Black players (%) | 57.0 |
| Coal tar usage by Graphite Electrode players (%) | 1.0 |
| Coal tar usage by Aluminium players (%) | 10.0 |
| Coal tar usage by Others (%) | 32.0 |

Source: Industry, B&K Research

Coal tar prices will continue to rise

Management commentary on Coal Tar: “Both in the Calcined Petroleum Coke (CPC) business and Coal Tar Pitch (CTP) business, the pattern of changes between raw material and finished products will be the same. If continuously raw material prices are increasing even the finished product prices will be increasing. Mr Gerry also explained in the beginning that there is so much of aluminium production taking place in China and rest of the world, there is more demand for the product and China exports are also declining. This will result in increase in the prices for both CPC and CTP.”

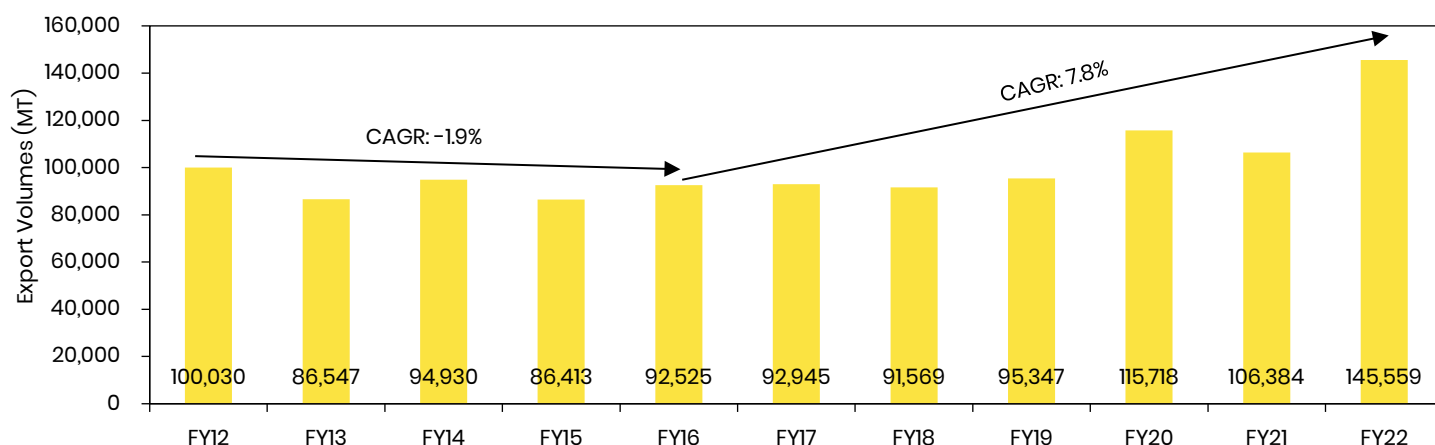
Source: Rain Industries Transcript (dated 25 February 2021), B&K Research

Structural changes have led to rise in exports for PCBL: Exports from India for the company has improved due to rise in demand on the basis of above factors. Export growth has improved from 1.9% de-growth in FY12-16 to 7.8% growth in FY16-22. Exports account for 30.0% of the sales for the company and is constantly expanding its presence in new geographies to tap global markets. Additionally, ~50.0% of sales from Chennai facility and ~70.0% of Mundra facility (from new 40k MT plant) are expected to be exported. Hence, overall exports are expected to rise from current 30.0% of sales to ~43.0% by FY25E.

Structural change in China has led to rise in exports from India. Exports account for 30.0% of sales for PCBL

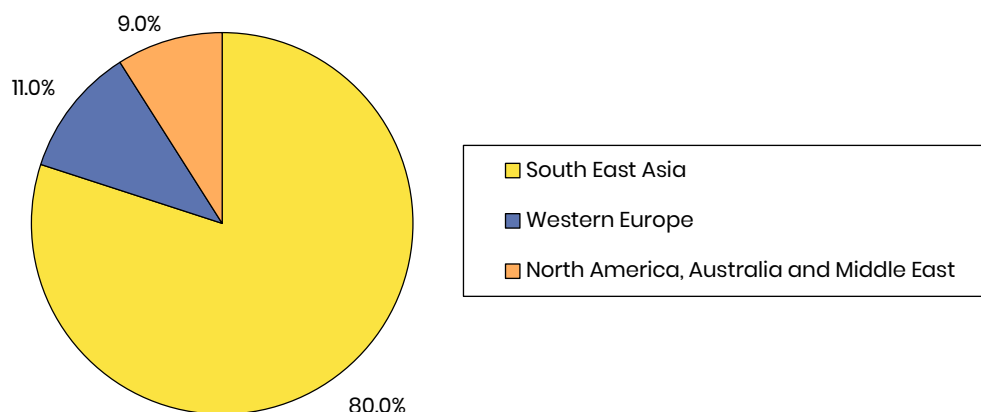
PCBL is currently exporting to more than 45 countries including Europe, Asia, Middle East, North America and South America. 80.0% of its products (of total overseas sales) is in South-East Asia, 10.0-11.0% in Western Europe and rest in other countries like North America, Australia, Middle East, etc. Hence, this geography mix depicts that the company has lower exposure to countries like Europe and USA and will have limited impact from any demand fluctuations in such countries. Further, their global presence is enhanced by offices located at Korea, China, Belgium, Germany, Vietnam and France. PCBL also has decanting stations across USA, Europe and Asia. While the company is focusing on current market base, they are also actively seeking to penetrate into new geographies.

Structural changes have led to rise in exports



Source: Company, B&K Research

Lower exposure to Europe and USA ensures that the company will have limited impacted to demand fluctuations in such regions

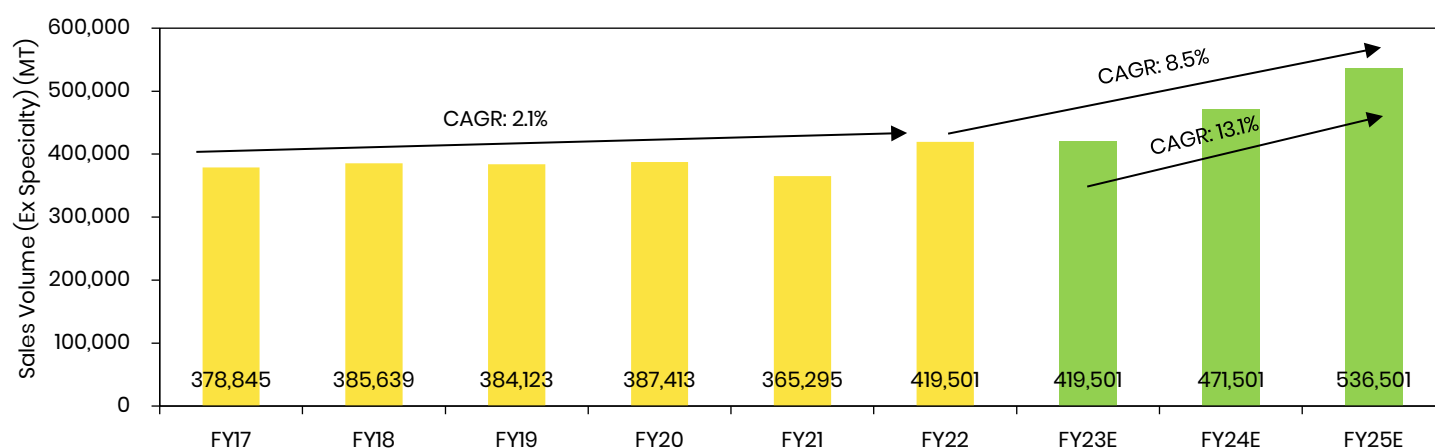


Source: Company, B&K Research

The company is expected to report better CB volume growth of ~8.5% CAGR till FY25E as compared to 2.1% volume growth in the last six years

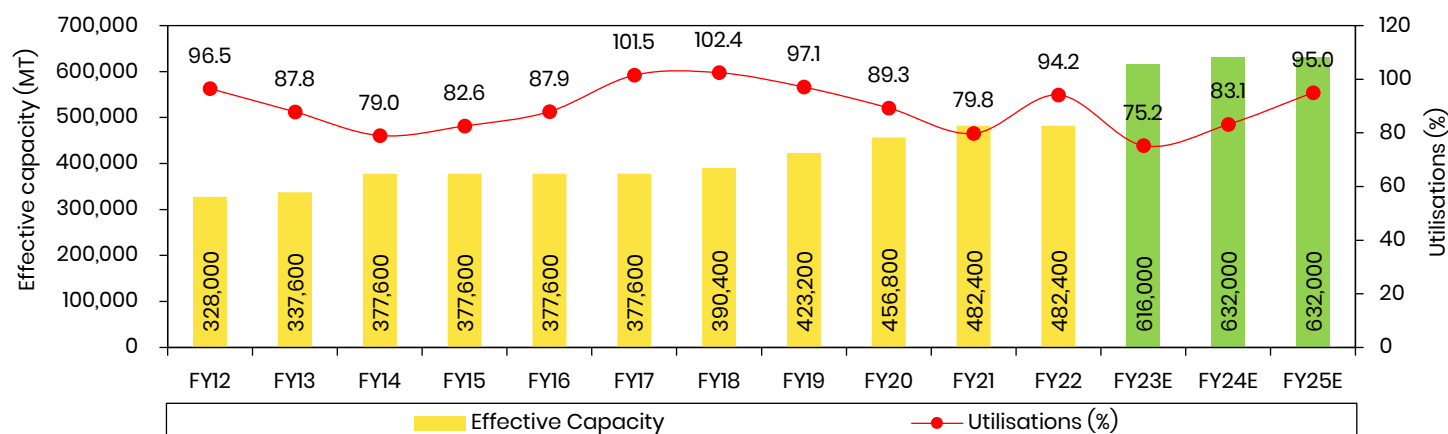
Rising tyre production and expected maintenance of feedstock price spread over China are expected to boost CB volume growth for PCBL: Going forward, rising tyre production in India and expanding gap between Chinese and Indian feedstock prices, is expected to help the company to fill its capacity faster wherein the company is expected to reach ~95.0% utilisations by FY25E on total effective capacity (including expanded capacity). The company is expected to report better CB volume growth of ~8.5% CAGR till FY25E as compared to 2.1% volume growth in the last six years.

Rising tyre production and expanding Chinese feedstock prices is expected to boost CB volume growth for PCBL



Source: Company, B&K Research

Newer capacities are expected to be filled up faster (Chart is based on Blended Effective Capacity which is assumed to be at ~80.0%)



Source: Company, B&K Research. **Note:** Benefit of new capacity is expected to arise from 4QFY23 onwards.

b) Reducing variability in the earnings by increasing share of value-added products through leveraging R&D capabilities

The company aims to reduce its reliance on formula-based range of products (rubber-based carbon black products) and further de-risk the business by increasing the share of Performance Chemicals and Specialty Chemicals.

Generally, Specialty market (Value Added product) accounts for 7.0% of the carbon black industry's volumes but 11.0% of market value due to the higher average prices typically for pigment grades. The margins in Specialty Products are 2-2.5x as compared to standard carbon black products (Performance Chemicals have 1.2x margins over standard carbon black products). For PCBL, estimated **EBITDA margin in Specialty products stands at ~25.0% (CB EBITDA is ~Rs 10k per tonne while Specialty products EBITDA is ~Rs 33k/tonne)**. PCBL has been increasing share of revenue from Specialty products by launching new grades of products every year. The company has been going up the value chain of Specialty Chemicals Products. The value chain in Specialty is as follows:

- **Plastics:** These are lowest in value chain of Specialty products and PCBL already has 100.0% of such products in their portfolio.
- **Paints and Ink:** The company has ~75.0% of such product grades in their portfolio.
- **Coatings:** The company has ~50.0-60.0% of such product grades in their portfolio.

PCBL has been increasing share of revenue from Specialty products by launching new grades of products every year

The company has been going up the value chain of Specialty Chemicals Products

- **Conductive and Super Conductive:** These are the highest in value chain of Specialty products and the company's R&D team is working on developing new products of this grade.

The company has a dedicated manufacturing line for the production of Specialty Chemicals through use of advanced technology. The company has strong R&D team with 60 professionals in India (at Palej) and Belgium which has increased capability to launch new products. Through the company's continued endeavours in research and development, they have been able to develop a large portfolio consisting of over ~75 grades of carbon black, out of which over ~45 grades are of specialty carbon black. **The company is confident of developing 6-7 new grades over the period of two-three years with focus on developing the highest value chain of Specialty products.**

Through their research and development activities, the company has also started selling super hard grade carbon black which is used in the production of radial tyres. The market growth in value-added segment is dependent on four parameters:

- a) **Tracking industry trends:** The company engages in continuous market mapping i.e. getting customers to accept the products. The company ensures highest quality assurance and consistency in products to customers.
- b) **Launching new products:** PCBL constantly focuses on the rapid expansion of their carbon black product portfolio in the specialty business, including inks, coatings and plastics masterbatch segments, as well as customised/modified American Society for Testing and Materials ("ASTM")/rubber grade carbon black products through the development of new carbon black grades and improving the existing carbon black grades by adopting physical and chemical routes of modifications. The company also engages in joint product development processes with specialty customers (as well as with tyre manufacturers).
- c) **CBFS Research**
 - i. CBFS team analyses inbound feedstock to ensure their effectiveness for the manufacturing of carbon black. PCBL evaluates the nature of CBFS based on carbon black grade to be produced in the light of yield, quality, specified impurity level, process efficiency, conformation with diverse environmental and regulatory norms, among others.
 - ii. It also cooperates with the other departments like purchase and quality assurance teams to explore

The company is confident of developing 6-7 new grades over the period of two years with focus on developing the highest value chain of Specialty products

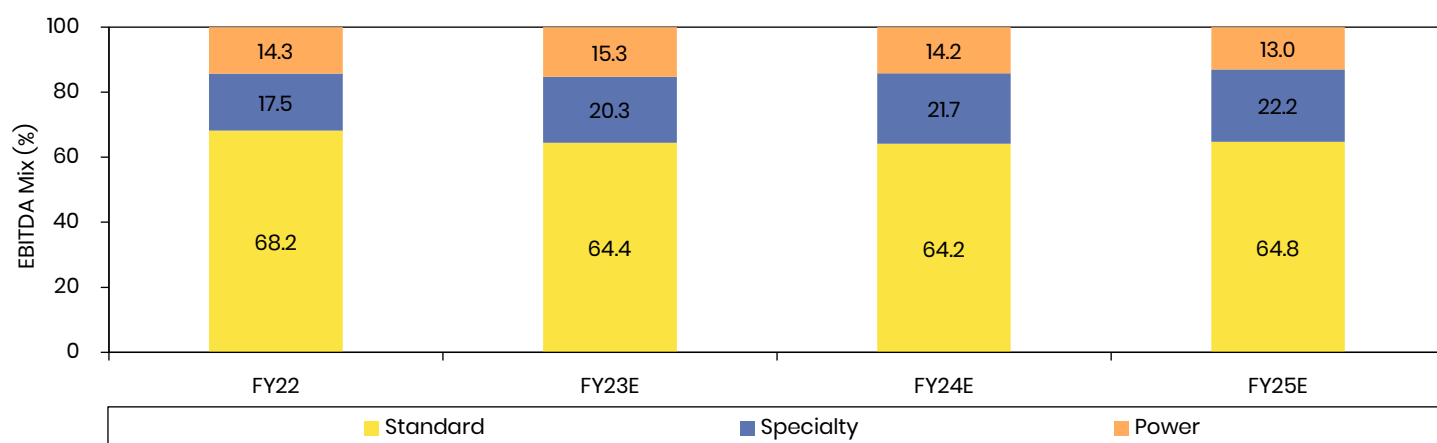
The gradual increase in product mix in specialty products will reduce the volatility in the company's operating earnings, going forward

potential new vendors and to identify suppliers with the best quality products.

- iii. PCBL also modifies the existing raw materials and products to diversify their application potential, in the domains of carbon black, nano-structured carbonaceous materials and carbon black feedstock ("CBFS"). This capability provides them with a flexibility and a choice between multiple feedstocks based on price arbitrage available at different points in time.
- d. **Modification/Improvement in process design:** PCBL evaluates the existing carbon black manufacturing processes and technologies to improve their process technology, product features and versatility, in order to produce cleaner carbon black grades. PCBL is involved in engineering the plants (reactors) in a way that they can produce the new grade of chemical that is produced in the R&D lab. Ability to sell customised product is a Unique Selling Power for the company.

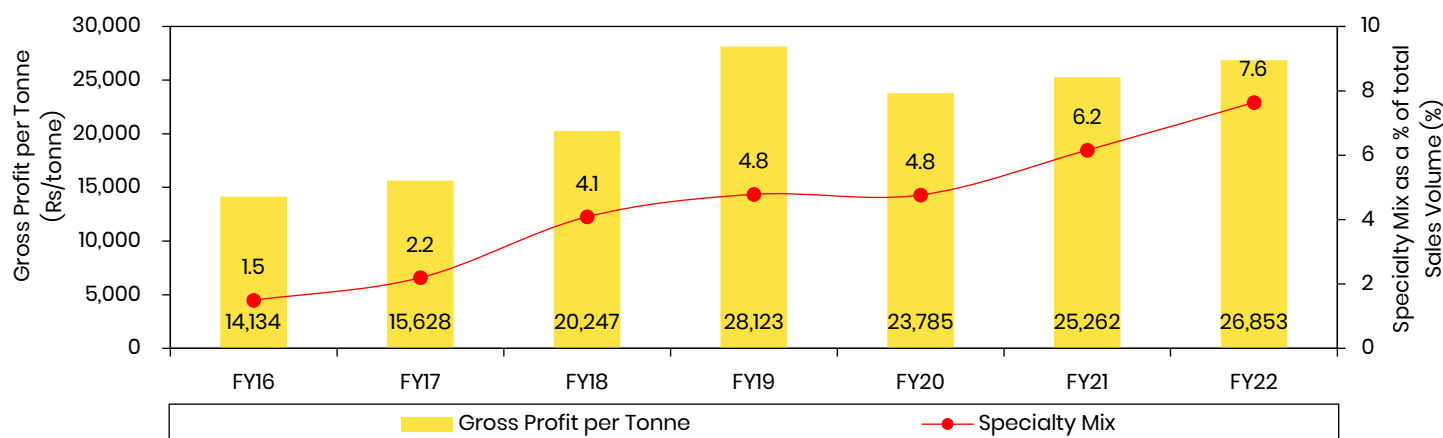
Going forward, the gradual increase in product mix from specialty products is expected to reduce the volatility in the company's operating earnings.

EBITDA mix is expected to improve



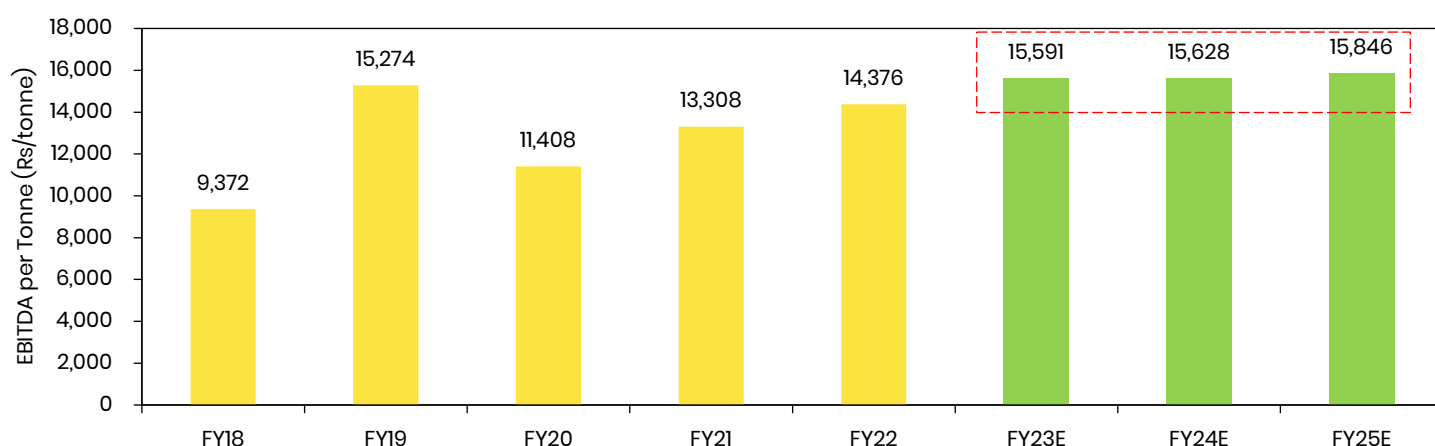
Source: Company, B&K Research

Improvement in gross profit per tonne primarily driven by better product mix and production yield



Source: Company, B&K Research

Improvement in product mix to bring stability in operating earnings



Source: Company, B&K Research

With improvement in product mix, market presence for PCBL is expected to improve

Gaining market share in Specialty Products: Specialty Carbon Black market demand stands at ~0.8 mn tonnes globally growing at 4.9% CAGR (CY21E to CY24E) and ~50k tonnes in India growing at 8.3% CAGR (CY21E to CY24E). PCBL is the market leader in India. PCBL has 4.0% global market presence (increased from 2.3% in CY19) and 19.0% domestic market presence (increased from 10.1% in CY19) in Specialty Products. **We believe, with the improvement in product mix, the market presence is expected to improve to 5.8% globally and 25.0% domestically by CY24E.**

Grabbing market presence

| ('000 tonnes) | CY21E | CY22E | CY24E | CAGR (%) |
|---|-------|-------|-------|----------|
| Demand from Specialty Black segment – Global | 828 | 869 | 956 | 4.9 |
| Demand from Specialty Black segment – India | 52 | 60 | 66 | 8.3 |
| PCBL's volumes in Specialty Black | 33 | 40 | 55 | 18.6 |
| PCBL's market presence – Global (%) | 4.0 | 4.6 | 5.8 | – |
| PCBL's market presence – India (30% of total SCB sales) (%) | 19.0 | 20.0 | 25.0 | – |

Source: Company, B&K Research. **Note:** Of total SCB sales, ~70.0% is exported.

Despite having a much lower Specialty Mix and less than half the sales volume, PCBL margins are similar to Orion

PCBL versus Orion: Despite having a lower mix of Specialty Carbon, PCBL has similar margins when compared to its closest global peer (with respect to product mix)– Orion Carbon. PCBL has only 45 grades of Specialty Carbon Black whereas Orion has more than 280 grades of Specialty Carbon Black (~6x of PCBL). Orion also has the advantage of more operational efficiencies due to higher volumes– PCBL volumes are less than half of Orion. However, when we compare the margins, both Standard Carbon Black and Specialty Carbon Black margins for PCBL and Orion are in a similar range with a difference of just ~100 bps. This proves PCBL's superiority due to its cost structure and value of specialty grades. Company is confident of developing 6–7 new grades over the period of two– three years with focus on developing the highest value chain of Specialty products. **With fixed costs under control and having low Break-Even point, any increase in specialty grades will significantly improve the bottom-line for the company.**

PCBL versus Orion: Despite having a much lower Specialty Mix and less than half the sales volume, PCBL margins are similar to Orion

| | PCBL | | Orion |
|------------------------------|---------|---------|---------|
| | FY22 | FY25E | CY21 |
| Sales Volume | 454,187 | 613,501 | 964,300 |
| : Standard Carbon Black | 419,501 | 549,501 | 701,046 |
| : Specialty Carbon Black | 34,686 | 64,000 | 263,254 |
| Sales Volume Mix (%) | | | |
| : Standard Carbon Black (%) | 92.4 | 89.6 | 72.7 |
| : Specialty Carbon Black (%) | 7.6 | 10.4 | 27.3 |
| Revenue (Rs mn) | 44,464 | 59,644 | 116,025 |
| Adjusted EBITDA (Rs mn) | 6,530 | 9,508 | 20,100 |
| EBITDA margin (%) | 14.7 | 15.9 | 17.3 |
| : Standard carbon Black (%) | | 12.3 | 12.7 |
| : Specialty Carbon Black (%) | | 23.9 | 24.8 |

Source: Company, B&K Research

Note: PCBL does not report product-wise margins. Hence, the margins for Standard and Specialty Carbon Black are based on estimates.

The company is expanding capacities to meet rising demand

c) Improvement in production yield and utilisations will lead to expansion in return ratios

To meet the rising demand, PCBL is undergoing two major expansions: 1) Chennai, India – Greenfield plant expansion for adding 147k MT of CB capacity for Rs 6.5 bn with 24 MW of power capacity for Rs 1.5 bn and 2) Mundra, India – Brownfield expansion for adding two additional Specialty CB lines of 20k MT each (total 40k MT) for Rs 3.2 bn. Total capex outlay for major expansions are of ~Rs 11.2 bn. Apart from major capex plans, the company is also expected to incur Rs 0.5 bn as maintenance capex every year. The company's Chennai capex is expected to be completed by end of FY23E and we expect the capacity to be filled by FY26E. The

PCBL is expected to fill new capacities within the next three years starting from 4QFY23E onwards

Mundra capacity is expected to be processed in two phases (Phase I of 20k tonnes and Phase II of 20k tonnes), wherein Phase I is expected to be completed by FY23E and Phase II is expected to be completed by FY24E. However, in Specialty CB, the company already has adequate unutilised capacity to cater to their sales volumes, hence commissioning of these two new lines is not expected to be visible in sales volumes for the next two years (effective capacity for SCB is 75.0%). Additionally, in Chennai facility, there is a possibility of adding capacities of 50k MT CB with relatively lower capital expenses for the Phase II expansion. Overall, PCBL is expanding the carbon black and specialty carbon black capacity by 27.7% and 55.6%, respectively. Ramping up of newer capacity will aid in improving the VAP mix, will improve utilisations and bring in operational efficiencies which will result in improvement in RoCE.

Higher incremental RoCE from Chennai facility: Incremental RoCE (post-tax) from Chennai Phase I expansion of 147k MT is expected to be 12.4%. Product mix (excluding Power) is expected to be 70.0% Carbon Black and 30.0% Performance Chemicals at Chennai plant. The company is expected to achieve higher EBITDA per tonne of Rs 14k per tonne as compared to current EBITDA per tonne at CB facilities of ~Rs 12k per tonne due to following reasons:

- Chennai facility will be a smart factory with incorporation of Industry 4.0 concepts using Machine Learning and Artificial Intelligence for process control – This will aid in reducing raw material cost per tonne.
- Chennai facility will have automated and advanced material handling and warehouse management system – This will aid in increasing gross profit per tonne.
- Chennai facility is located close to Krishnapatnam and Ennore Port which will enable easy import of raw material and aid in export sales.

Incremental RoCE (Post Tax) from Chennai Phase I expansion of 147k MT is expected to be 12.4% and from Mundra 40 kMT expansion is expected to be 16.7%.

Higher incremental RoCE from Mundra facility: Incremental RoCE (post-tax) from Mundra 40 kMT expansion is expected to be 16.7%. As Mundra facility is a brownfield expansion and involving production of value-added products which have margins of 2-2.5x of CB, such expansion will generate better than existing overall RoCEs.

Expansion in power business for taking advantage of higher off gas production:

- The company has recently added 22 MW of power capacity in existing plants to benefit from rise in carbon black

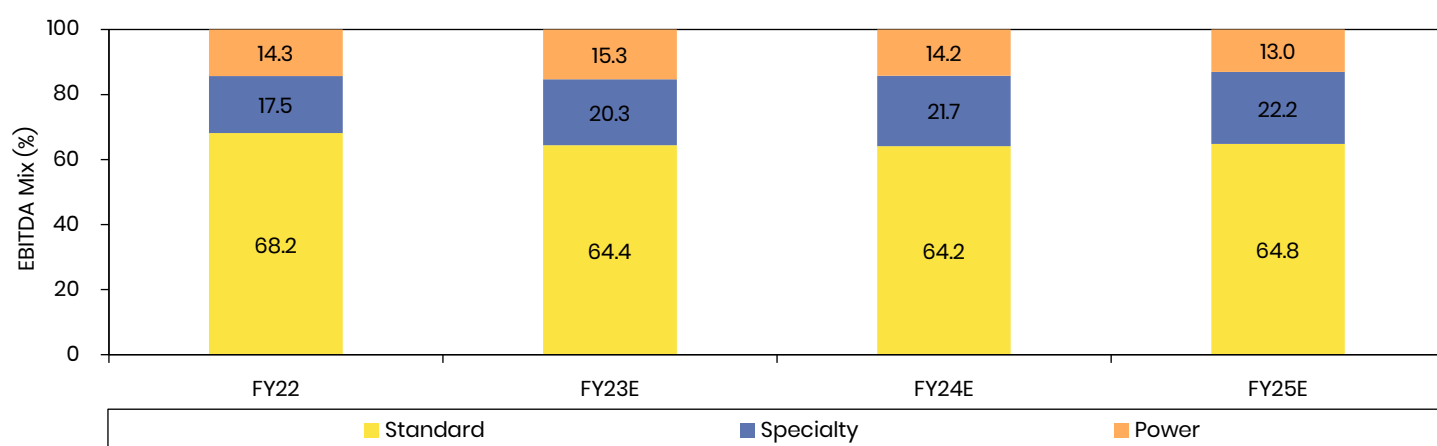
utilisation on past CB capacity additions. The power generated would largely be sold in merchant market which would add to EBITDA (EBITDA margin is 75.0–80.0%). For every tonne of CB produced, the company is able to generate 1,200–1,300 units of power, of which ~700 units are available for sale. From the new 24 MW of power plant in Chennai, ~60.0% units generated per tonne of CB produced will be available for sale. Additionally, any increase in realisation per unit of power will provide upside risks to the profitability.

- Increasing efficiency of their co-generation power plants coupled with the increasing production volume of carbon black has been driving the growth of the power revenue. The increasing contribution of the power business in their company's revenue is likely to provide a cushion to the overall profitability of the company and also help them by reducing their dependence on the national grid to meet the demand for power.

Overall, RoCE will improve from 13.8% currently to 15.5% in FY25E

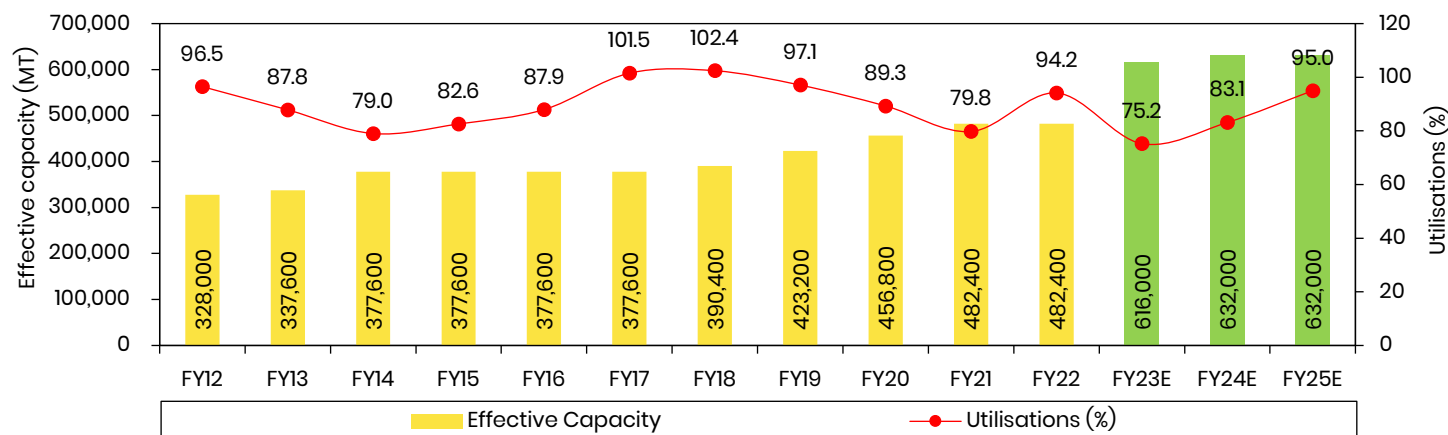
Blended RoCE from total incremental capex of Rs 11.2 bn is expected to be 13.6%. With strong incremental RoCEs, the company's RoCE (post-tax) at 76.0% utilisation for CB and 66.5% utilisation for Power is expected to be 15.5% in FY25E as compared to existing RoCE of 13.8%.

VAP mix is expected to improve (Standard product mix is expected to reduce from 68.2% to 64.8% and Specialty product mix is expected to improve from 17.5% to 22.2%)



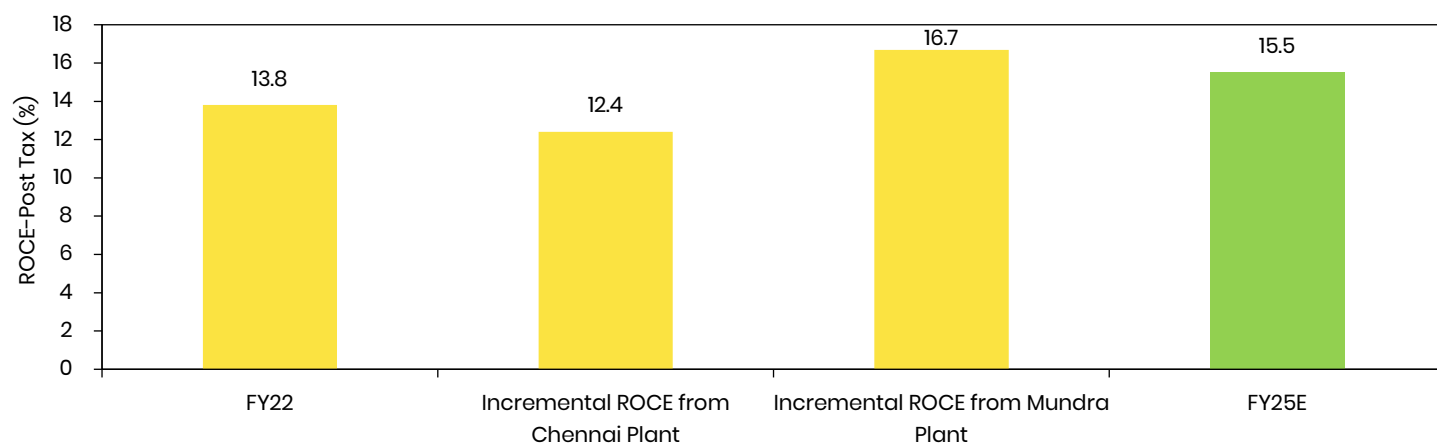
Source: Company, B&K Research

Capacities are expected to be filled up faster (Chart is based on Blended Effective Capacity which is assumed to be at ~80.0%)



Source: Company, B&K Research

Increasing net RoCE (including working capital) through expected better VAP mix and higher production yield in Chennai facility



Source: Company, B&K Research

Incremental business from reinvestment of Capital and RoCE calculation

| Greenfield expansion in Chennai for Carbon Black | | | | |
|---|----------|------------------------|--------------|--|
| Incremental RoCE | | | | Remarks |
| Greenfield capacity addition in Chennai (MT) | 1,47,000 | Power Capacity (Units) | 14,99,40,000 | 1. For every tonne of CB produced, the company is able to generate 1,200-1,300 units. We have assumed 1,200 units. |
| Effective capacity (MT) | 1,24,950 | Saleable power (Units) | 8,74,65,000 | 1. Out of the 1,200-1,300 units of power, 700-800 units are available for sale. We have assumed 700 units. 2. Effective capacity utilisation is assumed to be 85.0% for CB. |
| CB EBITDA (Rs per tonne) | 14,000 | Power EBIT (Rs mn) | 152 | 1. The company can achieve an EBITDA of Rs 14k per tonne due to latest technology being used in Chennai facility. 2. Conservative EBIT margins of 58.0% assumed for Power. |
| CB Sales (Rs mn) | 11,445 | | | |
| CB total EBITDA (Rs mn) | 1,749 | | | |
| Capital employed (Rs mn) – excluding Working Capital (WC) | | | 8,000 | Capital employed for Chennai greenfield plant is Rs 6.5 bn for CB plant of 147k MT and Rs 1.5 bn for power plant. |
| Total EBIT (Rs mn) | | | 1,501 | |
| EBIT- Post Tax (Rs mn) | | | 1,231 | Tax rate is 18.0% for Chennai plant. |
| Capital employed including Working Capital (Rs mn) | | | 9,925 | |
| Pre-tax RoCE – including WC (%) | | | 15.1 | |
| Pay-back Period- based on pre-tax RoCE – incl. WC | | | 6.6 years | |
| Post-tax RoCE – including WC (%) | | | 12.4 | |

Source: Company, B&K Research

Brownfield expansion in Mundra for Specialty Carbon Black

| Incremental RoCE | | Remarks |
|--|------------------|--|
| Brownfield capacity addition in Mundra (MT) | 40,000 | |
| Effective capacity (MT) | 30,000 | Effective capacity utilisation assumed to be 75.0% for Specialty CB. |
| Specialty CB EBITDA (Rs per tonne) | 33,000 | Assumed Specialty CB EBITDA of Rs 33k per tonne. |
| Specialty CB Sales (Rs mn) | 4,140 | |
| Specialty CB total EBITDA (Rs mn) | 990 | |
| Capital employed (Rs mn) | 3,200 | Capital employed is Rs 3.2 bn for Mundra 40k MT plant. |
| Total EBIT (Rs mn) | 830 | |
| EBIT – Post-tax (Rs mn) | 647 | Tax rate is 22.0% for Mundra plant. |
| Capital Employed including WC (Rs mn) | 3,881 | |
| Pre-tax RoCE – including WC (%) | 21.4 | |
| Pay-back Period – based on pre-tax RoCE – incl. Working Capital | 4.7 years | |
| Post-tax RoCE – including WC (%) | 16.7 | |

Source: Company, B&K Research

RoCE from Total Incremental Capital Employed (Greenfield + brownfield)

| Incremental RoCE | Rs mn |
|---|------------------|
| Total EBIT | 2,331 |
| Total EBIT (Post-tax) | 1,879 |
| Total Capital Employed – (incl. Working Capital) | 13,806 |
| Pre-tax RoCE – including WC (%) | 16.9 |
| Payback period – based on pre-tax RoCE – incl. Working Capital | 5.9 years |
| Post-tax RoCE – including Working Capital (%) | 13.6 |

Source: Company, B&K Research

Business RoCE's will improve due to better mix and higher utilisations of new capacities

| FY22 – Financial performance | Rs mn | FY25E – Financial performance | Rs mn |
|--|--------------|--|--------------|
| Total Capacity (MT) | 603,000 | Total Capacity (MT) | 790,000 |
| Sales Volumes (MT) – CB | 454,187 | Sales Volumes (MT) – CB | 600,501 |
| Sales Volumes (MU) – Power | 311 | Sales Volumes (MU) – Power | 414 |
| Revenue (Rs mn) | 44,464 | Revenue | 58,409 |
| EBITDA margin reported at 14.7% in FY22 | 6,530 | EBITDA margin is expected at 15.9% in FY25E | 9,516 |
| Average Capital Employed (including WC) | 32,973 | Average Capital Employed (including WC) | 42,302 |
| EBIT (Rs mn) | 5,607 | EBIT | 8,238 |
| EBIT – Post-tax (Rs mn) | 4,555 | EBIT – Post-tax (Rs mn) | 6,555 |
| Pre-tax RoCE – including WC (%) | 17.0 | Pre-tax RoCE – including WC (%) | 19.5 |
| Post-tax RoCE – including WC (%) | 13.8 | Post-tax RoCE – including WC (%) | 15.5 |

Source: Company, B&K Research

d) Leader in domestic and 7th largest in Global CB market

PCBL is the largest carbon black producer in India with ~33.0% market share and globally, PCBL is 7th largest player with ~3.0% global market share. The company has ~9.0% market share in Asia, (excluding China) as they are exporting to countries like Sri Lanka, Vietnam, etc. from India. In order to benefit from global demand-supply imbalance, the company is expanding capacities and targeting both existing and new geographies, which is expected to boost market share to ~36.0% domestically and ~3.8% globally by FY25E.

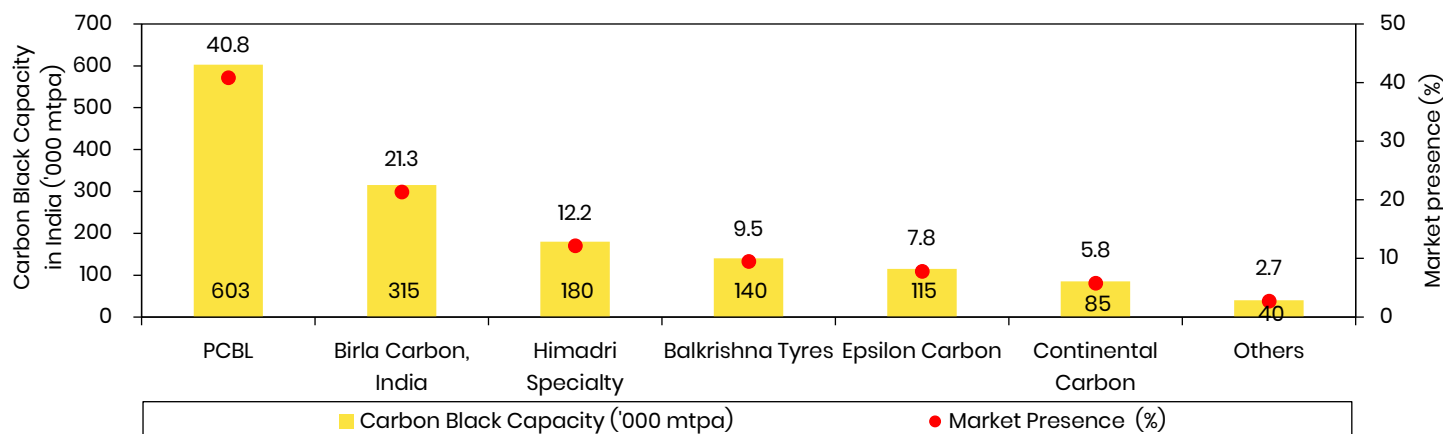
On the basis of capacities, PCBL is the largest carbon black producer in India with 40.8% market presence and globally, they are the 7th largest carbon black company with 3.3% global market presence (Note: Market share is calculated on the basis of sales volumes. However, due to lack of sufficient information and also to present a picture of the CB market of past versus present, we have used the analysis on the basis of market presence of CB players in terms of capacities).

Market leader in India: The total industry capacity in India is estimated at ~1.4 million MTPA. Capacities in the domestic CB industry is highly concentrated with top 6 players owning ~95%+ of the total Indian capacity. **PCBL is the market leader in India with ~40.8% market presence.** PCBL is also the largest exporter

PCBL is the largest carbon black producer in India with ~33.0% market share and globally, they are the 7th largest player with ~3.0% global market share

of CB from India. Birla Carbon, India is the second largest player with ~21.3% market presence followed by Himadri Specialty with ~12.2% market presence. Balkrishna Tyres has ~9.5% market presence in India; however, the same is used as backward integration for manufacturing of tyres and we do not believe it to be a competitor for PCBL.

Indian Carbon Black capacity and market presence of top 6 players – PCBL has ~40.8% market presence

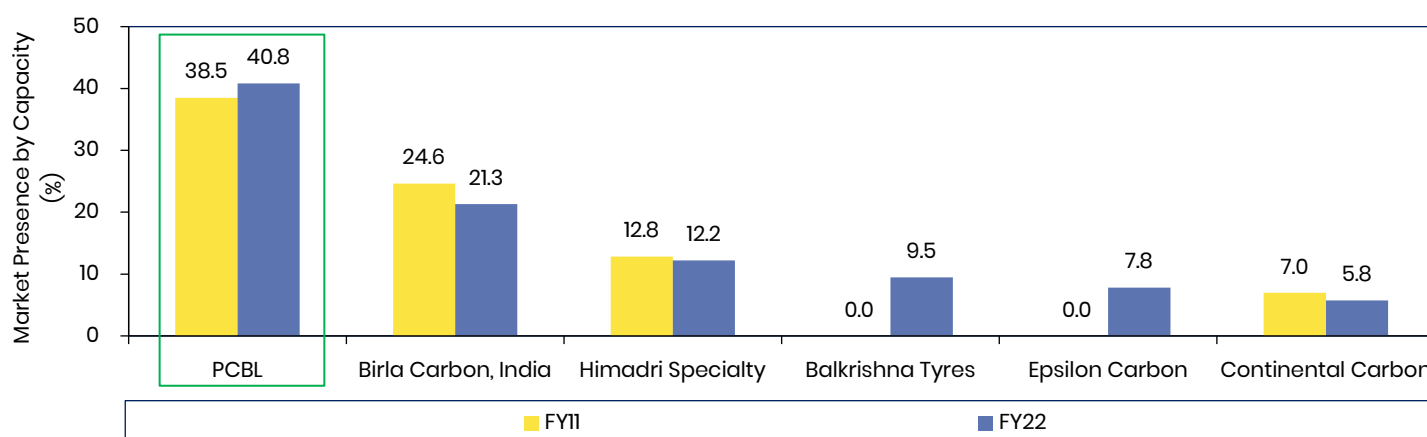


Source: Company, B&K Research

PCBL is the only Indian company to have grown its market presence (from 38.5% in FY11 to 40.8% in FY22)

Gained market presence domestically: Over the last 12 years, all incumbent players in India have lost market presence due to limited capacity additions. Two new players – Balkrishna Tyres and Epsilon Carbon (engaged in other businesses) have set up carbon black facilities as a part of their backward integration strategy. **PCBL is the only Indian company to have grown its market presence (from 38.5% in FY11 to 40.8% in FY22) by increasing its capacity from 360k mtpa in FY11 to 603k mtpa in FY22 (expanded capacity by ~70.0% in the last 12 years). Ex-Balkrishna and Epsilon, the company has increased its market presence from 38.5% in FY11 to 49.3% in FY22.**

Over the last 12 years, all players except PCBL have lost market presence due to limited capacity expansions



Source: Company, B&K Research

Indian CB demand is expected to grow faster than supply

CB demand to grow faster than supply: Indian carbon black capacity is forecasted to rise 3.0% per year (faster than global growth of 1.7%) reaching 1.6 million tonnes in CY24E with capacity utilisation of ~78.0% in CY24E. Indian CB demand is forecasted to grow at 9.0% CAGR reaching 1.1 mn tonnes by CY24E. The primary driver will be new demand from the tyre industry, based on ~Rs 205 bn in new investments that is expected to be spent on new tyre production capacity in India within the next three-five years. The new capex of ~Rs 205 bn is expected to generate ~148k tonnes of new CB demand. All the major tyre companies in India are announcing aggressive capacity expansion plans supported by lower imports and increase in exports demand.

India demand-supply gap

| Particulars | CY19 | CY20 | CY21E | CY22E | CY23E | CY24E | CAGR (%) (CY21-24E) |
|--------------------------|-------|-------|-------|-------|-------|-------|------------------------|
| Capacity ('000 tonnes) | 1,223 | 1,283 | 1,478 | 1,522 | 1,568 | 1,615 | 3.0 |
| % Utilisation | 67.6 | 60.4 | 60.9 | 64.0 | 69.0 | 70.0 | – |
| Production ('000 tonnes) | 827 | 775 | 900 | 974 | 1,082 | 1,131 | 7.9 |
| Demand ('000 tonnes) | 898 | 800 | 910 | 1,010 | 1,100 | 1,180 | 9.0 |
| Deficit ('000 tonnes) | (71) | (25) | (10) | (36) | (18) | (49) | – |

Source: Notch, B&K Research

Majority of demand to arise from tyre segment in India

| (%) | CY19 | CY20 | CY21E | CY22E | CY23E | CY24E |
|------------------|------|------|-------|-------|-------|-------|
| Demand (KT) | 898 | 800 | 910 | 1,010 | 1,100 | 1,180 |
| Tyres | 80.3 | 80.5 | 80.5 | 80.6 | 80.8 | 81.2 |
| Non-Tyre Rubbers | 13.7 | 13.5 | 13.7 | 13.5 | 13.4 | 13.2 |
| Specialty Black | 6.0 | 6.0 | 5.7 | 5.9 | 5.8 | 5.6 |

Source: Notch, B&K Research

Major tyre capacity expansions in India

| Company | Capex (Rs bn) | Particulars of expansion |
|---------------|------------------|---|
| Apollo | 38 | Phase 1 of greenfield facility at Andhra plant with a capacity to produce 15,000 passenger car tyres and 3,000 truck-bus radials per day. |
| CEAT | 18 | Further ramp-up of Nagpur, Halol and greenfield plant at Chennai. |
| MRF | 45 | New facility in Gujarat. |
| TVS Srichakra | 10 | Expansion of two and three-wheeler tyres capacity by 25.0-30.0% and double the off-highway tyre capacity. |
| Maxxis | 30 | Phase 1 expansion of Sanand plant to increase capacity to 60,000 units of two-wheeler tyres per day from the current 20,000 units a day. |
| Continental | 10 | Announced capacity expansion initiative over 18 months to increase the product range along with the existing other range of TBR tyres. |
| Balkrishna | 8 | For expansion of production capacity by 50,000 MT in Bhuj plant. |
| JK Tyre | 2 | Expansion of production capacity through de-bottlenecking. |
| Yokohama | 24 | Setting up of an off-highway tyre plant in Andhra Pradesh to produce 257 tonnes per day. |
| Bridgestone | 20 | Ongoing expansion in Pune and Indore to increase tyre capacity by an estimated amount of 15,000 tyres per day. |
| Total | 205 | |

Source: Company, B&K Research

Limited capacity expansions by peers will fuel further market share gains for PCBL in India

Expanding capacities to gain market presence: PCBL is enhancing its existing capacities in both CB and power segment to meet such rising demand. The greenfield expansion is underway at Chennai, Tamil Nadu with an installed capacity of 147k MT of carbon black production along with a 24 MW captive power plant. The completion of the greenfield and brownfield projects would not only bring company's total installed capacity to ~790k MT (effective capacity stands at ~85.0% of installed capacity for Carbon Black plants) but also increase the green power generation capacity of their company to 122 MW from current level of 91 MW.

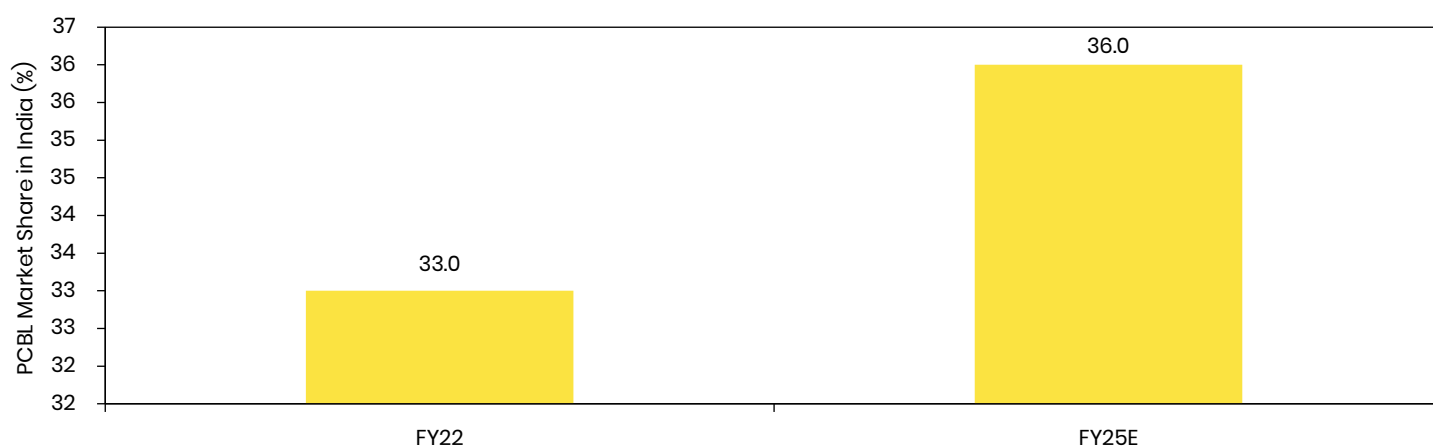
Limited capacity expansions in India to fuel further market presence gains for PCBL: To cater to such increase in demand, there are limited capacity expansions in India. PCBL is undertaking the largest capacity expansion plan to tap rising demand and its capacities are expected to be ramped up the fastest among peers. **We expect the company to achieve ~36.0% market share by FY25E from current level of ~33.0%.**

Limited capacity expansions in India in the next few years

| Company | Current capacity ('000 mtpa) | Estimated capacity expansion ('000 mtpa) | Future capacity ('000 mtpa) | Effective current capacity ('000 mtpa) | Effective future capacity ('000 mtpa) – @80% | Estimated completion |
|-----------------------|------------------------------|--|-----------------------------|--|--|---------------------------------|
| PCBL | 603 | 187 | 790 | 482 | 632 | 147k MT by FY23, 40k MT by FY24 |
| Birla Carbon, India | 315 | 80 | 395 | 252 | 316 | FY24 |
| Himadri Specialty | 180 | 140 | 320 | 144 | 256 | FY23 |
| Balkrishna Tyres | 140 | 140 | 280 | 112 | 224 | FY23 |
| Epsilon Carbon | 115 | 185 | 300 | 92 | 240 | FY24 |
| Continental Carbon | 85 | – | 85 | 68 | 68 | – |
| Total capacity | 1,438 | 732 | 2,170 | 1,150 | 1,736 | |

Source: Company, B&K Research

PCBL's market share in India to expand by 300 bps

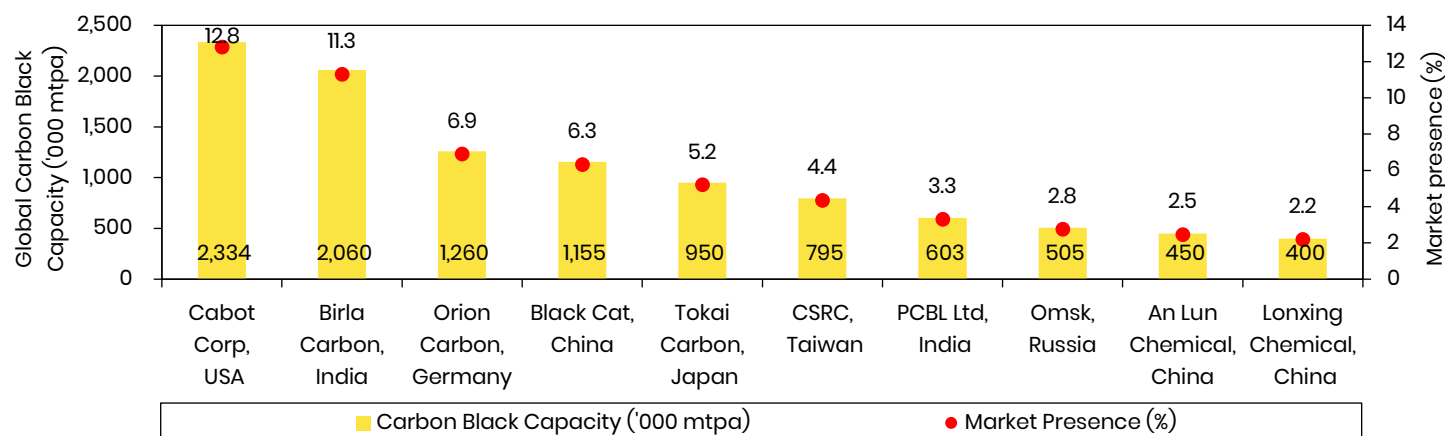


Source: Company, B&K Research

PCBL has 3.3% of global market presence and is the 7th largest CB player in the world

7th largest player globally: Global Carbon Black capacity stands at ~18.2 mn mtpa and is fairly consolidated with top 10 players accounting for ~60.0% of global capacity. Cabot Corporation from USA is the largest player of Carbon Black globally with 2.3 mn mtpa and 12.8% global market presence. Top two players from India have 14.6% market presence, of which Birla Carbon has 11.3% global market presence and **PCBL has 3.3% of global market presence and is the 7th largest CB player in the world.**

Global Carbon Black capacity and market presence of top 10 players – PCBL has 3.3% market presence

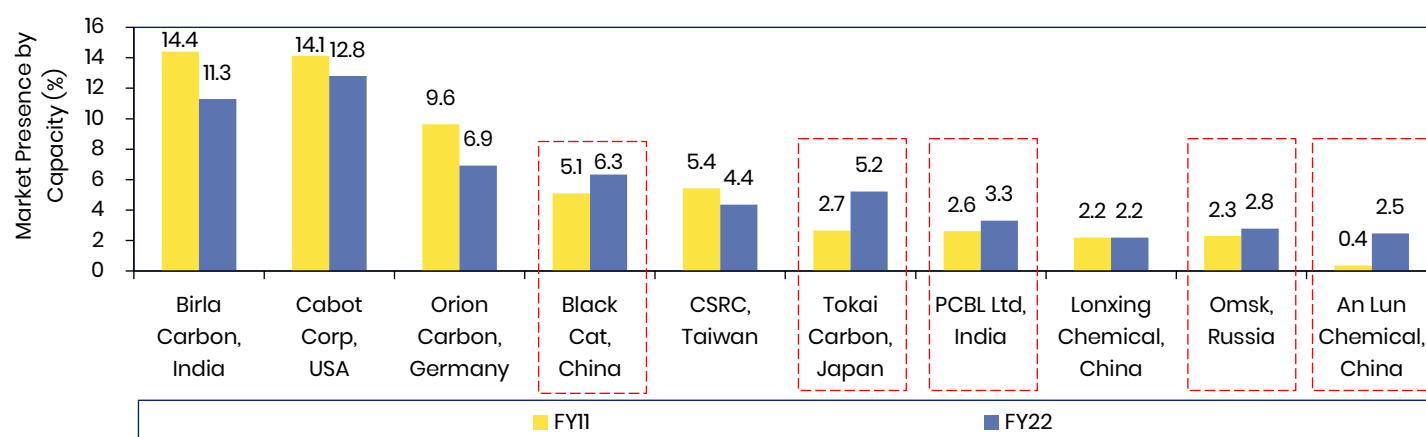


Source: Company, B&K Research

PCBL is the only Indian company among top 10 players to have grown its market presence over the last 12 years

Gained market presence globally: Over the last 12 years, 5 out of top 10 players have lost market presence due to limited capacity expansions. Black Cat, Tokai Carbon, PCBL Ltd., Omsk and An Lun Chemicals are the only top 10 players to have gained market presence in the last 12 years. **PCBL is the only Indian company among top 10 players to have grown its market presence over the last 12 years – it grew by a CAGR of 5.0% from 360k mtpa in FY11 to 603k mtpa in FY22.**

Carbon Black capacity expansion of top 10 players in the last 12 years



Source: Company, B&K Research

Global CB demand is expected to grow faster than supply

CB demand to grow faster than supply: Global Carbon Black capacity is forecasted to rise 1.7% per year reaching 19.1 mn tonnes in CY24E with capacity utilisation of 78.0% in CY24E. Global CB demand is expected to grow at 3.5% CAGR to reach 15.0 mn tonnes by CY24E. The primary driver will be new demand from the tyre industry, based on US\$ 20 bn in new investments that is expected to be spent on new tyre production capacity worldwide from 2020 to 2025. This new capex is expected to create ~1,400k MT of new CB demand. However, in the medium-term, demand from performance and specialty chemicals are expected to grow faster than the tyre demand due to increase in the penetration.

Global demand-supply gap

| | CY19 | CY20 | CY21E | CY22E | CY23E | CY24E | CAGR (%) (CY21-24E) |
|--------------------------|--------|--------|--------|--------|--------|--------|------------------------|
| Capacity (KT) | 17,293 | 17,591 | 18,231 | 18,506 | 18,976 | 19,176 | 1.7 |
| Capacity utilisation (%) | 75.6 | 68.8 | 74.3 | 75.8 | 76.5 | 78.3 | – |
| Production (KT) | 13,077 | 12,100 | 13,550 | 14,024 | 14,515 | 15,023 | 3.5 |
| Demand (KT) | 13,407 | 12,452 | 13,800 | 14,283 | 14,783 | 15,300 | 3.5 |
| Deficit (KT) | (330) | (352) | (250) | (259) | (268) | (277) | – |

Source: Notch, B&K Research

Majority of demand to arise from tyre segment globally

| (%) | CY19 | CY20 | CY21E | CY22E | CY23E | CY24E |
|------------------|--------|--------|--------|--------|--------|--------|
| Demand (KT) | 13,407 | 12,452 | 13,800 | 14,283 | 14,783 | 15,300 |
| Tyres | 73.5 | 73.7 | 73.6 | 73.8 | 73.9 | 74.1 |
| Non-Tyre Rubbers | 19.4 | 19.1 | 19.3 | 19.2 | 19.1 | 19.1 |
| Specialty Black | 7.1 | 7.1 | 7.1 | 7.0 | 6.9 | 6.8 |

Source: Notch, B&K Research

Limited Capacity Expansions to fuel further market presence gains for PCBL – Globally

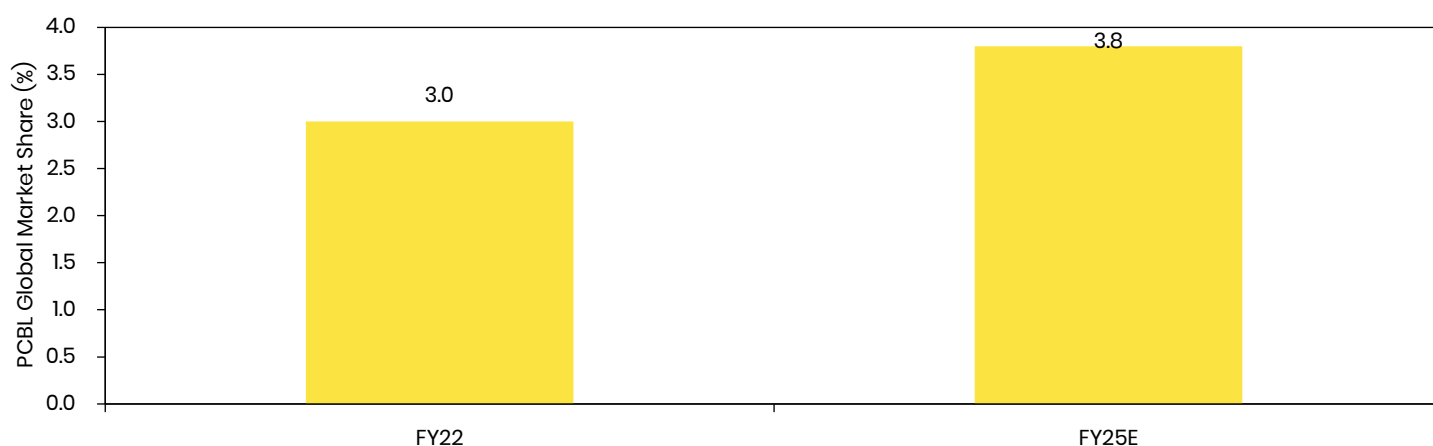
Limited capacity expansions to fuel further market presence gains for PCBL: To cater to such increase in demand, there are limited capacity expansions globally. PCBL is undertaking the largest capacity expansion plan to tap rising demand. PCBL is the largest exporter of CB from India. The company is currently exporting to more than 45 countries including Europe, Asia, Middle East, North America and South America. Their exports accounted for ~30.0% of total sales in FY22. Additionally, ~50.0% of sales from Chennai facility and ~70.0% from Mundra facility (from new 40k MT plant) are expected to be exported. **Hence, overall exports are expected to rise from current 30.0% of sales to ~43.0% by FY25E.** Their global presence is enhanced by offices located at Korea, China, Belgium, Germany, Vietnam and France. PCBL also has decanting stations across USA, Europe and Asia. While the company is focusing on current market base, they are also actively seeking to penetrate into newer geographies.

Estimated Global capacity expansions of top 10 players

| Company | Current capacity ('000 mtpa) | Estimated capacity expansion ('000 mtpa) | Future capacity ('000 mtpa) | Effective current capacity ('000 mtpa) – @ 80% | Effective future capacity ('000 mtpa) – @ 80% | Estimated completion |
|-------------------------|------------------------------|--|-----------------------------|--|---|---------------------------------|
| Cabot Corp, USA | 2,334 | 166 | 2,500 | 1,867 | 2,000 | FY23 |
| Birla Carbon, India | 2,060 | 200 | 2,260 | 1,648 | 1,808 | FY24 |
| Orion Carbon, Germany | 1,260 | 70 | 1,330 | 1,008 | 1,064 | FY24 |
| Black Cat, China | 1,155 | 0 | 1,155 | 924 | 924 | – |
| Tokai Carbon, Japan | 950 | 9 | 959 | 760 | 767 | – |
| CSRC, Taiwan | 795 | 0 | 795 | 636 | 636 | – |
| PCBL Ltd., India | 603 | 187 | 790 | 482 | 632 | 147k MT by FY23, 40k MT by FY24 |
| Omsk, Russia | 505 | 80 | 585 | 404 | 468 | FY23 |
| An Lun Chemical, China | 450 | 0 | 450 | 360 | 360 | – |
| Lonxing Chemical, China | 400 | 60 | 460 | 320 | 368 | FY23 |
| Total capacity | 10,512 | 772 | 11,284 | 8,410 | 9,027 | – |

Source: Company, B&K Research

PCBL's market share to expand by 80 bps globally



Source: Company, B&K Research

e) Resilient business model, stronger financials and consistent dividend payments

Resilient business model

The company enjoys tax benefit of Section 80IA for all existing plants and will enjoy lower taxation rate of 18.0% for Chennai plant and 22.0% for Mundra plant

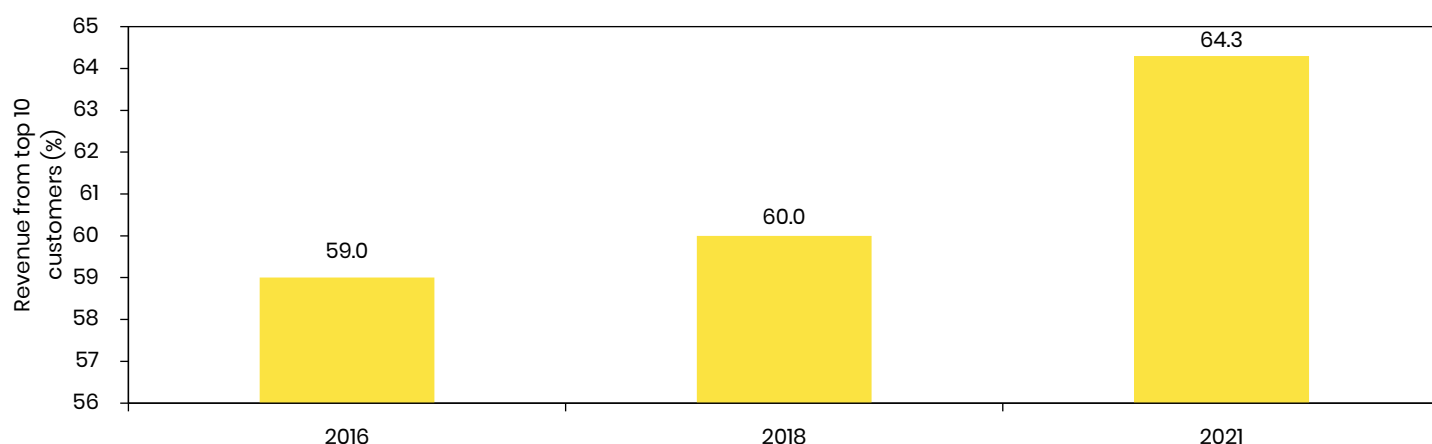
- **Strategically located manufacturing facilities:** The strategic location of their manufacturing facilities which are located in close proximity to ports and key national markets provide them with multiple advantages, including easy access to raw materials, proximity to domestic tyre manufacturers, easy grid connectivity for sale of surplus power and access to the international customers. Management believes that the cost and complexity involved in establishing such a platform represents significant entry barriers for potential competitors. **The company enjoys tax benefit of Section 80IA for all existing plants and will enjoy lower taxation rate of 18.0% for Chennai plant and 22.0% for Mundra plant.**
- **Capability to use alternate feedstock:** Owing to the research and development team, PCBL has developed a seamless capability of using multiple right mix of feedstocks, like CBFS and CBO for the manufacture of carbon black. **This capability provides them with a flexibility and a choice between multiple feedstocks based on price arbitrage available at different points in time.**
- **Strong customer relationship:** PCBL has been associated with their top five customers for more than a decade. **More than 90.0% of revenue generated in FY22 was from customers who have been associated with the company for more than five years. Sales to top 10 customers contributed to 64.3% of total revenue in 2021 and it has increased from ~59.0% in 2016.**

Sales to top 10 customers contributed has increased from ~59.0% of total revenue in 2016 to ~64.3% in 2021

For PCBL, ~90.0% of sales are directly to customers and rest ~10.0% are through distributors and agents. PCBL has maintained long-term relationship with reputed tyre manufacturers both in India and outside India. The company improves its service through support of marketing and technical service personnel, including the 'Virtual Plant Concept' which provides them with the following advantages: (i) flexibility to serve customers including providing them with the facility of just-in-time ("JIT") i.e. products being supplied by the company as and when such products are needed by the customers, (ii) the ability to meet the local demand, supplied through their warehouses, located at Chennai, Tamil Nadu, Kolkata, West Bengal, Ponda, Goa, Medak, Telangana and decanting stations located

across Asia, Europe, and USA and (iii) the capacity to supplement the domestic with overseas presence through their offices at Korea, China, Belgium, Germany, Vietnam and France.

Revenue from top 10 customers is increasing



Source: Company, B&K Research

Marquee customer base



Source: Company, B&K Research

Stronger financials

As per the management, every 1.0% improvement in yields would result in Rs 1,000/MT improvement in EBITDA

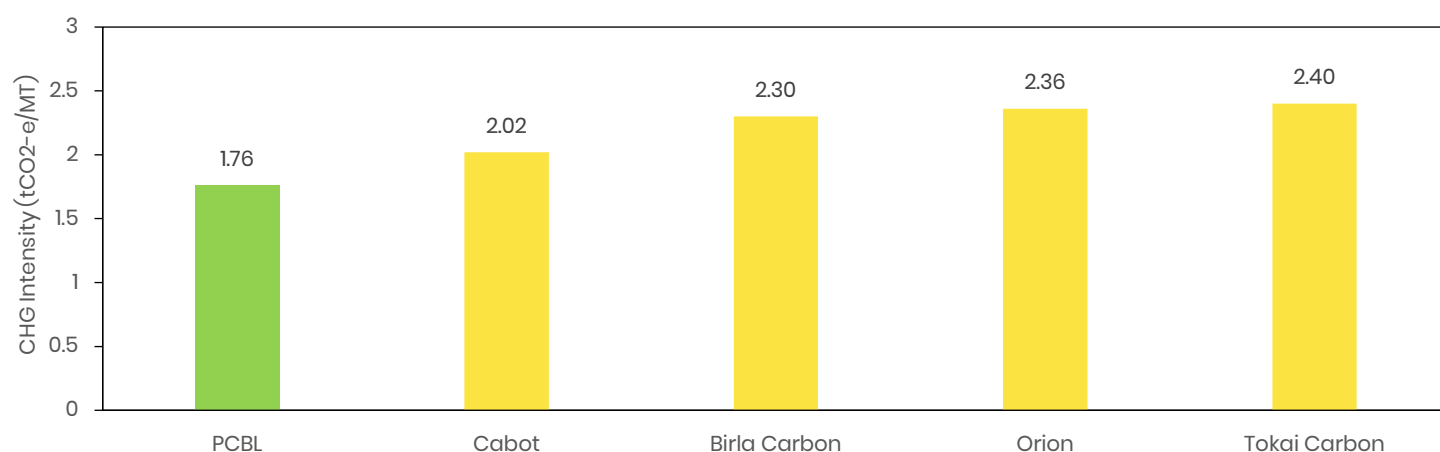
- Improving production yield:** PCBL witnessed steady and sustained improvement in profitability backed by increasing proportion of specialty black, better input-output ratio and measures to improve efficiency. The company has a dedicated R&D team working on improving the production yields from all plants. **PCBL has improved its input-output ratio from ~1.89:1 to ~1.8:1 in the last three years and is working on improving it further.**

Overall, GHG intensity (tCO₂-e/MT) is 1.76 for PCBL which is better than global and domestic peers

New capacities in Chennai are expected to operate with ~3.0% improved production yields. As per the management, every 1.0% improvement in yields would result in Rs 1,000/MT improvement in EBITDA.

Improvement in yields also helps with reduction in emissions. PCBL has developed new reactor design at three plants for improved quality consistency and lowering CO₂ emission per tonne of carbon black produced. **Overall, GHG intensity (tCO₂-e/MT) has been reduced from 2.14 in FY21 to 1.76 in FY22, whereas global peers are operating at 2 tCO₂-e/MT. GHG intensity (tCO₂-e/MT) due to green power generation-fuel gas has been reduced from 1.42 in FY21 to 1.39 in FY22.** The company is also sourcing more materials locally which has helped in reduced emissions to a great extent. Companies with lower emissions will be preferred in any case of new emission norms. This also puts the company in a better position as compared to European peers in current scenario where the cost of production in Europe is unsustainable due to high gas cost. We believe, this factor will also contribute to rise in export demand for PCBL.

GHG intensity (tCO₂-e/MT) is 1.76 for PCBL which is better than global and domestic peers

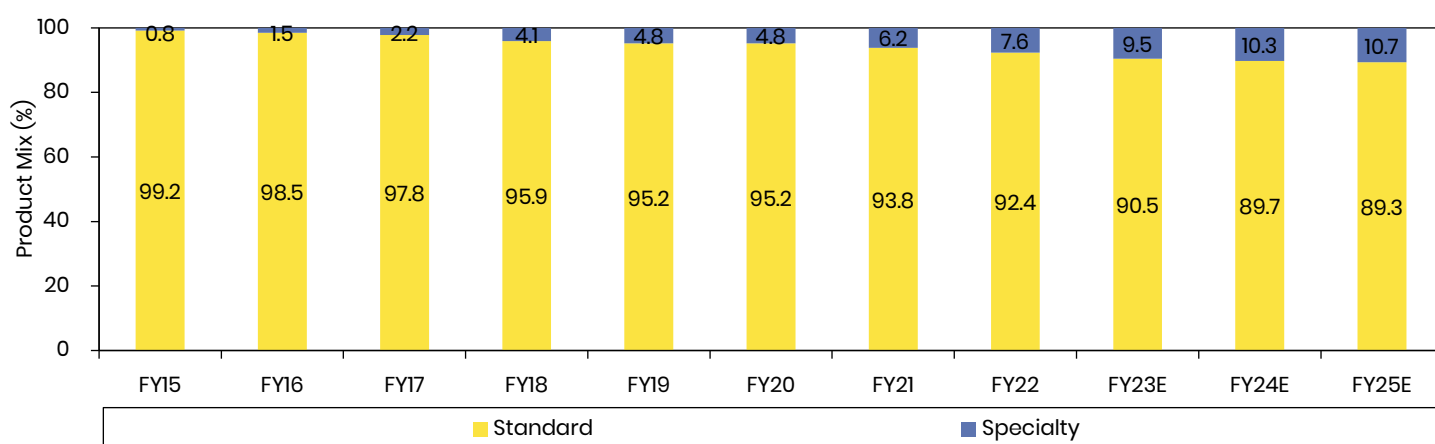


Source: Company, B&K Research

PCBL has been increasing share of revenue from Specialty products by launching new grades of products every year

- Improving product mix: The margins in Specialty Products are 2-2.5x as compared to standard Carbon Black products (Performance Chemicals have 1.2x margins over standard carbon black products). EBITDA margin in Specialty products stands at ~25%.** PCBL has been increasing share of revenue from Specialty products by launching new grades of products every year. They have increased their share of Specialty Products from 0.8% of sales in FY15 to 7.6% of sales in FY22 and is expected to further increase it to 10.7% of sales by FY25E.

Improving product mix



Source: Company, B&K Research

- Improving BEP:** PCBL has been able to successfully reduce its break-even capacity from high of 73.7% in FY16 to 41.7% in FY22. We split the break-even cycle in two phases:
 - Phase I (Descending phase):** This is a phase wherein the company continued to witness margin erosion despite doubling its topline from FY10 to FY15. The company focused on gaining more and more market share without adhering to any cost control measures. In this Phase, the company had witnessed intense competition from Chinese players due to twin factors—rising demand for tyres in China and cheap feedstock availability in China. Consolidated revenue grew by 100.4% and to get that topline growth, the fixed cost of the company increased by 155.1% and contribution margin also decreased from 19.6% to 12.1%. Such strategy of targeting high growth supported the company only when Crude Oil prices were falling. However, when the industry witnessed a rise in crude prices, the company was burdened with high-cost structure and interest repayment obligations and hence they had reported its first losses in a decade in FY13 extending into FY14. BEP had increased from 40.9% to 79.1% in Phase I.
 - Phase II (Ascending Phase):** From CY15 onwards, tyre production has declined in China at a CAGR of 0.5% from CY15 to CY21. This has boosted production of tyres in markets ex China and India is one of the major beneficiaries of the same. Favorable macro tailwinds coupled with the company's focus on better cost structure from FY16–FY22 has helped in reducing BEP from 73.7% in FY16 to 41.7% in FY22. The revenue grew by 134.7%, whereas fixed cost only grew by 51.4% from FY16 to FY22. The company saw average contribution margin jumping to ~23.0% in Phase II from ~13.0% levels during Phase I. (**Note:** FY22 numbers also include one-time fund

Phase I – Consolidated revenue grew by 100.4% and to get that topline growth, the fixed cost of the company increased by 155.1% and contribution margin also decreased from 19.6% to 12.1%

Phase II – The revenue grew by 134.7%, whereas fixed cost only grew by 51.4% from FY16 to FY22. The company saw average contribution margin jumping to ~23.0% in Phase II from ~13.0% levels during Phase I

raise cost, which if excluded, would have resulted in even lower BEP).

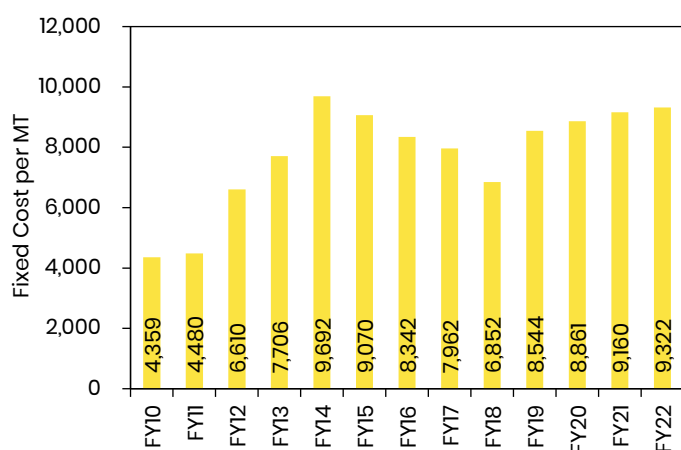
Break-even capacity is expected to reduce further on better utilisations, better contribution, better product mix, cost reduction measures and improved production yield.

Improving BEP

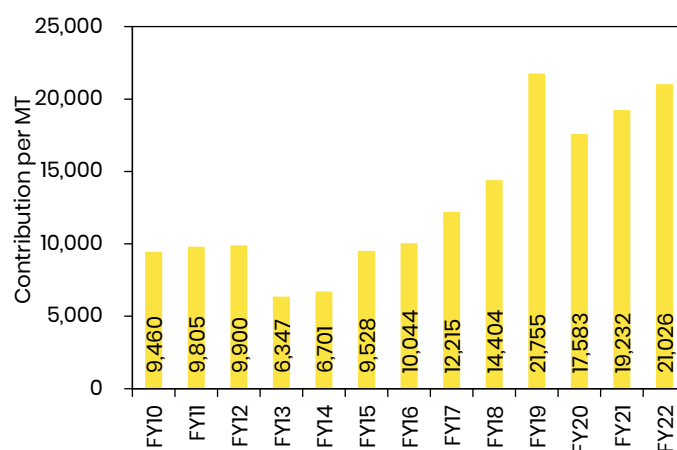
| Phases | Years | Capacity | Revenue growth (%) | Contribution margins (%) | Growth in fixed cost (%) | Break-even capacity as a % of effective capacity | Incremental RoCE (%) |
|----------------------------|---------|-----------------------------------|--------------------|---|--------------------------|--|----------------------|
| Phase I (Descending Phase) | FY10-15 | Increased from 360k MT to 472k MT | 100.4 | Average contribution margin stood at ~13.0% | 155.1 | Increased from 40.9% to 79.1% | (4.9) |
| Phase II (Ascending Phase) | FY16-22 | Increased from 472k MT to 603k MT | 134.7 | Average contribution margin increased to ~23.0% | 51.4 | Decreased from 73.7% to 41.7% | 29.6 |

Source: Company, B&K Research

Fixed cost per MT is expected to increase initially due to capacity expansions



Contribution per MT is expected to improve due to better product mix

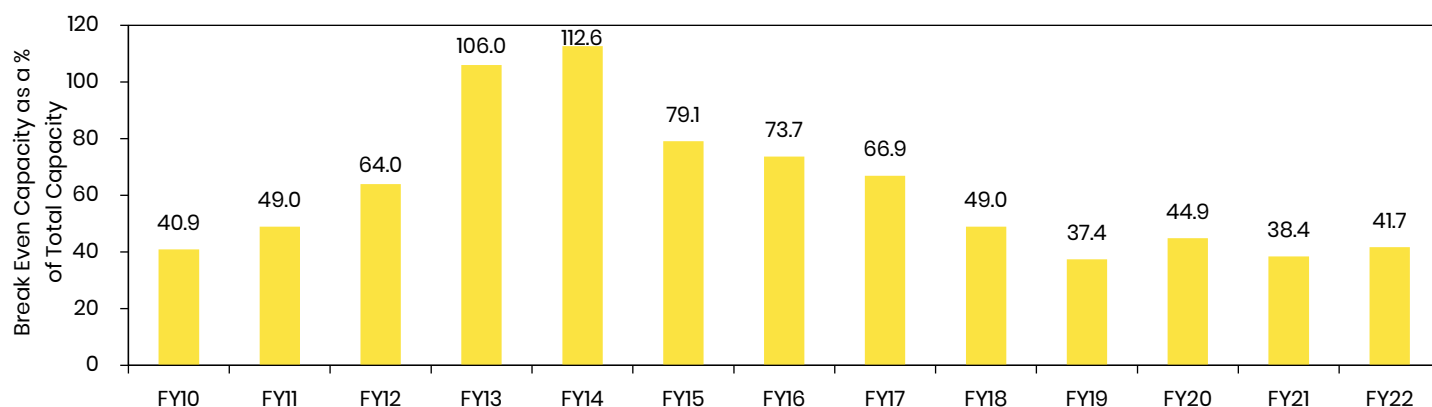


Source: Company, B&K Research

Note: Fixed cost is lower in FY18 due to lower Interest and Miscellaneous expenses.

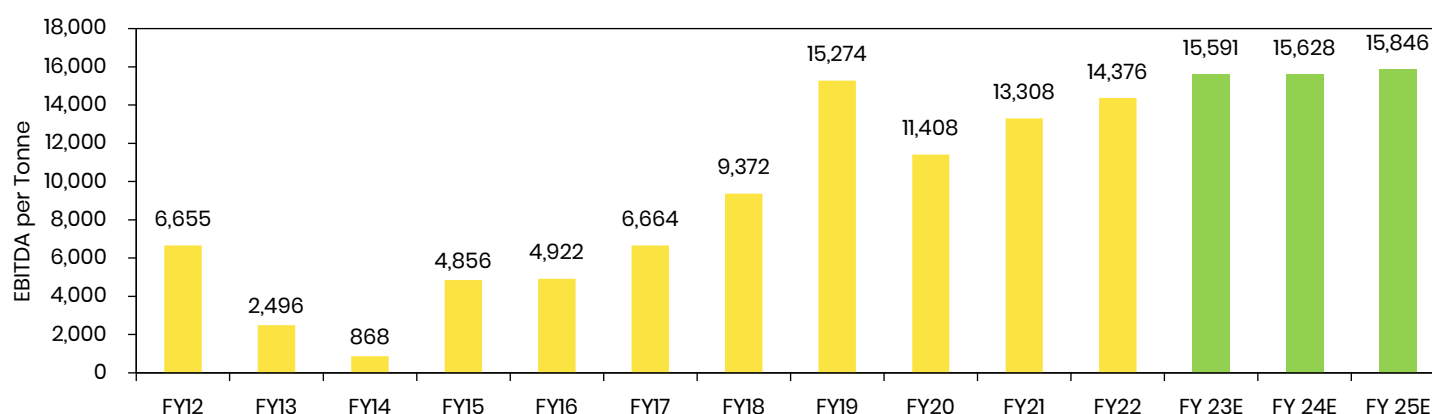
Note: FY19 contribution is higher due to historical high realisations.

Break-even capacity has reduced on improvement in contribution per tonne and maintaining the fixed cost per tonne (Calculations are based on effective capacity)



Source: Company, B&K Research

EBITDA per MT is expected to be maintained above Rs 15k/tonne on better product mix



Source: Company, B&K Research

When compared with major peers, PCBL has the lowest break-even point which gives the company a significant advantage over its peers especially in a downcycle. As the company keeps its cost under control, any increase in utilisations or improvement in product mix will add significantly to the bottomline.

PCBL has the lowest break-even point and one of the lowest fixed cost structure in the industry

| (Rs mn) | PCBL | Birla Carbon India | Himadri | Orion |
|----------------------------|--------|--------------------|---------|---------|
| | FY22 | FY21 | FY22 | CY21 |
| Revenue | 44,464 | 18,684 | 27,913 | 116,025 |
| Variable cost | 34,915 | 14,936 | 25,050 | 78,653 |
| Contribution | 9,550 | 3,748 | 2,863 | 37,373 |
| Contribution margin (%) | 0.21 | 0.20 | 0.10 | 0.32 |
| Fixed cost | 4,520 | 3,210 | 2,154 | 20,490 |
| Break-even sales | 21,046 | 16,003 | 20,998 | 63,612 |
| Fixed cost as a % of sales | 10.2 | 17.2 | 7.7 | 17.7 |
| BEP (%) | 47.3 | 85.7 | 75.2 | 54.8 |
| EBITDA margin (%) | 14.7 | 12.1 | 5.6 | 17.3 |

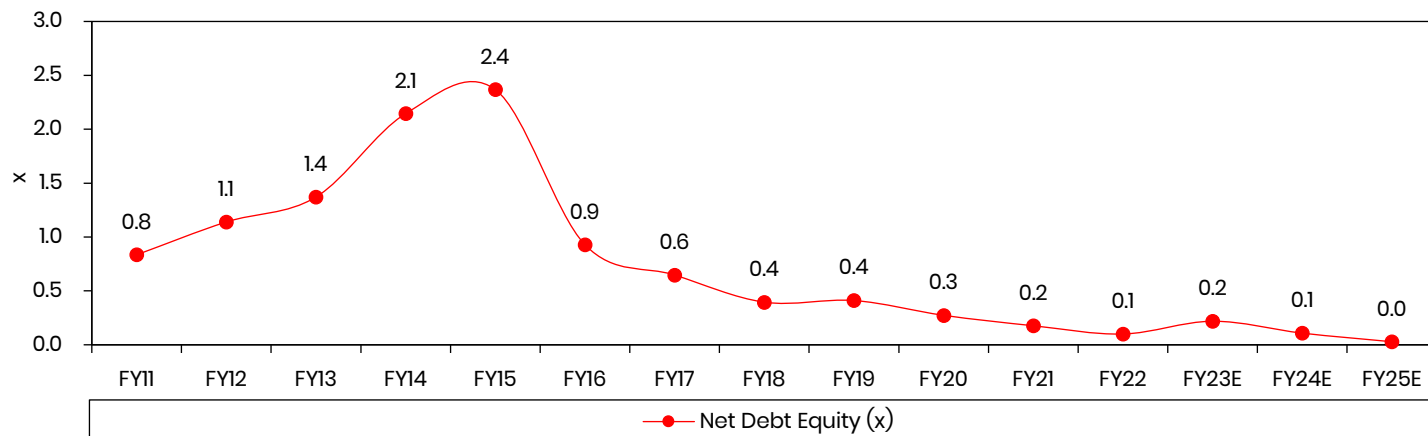
Source: Company, B&K Research **Note:** As data for FY22 is not available for Birla Carbon, India, we have used FY21 numbers to compare. Exchange rate used to convert Orion numbers are US\$ 1 = Rs 75.

Credit Ratings of PCBL has been upgraded

Net debt-to-equity stands at 0.2x in FY22 and the same is expected to be Nil by FY25E

- **Improving Credit Ratings:** The long-term credit rating of the company has been upgraded by three credit rating agencies namely CARE, ICRA and CRISIL. Their present short-term credit rating is A1+, while the long-term rating is AA (with stable outlook).
- **Reducing debt levels:** As of year ended FY22, the company has a gross debt of Rs 6.8 bn and cash of Rs 1.5 bn on books. Hence, total sum available for deployment in the upcoming capacity expansions are Rs 8.3 bn. The company is expected to incur a capex of Rs 7.5 bn in FY23 and hence we do not expect the company to raise any additional debt to fund capex. Capex is expected to reduce from FY24 onwards (FY24 capex is expected to be Rs 3.5 bn and FY25 capex is expected to be Rs 2.5 bn) and it can be funded via internal accruals itself, as the company is expected to generate an average of Rs 5.5 bn in profits per year. Moreover, the company is expected to have additional cash despite capex and the same is expected to be used to repay debts and pay dividends. The company has a **balanced Capital Allocation Policy** of spending 1/3rd in Dividends, 1/3rd in Debt reduction and balance 1/3rd in Capex. Net debt-to-equity stands at 0.2x in FY22 and the same is expected to be Nil by FY25E.

Reducing debt levels

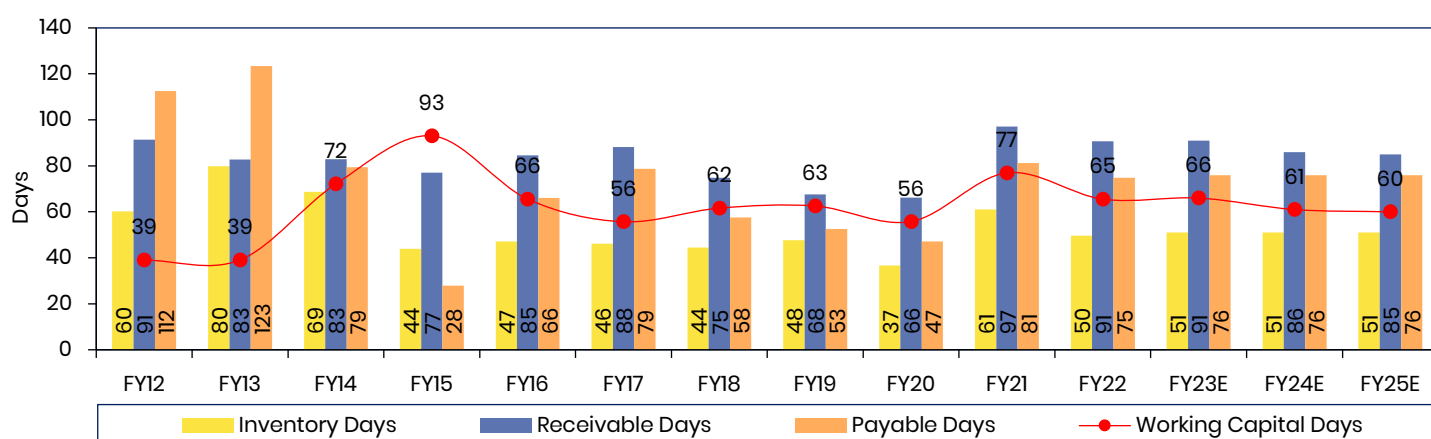


Source: Company, B&K Research

As share of exports are expected to rise from 30.0% in FY22 to 43.0% in FY25E, we expect the net working capital cycle to reduce to 60 days from current levels of 65 days

- **Working Capital Cycle to reduce due to higher exports mix:** Despite double-digit revenue growth, the company has been able to maintain overall net working capital cycle of ~two months. Exports have a lower working capital cycle due to higher share of spot market sales in exports and also due to lower interest rates in foreign countries as compared to India. Going forward, the same trend is expected to continue with regards to domestic sales. **However, as share of exports are expected to rise from 30.0% in FY22 to 43.0% in FY25E, we expect the net working capital cycle to reduce to 60 days from current levels of 65 days.**

Working capital cycle to reduce due to higher share of exports

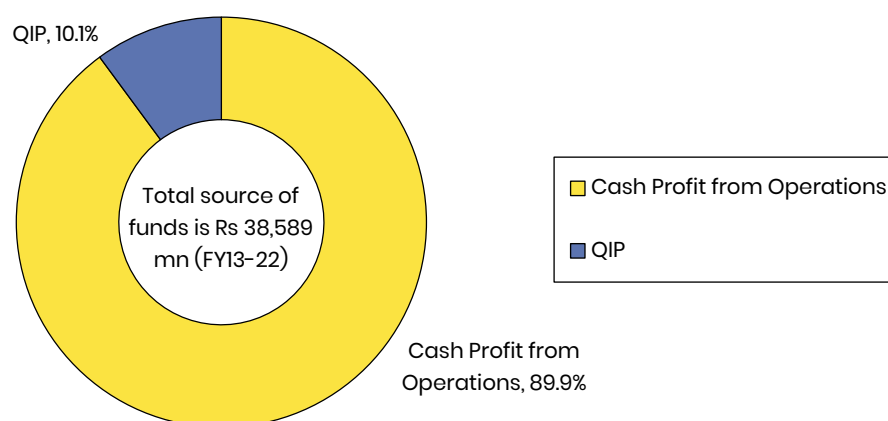


Source: Company, B&K Research

Going forward, the management expects a balanced capital allocation policy of spending 1/3rd in Dividends, 1/3rd in Debt reduction and balance 1/3rd in Capex

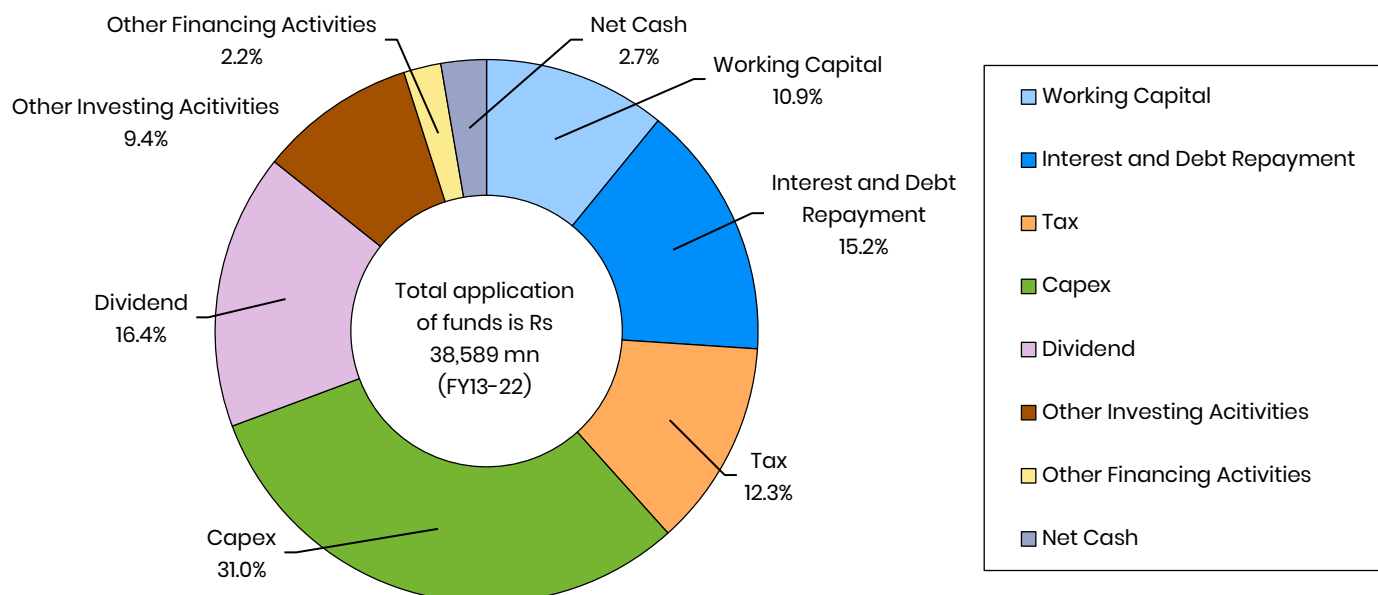
~50.0% of cash generated is re-invested in the business: Historically, ~50.0% of cash generated by the company (net of cash in hand and taxes) has been re-invested into the business to meet capital expenditure or working capital expenditure needs. ~20.0% of such cash has been paid out as dividends, ~18.0% of it has been used to repay debt and interest and ~11.0% has been used to invest in current and long-term investments and balance has been used for other purposes. Going forward, the management expects a balanced capital allocation policy of spending 1/3rd in Dividends, 1/3rd in Debt reduction and balance 1/3rd in Capex.

Source of funds (Last 10 years – Cumulative)



Source: Company, B&K Research

Application of funds (Last 10 years – Cumulative)

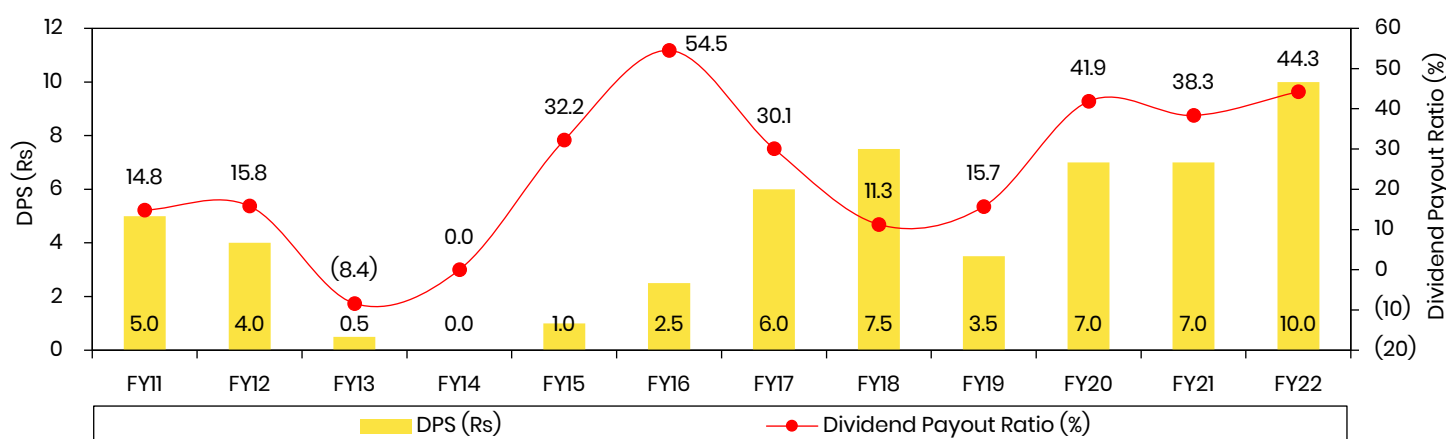


Source: Company, B&K Research

PCBL has better dividend yields than tyre manufacturers

Consistent dividend payments: The company has been regular in making dividend payments. Dividend yield stands at 4.0%. **Dividend yields are far better than tyre manufacturers which usually have ~1.0-2.0% yields.**

Consistent dividend payouts



Source: Company, B&K Research

Is profitability dependent on commodity prices for PCBL?

There is a common perception that the profitability of PCBL is directly dependent on commodity prices. However, the financials of the company indicate otherwise.

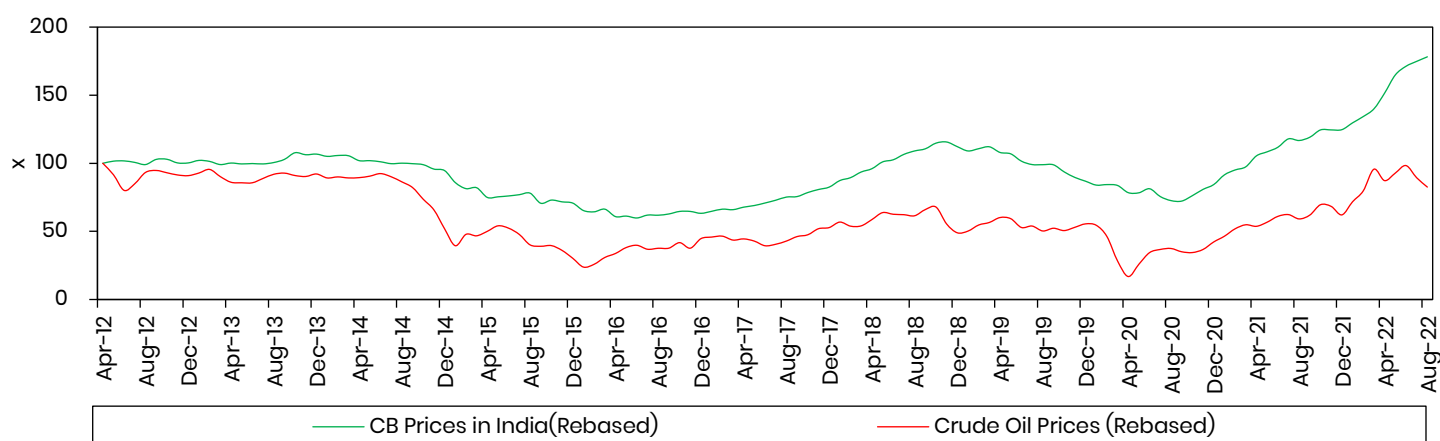
CB prices rise in case of favourable tyre demand and higher oil prices

Being a crude derivative, CB prices mimic the movement in oil prices (with a time lag), aside from the demand and supply factors. **CB prices rise in case of favourable tyre demand and higher oil prices.** To some extent, this does bring volatility in the company's

Until FY17, Gross Profit per tonne was inversely proportional to the rise in crude oil prices, however, since the structural changes in the Industry (as mentioned in the first investment argument) and the company's focus on increase in value-added products and strong volume growth, Gross profit per tonne has risen along with rise in Crude prices

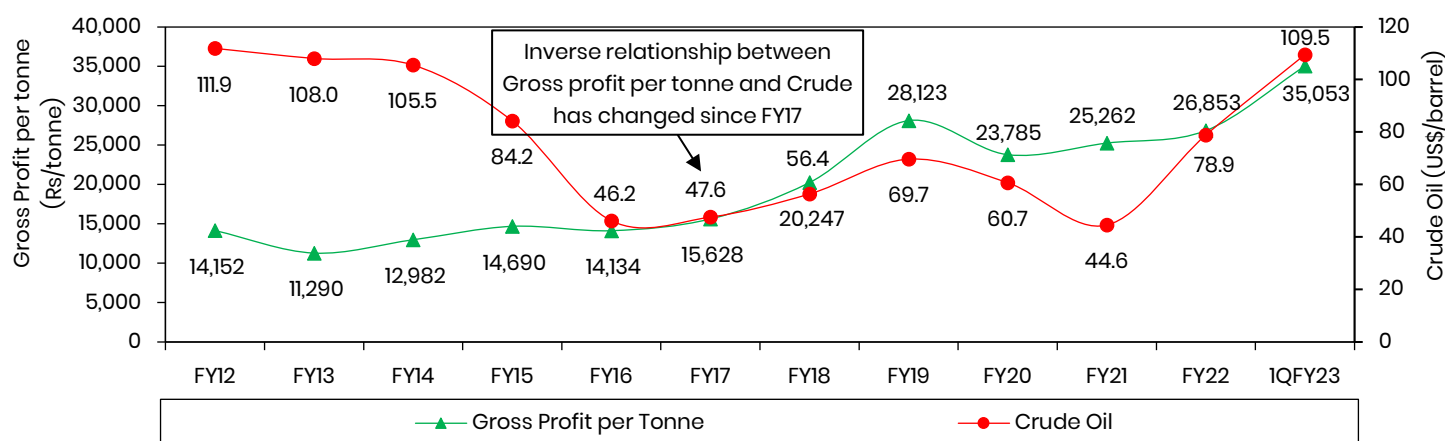
profitability. However, we have plotted the gross profit per tonne against crude prices which clearly suggests that the inverse relationship between rise in crude and fall in gross profit is no longer valid. **Until FY17, gross profit per tonne was inversely proportional to the rise in crude oil prices; however, since the structural changes in the industry (as mentioned in the first investment argument), the company's focus on increase in value-added products and strong volume growth, gross profit per tonne has risen along with rise in crude prices.** Hence, PCBL cannot be considered as a true commodity play and therefore we believe that the stability in profitability deserves better than historical valuations.

CB prices mimics Crude prices



Source: Industry, B&K Research

No impact on Gross profit per tonne despite rise in Crude prices



Source: Industry, B&K Research

Key risks

1. Removal of anti-dumping duty on Chinese tyres into US, Europe and India may slowdown demand for carbon black in regional markets.
2. Drop in coal chemical prices including carbon black oil. Chinese have disadvantage of feedstock on rise in coal prices, and scarcity of coal chemicals. Affordable availability of carbon black oil could revive fragmented Chinese carbon black industry, and international dumping may restart hurting spreads for non-Chinese carbon black manufacturers. Similarly, rise in crude oil price could increase input cost for PCBL and therefore, impact margins. The company usually passes on raw material fluctuations to customers with a lag; however, in extreme volatilities, the company may not be able to pass on cost increases to the customers.
3. Carbon black is polluting industry as it exhausts harmful off-gases. Stringent environmental regulations regarding Sulphur oxide/dioxide ("SOx") emissions have been enacted in many countries for removal of SOx from flue gases by various methods. In India, the Ministry of Environment, Forests and Climate Change ("MOEFCC") has, in the past, introduced stringent new standards to regulate emissions by coal fired power plants, and a phased implementation plan for installation of FGD and other emission control equipment has been submitted to MOEFCC in 2017. While currently, PCBL is under no obligation to set up such FGD plant, they may in the future need to, in case such norms are made applicable to carbon black producers. Installation of such FGD plants will lead to increase in capital expenditure and operating costs, without any increase in production/output.

Key risks are removal of anti-dumping duty on China, drop in feedstock prices for China and environmental regulations

Silica versus Carbon Black

Silica, the main competition for carbon black as a reinforcement material, has grown in popularity for use in high-performance and low rolling-resistance tyres. By replacing carbon black with Silica, one can reduce the rolling resistance by almost ~20.0% and improve the fuel economy by about 3.0-5.0%. Silica is a factor in the market, largely because of the demand for low rolling resistance in OEM passenger tyres but has made very little penetration in the truck tyre market.

Silica is very expensive, and it takes three mixing cycles to blend into a rubber compound, compared with only two for carbon black, and hence not a viable substitute for carbon black in many applications.

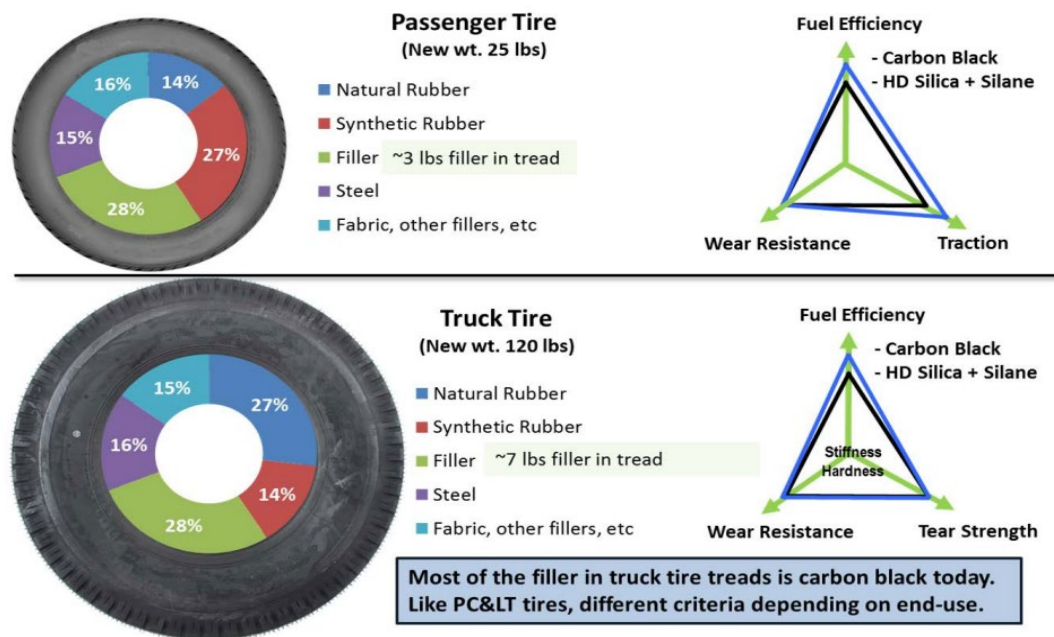
As Goodyear recently highlighted in an investor presentation, Silica also has significant drawbacks in terms of tyre manufacturing

Silica is very expensive, and it takes three mixing cycles to blend into a rubber compound, compared with only two for carbon black, and hence not a viable substitute for carbon black in many applications

efficiency and complexity. Hence, the industry expects a co-existence of the two materials, depending on the application.

Silica reduces rolling resistance and improves fuel economy, more preferred in passenger tyres over truck tyres

Passenger Tires & TBR Tires



Source: B&K Research

Comment by Mr Anant Goenka – CEAT, MD on silica versus CB: “Yes, this is a continuous endeavour that has been happening over many years’ time actually, so there is always a desire to move towards more and more Silica because it is more environmentally friendly as a raw material. It also helps improve rolling resistance of tyres and as you move to high performance tyres, passenger car segment tyres, all these areas require more silica. So that is a shift that has been happening for some time. There is not going to be any kind of step change on this but every year we try and shift by a few percentage points. There are challenges towards fully replacing, it cannot replace 100% carbon black, but as much as possible we try and replace”

Source: CEAT Transcript, B&K Research

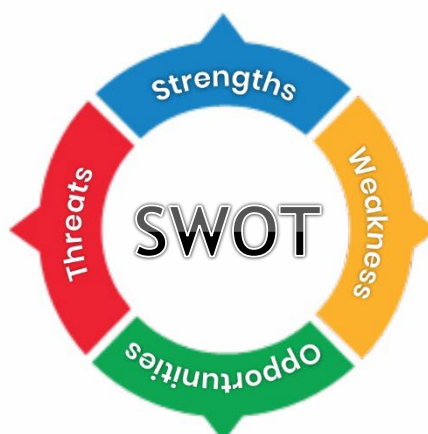
Comment by Mr Gaurav Kumar – Apollo Tyres, CFO: “Silica is increasingly being used, but today carbon black is a significant portion of the tyres and not a simple matter of replacing one material with the other till all the performance characteristics are met. Today are we completely doing away with carbon black, no.”

Source: Apollo Tyres Transcript, B&K Research

SWOT analysis

- Largest player in Carbon Black in domestic market and 7th largest globally
- Strategically located manufacturing facilities with capability to use alternate feedstock
- Long-term relationship with all customers
- Strong focus on R&D for expansion of portfolio
- Captive generation of power using tail gas
- Robust financials with strong balance sheet

- Prolonged slowdown in Auto & Tyre industry
- Removal of anti-dumping duty on Chinese tyres into US, Europe and India
- Rise in import of Carbon Black from China
- Revival in Chinese Carbon Black market



- Capital intensive business
- Historical post tax RoCE was sub 12.0%
- High dependence on tyre sector – it forms ~65.0% of business volumes
- Lower mix of Specialty products as compared to global peers

- Capacity expansion by tyre companies
- Improving geographical presence and rise in exports
- Expanding product portfolio – adding Value Added Products and Specialty Black Products
- Expansion in power business for taking advantage of higher off gas production
- Re-implementation of Anti-Dumping Duty on Foreign Carbon Black Manufacturers
- Consolidation in Chinese market
- Sanctions against Russia

Source: Company, B&K Research

ESG – Sustainability at PCBL

PCBL is the first Carbon Black company in the world to receive carbon credits

PCBL has developed new reactor design at three plants for improved quality consistency and lowering CO2 emission per tonne of carbon black produced.

The company has taken the target of reducing their net CO2 emission by 15.0% by 2030 with respect to baseline year FY21

PCBL is the first Carbon Black company in the world to receive carbon credits. The company has heavily cut down on carbon and gas emission and serves green power to large private industrial units and state electricity utilities.

- **Environment (E):** The company is committed to environment sustainability across business operations to ensure recycling and responsible usage. PCBL is adhering to international standards such as CDP disclosure, UNFCCC. The key environment management initiatives taken by the company are:
 - **Energy management:** PCBL has developed new reactor design at three plants for improved quality consistency and lowering CO2 emission per tonne of carbon black produced. Overall, GHG intensity (tCO₂-e/MT) has been reduced from 2.14 in FY21 to 1.76 in FY22. GHG intensity (tCO₂-e/MT) due to green power generation-fuel gas has been reduced from 1.42 in FY21 to 1.39 in FY22.
 - **Emission reduction:** The company has taken the target of reducing their net CO2 emission by 15.0% by 2030 with respect to baseline year FY21. The key initiatives are:
 - The company has installed Continuous Emission Monitoring System (CEMS) to track all emissions (of SO₂, NO_x, H₂S and SPM) on a continuous basis across all their plants.
 - They have also installed highly efficient filter bags [membrane coated Polytetrafluoroethylene (PTFE) bags] into the bag filter. These helps filter out fine dust particles.
 - For the reduction of SO_x and other gases, the company is selecting raw material feedstock with minimum sulphur content and other impurities.
- **Waste and Water Management:** The key initiatives are:
 - PCBL has set up Zero Liquid Discharge (ZLD) compliant plants.
 - PCBL uses recycled wastewater for utilisation in the process which reduces the consumption of freshwater. Most of their manufacturing units recycle the water through ETP.
 - They have also installed rainwater harvesting systems for a stable supply of freshwater. The company has taken up the target of reducing specific freshwater consumption by ~25.0% from baseline FY21 by 2030.
 - They have initiated a Focused Improvement Project (FIP) across all units with cross-functional teams deploying DMAIC

Methodology to reduce the waste generation. At Mundra unit alone, FIP of Zero Carbon Black Leakage had successfully reduced CB leakage by 69.0% (month-on-month) over a period of four months.

- **Social (S):** The company adheres to the international standards such as European REACH. They are also Certified to the new ISO 45001:2018 standard. The key initiatives taken by the company are:

The company adheres to the international standards such as European REACH. They are also Certified to the new ISO 45001:2018 standard

- **Capacity building:** The company collaborated with International Management Institute, Kolkata for a Certified General Management Programme (CGMP). The objective of CGMP is to enhance leadership skills, sharpen business acumen, and help develop programme participants into tomorrow's business leaders.
- **Development of underprivileged communities:** PCBL is proactively working towards the development of underprivileged communities with focus on education, health and sanitation, environment sustainability and holistic community development.
- **Allotted ~2.0% of PAT for CSR initiatives:** The company has contributed Rs 86.6 mn in FY22 towards CSR initiatives. This has increased from 1.0% of PAT in FY21 to 2.0% of PAT in FY22.

- **Governance (G)**

- Mr Sanjiv Goenka is the Chairman and Mr Kaushik Roy is the Managing Director of the company.
- Board is diverse in terms of skills and expertise in the fields of global business, strategy & planning, leadership, legal & regulatory matters, finance, risk management and relevant technologies. Average age of Board is 59+ years.
- Independent directors: ~60.0% of the board is independent. The company has 6 independent directors of total 10 board of directors.
- There are two women directors on the board.
- MD remuneration (2.4% of PBT) – within ceiling limits prescribed by law.

~60.0% of the board is independent

Related party transactions and balances

Key related party transactions

| (Rs mn) | FY21 | FY22 | Change (%) | Remarks |
|---|----------------|----------------|--------------|--|
| Net dividend paid to parent | 532.9 | 840.5 | 57.7 | This is due to higher dividends declared in FY22. |
| Investment in preference shares of parent | – | 1,940.0 | 100.0 | Invested in wholly owned subsidiary – PCBL (Tamil Nadu) Ltd. which was incorporated in September 2020 for greenfield expansion in Tamil Nadu. |
| Sale of Power to Parent | 530.3 | 776.5 | 46.4 | ~85.0% of power sales are done to group company – CESC Ltd. to avoid high cross subsidy charges on sale of power to grid in West Bengal. This is based on a short-term contract with CESC Ltd. and is done on an arm's length basis. |
| Net reimbursement of expenses | 73.8 | 113.7 | 54.1 | |
| Licence fees paid | 160.0 | 160.0 | 0.0 | |
| Total | 1,297.0 | 3,830.7 | 195.4 | |

Key related party balances

| Closing balance | FY21 | FY22 | Change (%) | Remarks |
|-------------------------|---------|---------|------------|---|
| Net receivables (Rs mn) | 796.6 | 517.0 | (35.1) | Reduced, hence positive. |
| Investments (Rs mn) | 1,978.0 | 4,568.3 | 131.0 | Increased primarily due to Rs 1,940.0 mn investment in wholly owned subsidiary – PCBL (Tamil Nadu) Ltd. |

Source: Company, B&K Research

Contingent liabilities are negligible

| (Rs mn) | FY21 | FY22 |
|--|--------------|--------------|
| Claims against the company not acknowledged as debts | 116.9 | 308.0 |
| Guarantees | 1.8 | 0.0 |
| Others | 15.7 | 15.7 |
| Total | 134.4 | 323.7 |
| As a % of net worth | 0.7 | 1.2 |

Source: Company, B&K Research

Peer comparison

Competition in this business is based on, pricing, product quality, customisation, innovation and relationship with the customers

Competitive scenario: Competition in this business is based on, **pricing, product quality, customisation, innovation, and relationship with the customers.** PCBL faces price pressures from customers who aim to procure chemicals at competitive costs. The company needs to compete on a global scale to gain and retain their market share. They face significant competition from other entities manufacturing similar products, based in, or selling in, the same regional markets that they cater to. As a result, to remain competitive in markets, the company continuously strives to reduce their costs of production, transportation and distribution and improve their operating efficiencies.

Peer comparison

| Company | Country | Year | Net sales (Rs mn) | Gross profit (Rs mn) | Gross profit margin (%) | Adjusted EBITDA (Rs mn) | EBITDA margin (%) |
|-------------------|----------|------|-------------------|----------------------|-------------------------|-------------------------|-------------------|
| PCBL | India | FY22 | 44,464 | 13,126 | 29.5 | 6,530 | 14.7 |
| Birla Carbon | India | FY21 | 18,684 | 6,255 | 33.5 | 2,269 | 12.1 |
| Birla Carbon | Thailand | CY21 | 22,722 | 5,709 | 25.1 | 1,241 | 5.5 |
| Himadri | India | CY21 | 27,913 | 5,465 | 19.6 | 1,561 | 5.6 |
| Cabot Corp | USA | CY21 | 255,675 | 72,450 | 28.3 | 48,750 | 19.1 |
| Orion Carbon | Germany | CY21 | 116,025 | 36,825 | 31.7 | 20,100 | 17.3 |
| Black Cat | China | CY21 | 92,972 | 15,116 | 16.3 | 11,647 | 12.5 |
| Tokai Carbon – CB | Japan | CY21 | 155,324 | 51,549 | 33.2 | 32,711 | 21.1 |
| CSRC | Taiwan | CY21 | 64,004 | 20,355 | 31.8 | 16,188 | 25.3 |
| Lonxing Chemical | China | CY21 | 40,297 | 6,809 | 16.9 | 4,543 | 11.3 |

Source: Company, B&K Research

Notes:

FY22 numbers are not available for Birla Carbon, India. Hence, FY21 numbers are considered for comparison.

We have used 1THB = Rs 2.2, 1US\$ = Rs 75, 1 CNY = Rs 11.8, JPY = Re 0.6, 1TWD = Rs 2.6 for all years for respective countries.

Industry section

Carbon Black comprises 95.0% or more carbon as well as oxygen, sulphur, nitrogen and ash in small amount

About Carbon Black (CB): Carbon Black comprises 95.0% or more carbon as well as oxygen, sulphur, nitrogen and ash in small amount. It is a light-weighted, fine black powder like dust. CB is obtained from the thermal decomposition of heavy petroleum raw materials such as ethylene cracking tar, coal tar or FCC tar. It is highly adopted, owing to its beneficial characteristics such as efficiently absorbing Ultraviolet (UV) light and converting it into heat, increased tyre tread wear and rolling resistance, improved thermal conductivity and superior UV protection.

When you see black items, it's carbon black.

Source: Tokai Carbon Annual Report, B&K Research

Carbon Black applications: CB products are primarily used as raw material in production of tyres (**CB is a key raw material for tyre manufacturing and accounts for ~9.0% of total raw material costs in value and ~22.0% in volume. About ~81.0% of CB demand arises from tyre segment, ~21.0% from non-tyre rubber segment and the remaining ~8.0% from Specialty Black segment.** They are also used in products like hoses, belts, antivibration products and also used as value enhancing filler in varied products like plastics, dyes, pigments, etc.

About 46 parts of carbon black are consumed for tyre industry for every 100 parts of rubber

- **Demand from Tyre industry: About ~81.0% of carbon black demand is related to its use as a reinforcing filler in rubber, so the fortunes of the carbon black market are inextricably linked with the rubber and tyre industries.** Worldwide, about 46 parts of carbon black are consumed for every 100 parts of rubber (a metric for rubber compounding ingredients known in the industry as PHR, or parts per hundred rubber). In addition to the total volume of rubber used worldwide, carbon black demand is affected by the product mix of the rubber industry, particularly, the percentage of rubber used in tyre applications versus non-tyre applications. This is because tyre compounds on average require higher carbon black loadings than non-tyre rubber goods (though some individual mechanical rubber goods may take very high loadings). The rubber and tyre industries, in turn, are reliant upon the motor vehicle industry, where the key indicators are motor vehicle production and the number of vehicles in use around the world.
- **Demand from non-tyre rubber industry: The average carbon black loading in this sector of the market was PHR 23.3 in 2020, which means that 23 parts of carbon black were consumed relative to every 100 parts of rubber used in the manufacturing of non-tyre rubber goods.** The non-tyre rubber market refers to

About 23 parts of carbon black are consumed for non-tyre rubber industry for every 100 parts of rubber

In terms of grade mix, the non-tyre rubber segment is essentially the inverse of the tyre market, with roughly 70.0% of demand consisting of carcass grades and the remaining 30.0% consisting of tread grades and high-end specialty grades

The largest single market for carbon black outside the rubber industry is plastics compounding, accounting for about 70.0% of volume demand for special blacks

The Specialty markets account for only 7.0% of the carbon black industry's volumes but 11.0% of market value due to the higher average prices typical for pigment grades

usage of carbon black in rubber compounding outside of tyres and retreading. Major applications in this segment is in extrusions/profiles; belts and hoses; anti-vibration products; roofing, sheeting, and geomembranes; wire & cable; and other goods such as rubber mats, sporting goods and sponge rubber.

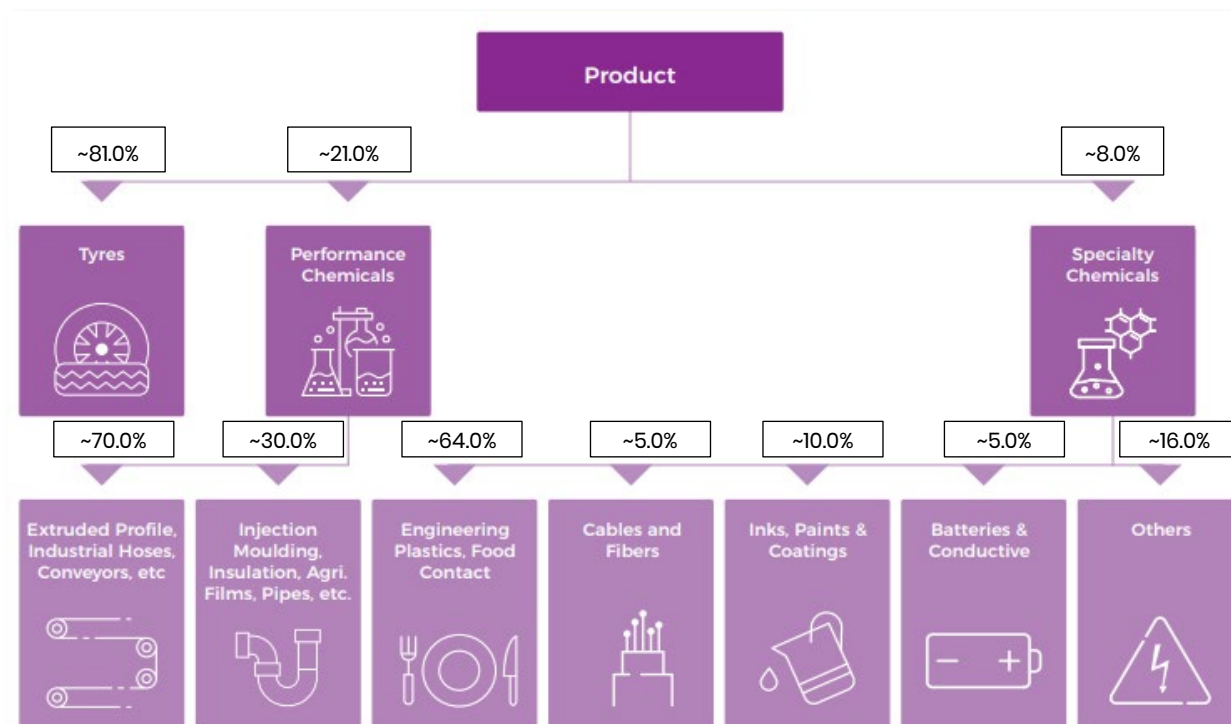
Rubber carbon black is broadly classified into two categories viz. hard black (tread black) and soft black (carcass black). Hard black is generally used in applications demanding high abrasion resistance i.e., which comes in contact with the road and are subject to higher friction, while soft black is used for applications demanding high modulus i.e., for the side wall of tyres. In terms of grade mix, the non-tyre rubber segment is essentially the inverse of the tyre market, with roughly 70.0% of demand consisting of carcass grades and the remaining 30.0% consisting of tread grades and high-end specialty grades.

- **Demand from Specialty Black industry:** CB comprises of two variants – Rubber Black (high volume, standard grade products) and Specialty Black (high margin, value-added products). The most fundamental difference between commodity and specialty grades is the degree of product quality and purity. Specialty grades are substantially cleaner than conventional grades, meaning they have lower levels of sulfur, ash and metals, as well as physical impurities and water wash residue.

The largest single market for carbon black outside the rubber industry is plastics compounding, accounting for about 70.0% of volume demand for special blacks. Major applications for specialty blacks in the plastics industry are film; blow moulding and injection moulding; wire & cable jacketing; pipe; engineering plastics; fibre; and conductive plastics and electrostatic discharge (ESD). In plastics, carbon black is used as a colourant and to improve properties such as UV resistance and electrical conductivity. ~17.0% volume demand in specialty black is from printing inks and paints & coatings and rest ~13.0% is from niche applications including metallurgy, graphite and carbon products, batteries, paper, high temperature insulation and refractories, textiles, leather and vinyl dispersions, and building products (Cement and Asphalt).

Key drivers of specialty black demand include consumer spending on both durables and non-durables, construction activity and infrastructure investment, and automotive builds and the servicing of vehicles in use. **Specialty market accounts for only 7.0% of the carbon black industry's volumes but 11.0% of market value due to the higher average prices typical for pigment grades.**

Carbon Black applications



Source: Company, B&K Research

Carbon Black applications



Source: Company, B&K Research

Carbon Black Specifications: To identify the various types of carbon black, American Society for Testing and Materials (ASTM) defined the standard nomenclature of carbon black. The classification and nomenclature of the carbon black for rubber is based on ASTM D1765 standard, which comprises four parts:

Carbon Black Specification and Naming

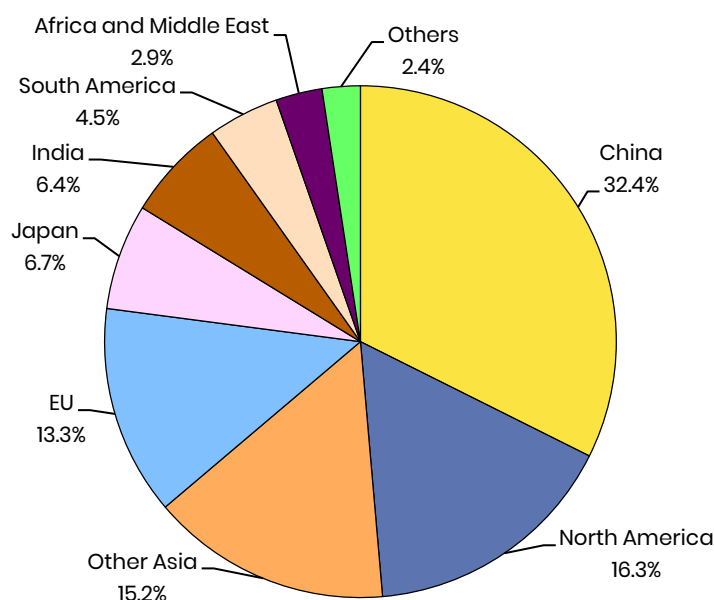
| | | | |
|--|--|---|---|
| N | 3 | 3 | 0 |
| S | 3 | 0 | 0 |
| Vulcanizing speed of rubber material N : normal speed S : slow speed | The specific surface area of carbon black Levels of 0~9 | The structural complexity of carbon black The larger the number, the higher the carbon black structure | |

Source: Company, B&K Research

Roughly 6.4% of global CB demand arises from India

Global Carbon Black demand (by regions): Globally, China is the largest producer and consumer of carbon black. The carbon black market growth in China is attributed to the increasing use of the product in tyre and plastic goods consumption. Roughly, 32.4% of global demand of carbon black arises from China, 16.3% from North America, 15.2% from Other Asia (Asia excluding China, India and Japan), 13.3% from EU Region, 6.7% each from Japan, 6.4% from India, 4.5% from South America, 2.9% from Africa and Middle East and rest from other regions of the world.

Global Carbon Black demand (by regions)



Source: Industry, B&K Research

China is a net exporter of Carbon Black. China, Russia and South Korea are top 3 countries who are net exporters of Carbon Black in the world. India and United States are net importers of Carbon Black. **India is the 4th largest producer and 3rd largest consumer of carbon black in the world.**

Top 5 Producers, Exporters, Importers and Consumers of Carbon Black

| Producer | Exporter | Importer | Consumer |
|---------------|-------------|-----------|---------------|
| China | China | Poland | China |
| United States | Russia | Thailand | United States |
| Russia | South Korea | Germany | India |
| India | Poland | Indonesia | Japan |
| South Korea | Germany | India | Thailand |

Source: Industry, B&K Research

Removal of ADD on CB imports: In the past, domestic CB industry had faced challenges from low-cost imports (mainly from China) and the impact was partly nullified with prevalence of anti-dumping duty (ADD) on CB imports. However, in January 2021, the ADD on CB imports from China and Russia had been removed. While this shall result in higher imports, it is unlikely to cause large-scale disruption (unlike past) as the landing cost is affected by higher production cost in China and 250 bps rise in customs duty. For tyre players, ADD move partly negates the shortage issues.

Company background

Incorporated in 1960, PCBL is a part of the RP-Sanjiv Goenka Group. PCBL is the largest carbon black producer in India by capacity and globally, they are the 7th largest carbon black company (both by capacity and revenue).

Product portfolio: PCBL offers a wide portfolio (manufacturer of over 75 grades of CB) of carbon black grades to address the requirements of its global customers across tyres and niche applications. The company's portfolio also addresses non-rubber high-margin applications, plastic being globally the largest by market size. The specialty portfolio addresses more than 90.0% of the plastic market by product segment in various industries worldwide. PCBL possesses deep capabilities in the areas of engineering plastics, fibres, US Food and Drug Administration (FDA) – approved food contact grades, and conductors & cables, among others.

In Specialty Chemicals, the company uses the registered trade name – “Royale Black”. Royale Black product range caters to various applications of plastics, printing ink and coating markets. The brand name ‘Royale Black’ comprises of two primary sub-brands namely (i) “Bleumina” and (ii) “NuTone”. Bleumina, a series of medium and high-coloured Specialty Chemicals, is used in car interiors to improve the aesthetic appeal and durability of the products and

PCBL has a portfolio of over 75 grades of CB

In Specialty Chemicals, the company uses the registered trade name – “Royale Black”

also used in electronic and home appliances. NuTone is a new range in specialty chemical available in a powder form. It is used for printing ink applications such as offset ink, liquid ink, and inkjet, owing to its colour strength and gloss. NuTone series is also used in coatings, fertilisers, adhesives and sealants due to its low viscosity, good stability and dispersion. These products are regularly sold to key customers in France, Russia, China and other countries.

Apart from above, PCBL also generates green power through their co-generation power plants.

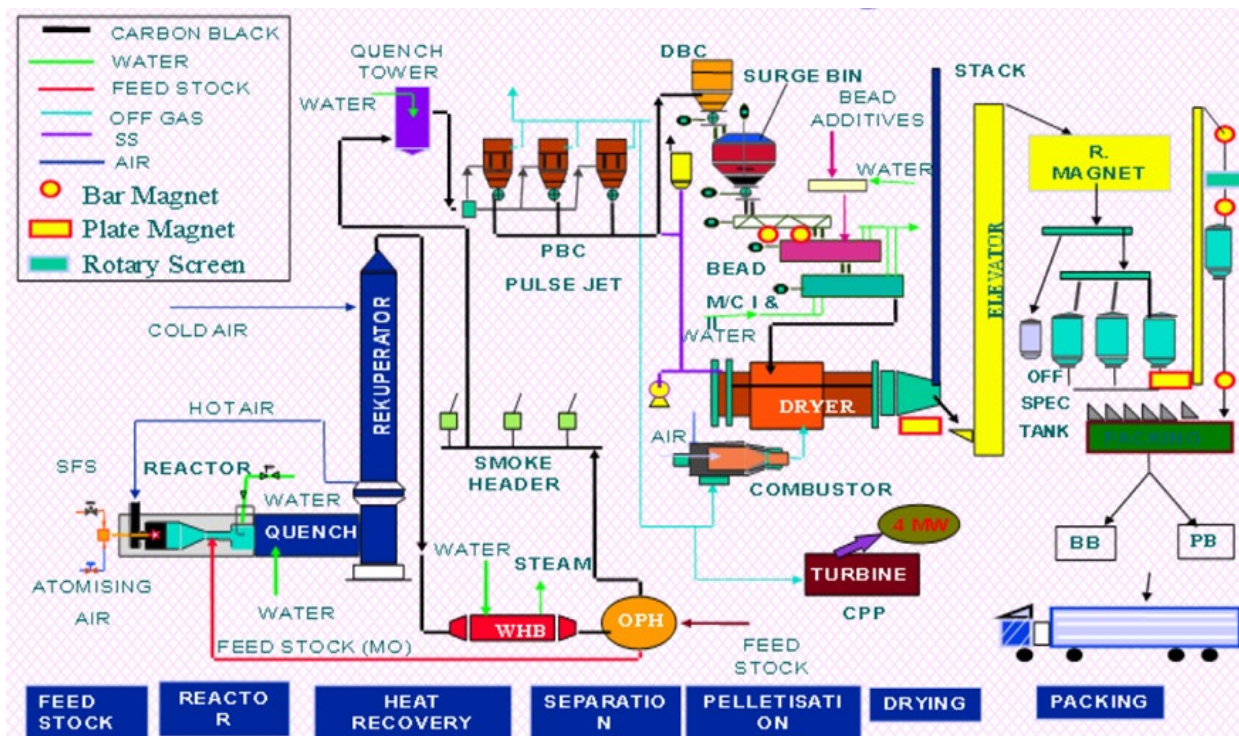
Manufacturing process: Manufacturing methods include furnace, gas, lamp and thermal black processes. Above 98.0% of the world's annual carbon black production is covered by the furnace black process. PCBL manufactures carbon black by a process known as the "Oil Furnace Process". This process uses continual thermal decomposition of gaseous or liquid hydrocarbons under controlled conditions. Raw materials consist of hydrocarbon oils rich in carbon content. Preheated air and oil feedstock are injected in a reactor lined with high temperature refractories, kept at a temperature of 1400°C–1900°C, where the feedstock undergoes 'cracking' or decomposition. The decomposition of the feedstock in deficiency of air and under carefully controlled conditions results in the formation of carbon black aggregates. The reaction, which takes place in a few milliseconds, is stopped by water quenching which brings down the temperature. The resultant smoke carrying carbon black is quenched with water sprays and passed through heat exchangers, which in-turn is used to preheat the inlet oil and air, thus achieving conservation of energy, and improving the yield. The product stream i.e., smoke, is further cooled by secondary water quenching in vertical towers. It then enters bag filters where carbon black is separated from gas. The byproduct called 'off-gas' having calorific value (around 650–700 Kcal/NM3 average) is burnt and the heat is utilised for generation of steam, generation of power and also in the manufacturing process. Separated carbon black dust is pneumatically conveyed to a pelletizer, where, with the help of a molasses and water solution and high gyrating force, pellets are formed which are dried in rotary dryers and finally stored in product storage tanks.

PCBL also generates green power through their co-generation power plants. The power generation process involves recovery and utilisation of the thermal energy of the process tail gas being produced from carbon black manufacturing process. This tail gas is used to produce steam which in-turn is used for power generation. During 2021, ~41.6% of the power generated from co-generation power plants was used to meet their captive requirement, while the balance 58.4% of the power generated was sold to third parties.

[Link to CB Manufacturing process – Carbon Black: The Everyday. Everywhere Element – Articles – Aditya Birla Group](#)

During 2021, ~41.6% of the power generated from co-generation power plants was used to meet their captive requirement, while the balance 58.4% of the power generated was sold to third parties

Process flow



Source: Company, B&K Research

The six steps Carbon Black manufacturing process



Feedstock oil

To begin the process, preheated air and oil (and sometimes natural gas) are fed to the reactor in tightly controlled amounts.



Reactor

Inside the reactor, the air and hydrocarbons undergo a complex set of reactions – partial combustion, thermal decomposition, particle nucleation and particle growth/aggregation. These reactions occur in temperatures up to 1,800 degrees Celsius and can take less than 0.01 of a second.



Water injection

Water is then injected to stop the reactions by reducing the temperature of the carbon black 'smoke' stream leaving the reactor.



Separation

This 'smoke' stream is then routed to a baghouse that separates the carbon black from the reactor tail gas using hundreds of fabric filter bags. The carbon black is a light, fluffy powder as it exits the baghouse and is transported to an accumulator tank.



Pellet formation

The carbon black powder is mixed with a binding agent and water in a pelletizer to form pellets, which are then dried in a rotary drier. This process increases its bulk density by up to five times, allowing for more efficient transportation to customers.



Storage and packaging

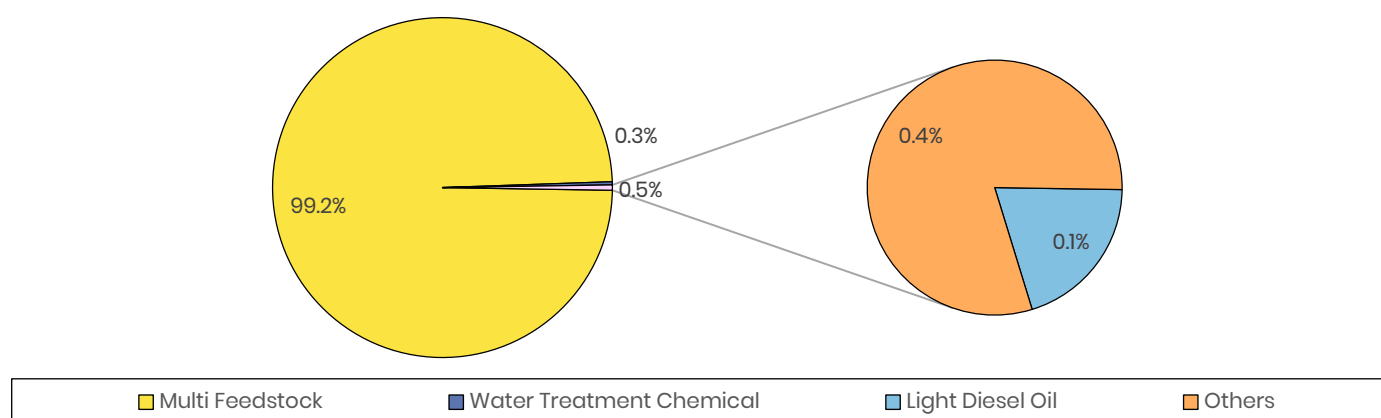
In a final step, the carbon black pellets are packaged in a variety of containers, ranging from 10 kg paper bags to 60 tonne railroad cars for transportation to customers.

Source: B&K Research

Majority (~80.0%) of feedstock is imported by PCBL

Types of raw material and its sourcing: The company uses CBFS, sourced domestically or from outside India, depending on the availability and prices. Currently, majority (~80.0%) of it is imported from limited number of suppliers on an index-based price. Internationally, they are sourcing mostly from US Gulf Coast. However, they also source from Singapore and Middle East. In domestic market, the company sources raw material primarily from refineries like Haldia Petrochem, IOCL, Jamnagar Reliance, etc. Over 90.0% of Group's foreign currency transactions are in USD while the rest are in Euro, JPY and GBP. The company generally hedges their natural foreign currency exposure.

Raw material mix



Source: Company, B&K Research

Presently, PCBL has four manufacturing facilities strategically located in proximity to domestic tyre manufacturers, raw material suppliers and ports

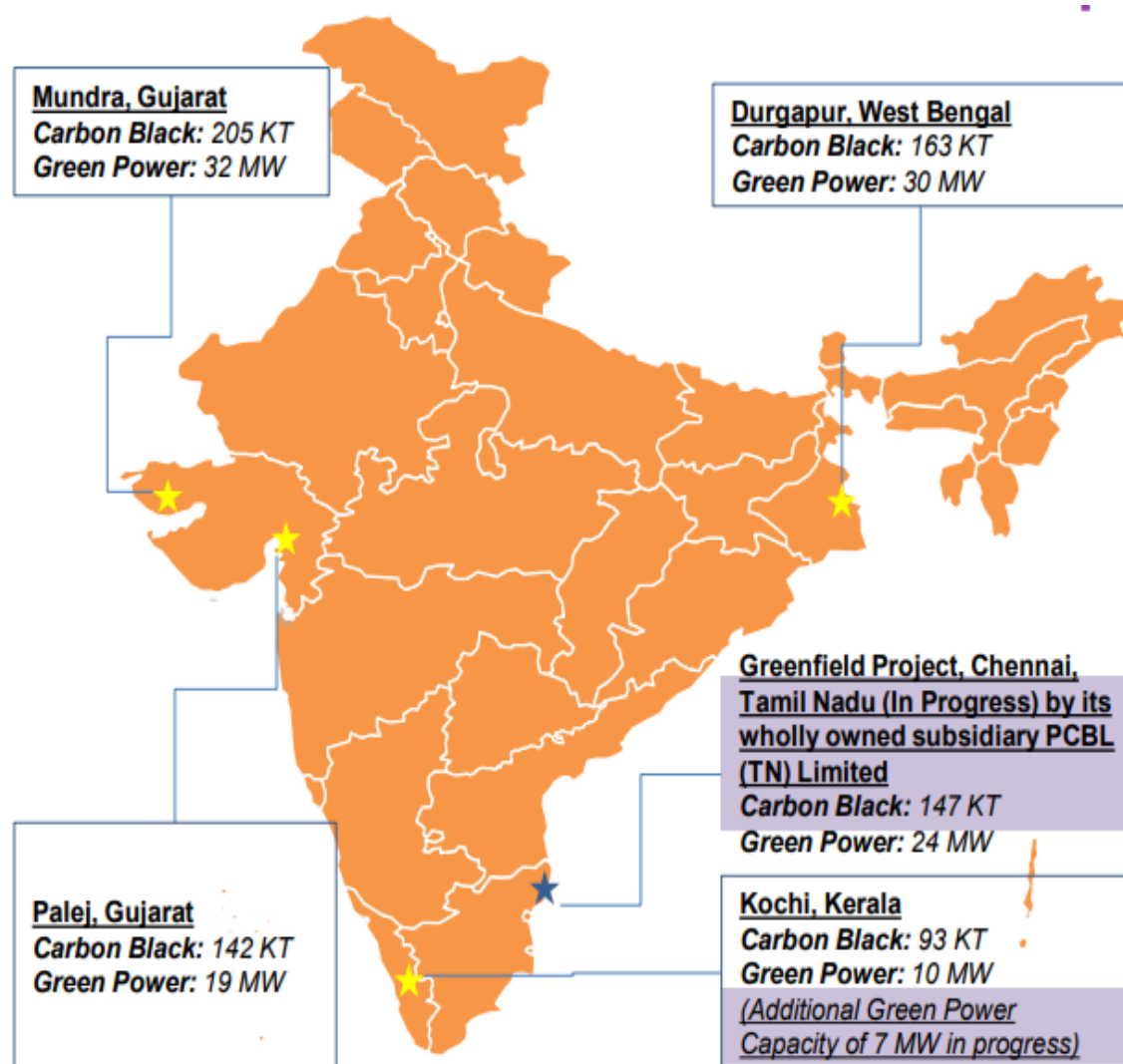
Manufacturing facilities: Presently, PCBL has four manufacturing facilities strategically located in proximity to domestic tyre manufacturers, raw material suppliers and ports. All their manufacturing facilities are IATF 16949, ISO-9001, ISO-14001, ISO-45001 and WASH certified. In addition, their Palej and Kochi Facilities are ISO IEC 17025:2017 certified. The two manufacturing facilities at Mundra and Kochi are owned by the company and are held on freehold basis whereas the manufacturing facilities at Durgapur and Palej are held by the company on a leasehold basis.

PCBL – Manufacturing facilities

| Location | CB capacity ('000mtpa) | Power (MW) |
|--------------|------------------------|------------|
| Durgapur | 163 | 30 |
| Cochin | 93 | 10 |
| Palej | 142 | 19 |
| Mundra | 205 | 32 |
| Total | 603 | 91 |

Source: Company, B&K Research

Strategically located manufacturing facilities



Source: Company, B&K Research

Credible certifications for PCBL plants



Source: Company, B&K Research

Operations

- **Domestic market:** Their domestic market is serviced through marketing offices located at New Delhi, Mumbai, Chennai and also from head office based out of Kolkata (held on leasehold basis). Proximity to the end user is an important factor in CB business and in order to have a wider reach, especially for retail customers, PCBL has a large network of agents and warehouses. Currently, they have their own warehouses and several consignment agents who hold stocks all over India.
- **Overseas market:** Overseas customers are handled by department based out of their Registered Office in Kolkata. There are country specific agents who operate on behalf of the company for procurement of orders from such regions. The company is currently exporting to more than 45 countries including Europe, Asia, Middle East, North America and South America. Their exports accounted for 30.0% of total sales in FY22. Further, their global presence is enhanced by offices located at Korea, China, Belgium, Germany, Vietnam, and France. PCBL also has decanting stations across USA, Europe, and Asia. While the company is focusing on current market base, they are also actively seeking to penetrate into new geographies.

Exports account for 30.0% of their sales

Major clients include global and Indian tyre manufacturing giants such as MRF, CEAT, JK Tyre & Industries, Apollo Tyres, Bridgestone, Goodyear, Michelin, Yokohama, TVS Group, Continental, Toyo, Nexen, Kumho, Contitech, Giti Tyres, Trelleborg, Camso and Petlas among others

Customers: PCBL is a supplier of CB to major tyre manufacturers. Their customer base comprising more than 100 customers, includes reputed players in fields of high-end films, fibre, pressure pipes, inks, and compounders for automotive industries, thus providing a robust platform for introduction of new products to such markets. With an efficient distribution channel, outreach to reputed clients and a pipeline of high value grades, PCBL is well poised to contribute to and reap advantage of India's emergence as leading global supplier of high technology products and solutions.

Major clients include global and Indian tyre manufacturing giants such as MRF, CEAT, JK Tyre & Industries, Apollo Tyres, Bridgestone, Goodyear, Michelin, Yokohama, TVS Group, Continental, Toyo, Nexen, Kumho, Contitech, Giti Tyres, Trelleborg, Camso and Petlas among others. PCBL also collaborates with their customers for tailored solutions and jointly develop products for them.

Tax benefits

Under the provisions of Income Tax Act, 1961, profit generated from sale of power is exempted from payment of income tax for a continuous period of 10 years, out of the first 15 years from commissioning of the power plant. The said deduction under Section 80-IA of the Act will not be available to the company, if it opts for lower tax rate regime under section 115BAA of the Income Tax Act, 1961. As on 31st March 2022, out of PCBL's total installed capacity for power generation of 91 MW, 64 MW is entitled to the aforesaid benefit

under the IT Act. The plant-wise capacity along with the remaining claim years of the aforesaid tax benefits is as follows:

Remaining claim years of tax benefits

| Location | Power (MW) | Remaining claim years of tax benefit |
|----------|------------|---|
| Durgapur | 30 | 2 |
| Cochin | 10 | 4 |
| Palej | 19 | NIL |
| Mundra | 32 | 16 MW – 2 years 8 MW – 5 years 8 MW – Nil |

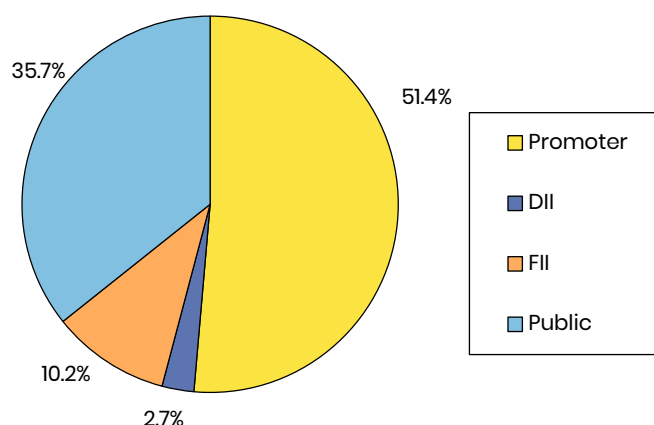
Source: Company, B&K Research

Shareholding pattern

The promoter group accounts for 51.4% equity ownership in the company

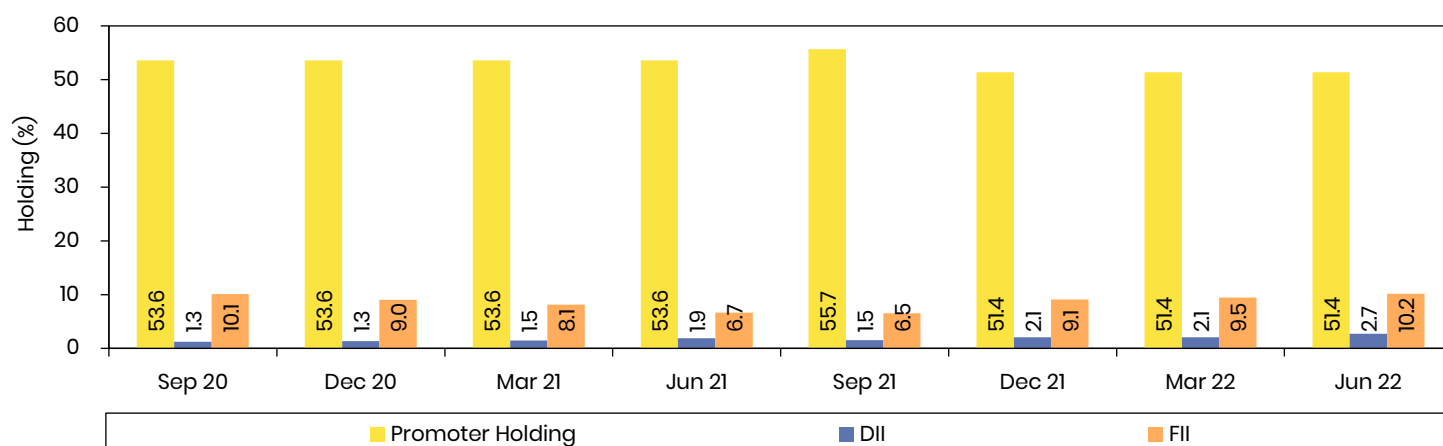
The promoter group accounts for 51.4% equity ownership in PCBL. Domestic institutions hold 2.7% and FIIs hold 10.2% as of June 2022. Promoter holding has decreased from 53.6% in September 2020 to 51.4% in June 2022. DII holdings have increased from 1.3% in September 2020 to 2.7% in June 2022. Promoter pledged shares are Nil.

Shareholding pattern as in June 2022 (Promoter pledged shares are Nil)



Source: Company, B&K Research

Shareholding pattern has remained largely stable



Source: Company, B&K Research

Management team

The management team consists of a mix of qualified and experienced individuals with technical and commercial experience in the carbon black industry. The company is being guided by Mr Sanjiv Goenka and Mr Kaushik Roy.

PCBL's management team info

| Name of Employee | Designation | Age | Years served in the company |
|--------------------------|-------------------------|-----|-----------------------------|
| Mr Sanjiv Goenka | Chairman, NED | 60 | 36 |
| Mr Kaushik Roy | Managing Director | 56 | 9 |
| Mr Kaushik Mukherjee | CS, Chief Legal Officer | 54 | 19 |
| Mr Raj Kumar Gupta | CFO | 47 | 7 |
| Mr Shashwat Goenka | NED | 31 | 8 |
| Mrs Preeti Goenka | NED | 59 | 4 |
| Mr Paras Kumar Chowdhury | INED | 70 | 23 |
| Mr Pradip Roy | INED | 73 | 11 |
| Mrs Rusha Mitra | INED | 36 | 1 |
| Mr T.C. Suseel Kumar | INED | NA | * |
| Mr K. Jairaj | INED | NA | ** |
| Mr R.K. Agarwal | Additional INED | 69 | *** |

Note: NED means Non-Executive Director, INED means Independent Non-Executive Director.

*Appointed w.e.f. 27th October 2021. **Appointed w.e.f. 8th March 2022. ***Appointed w.e.f. 26th July 2021.

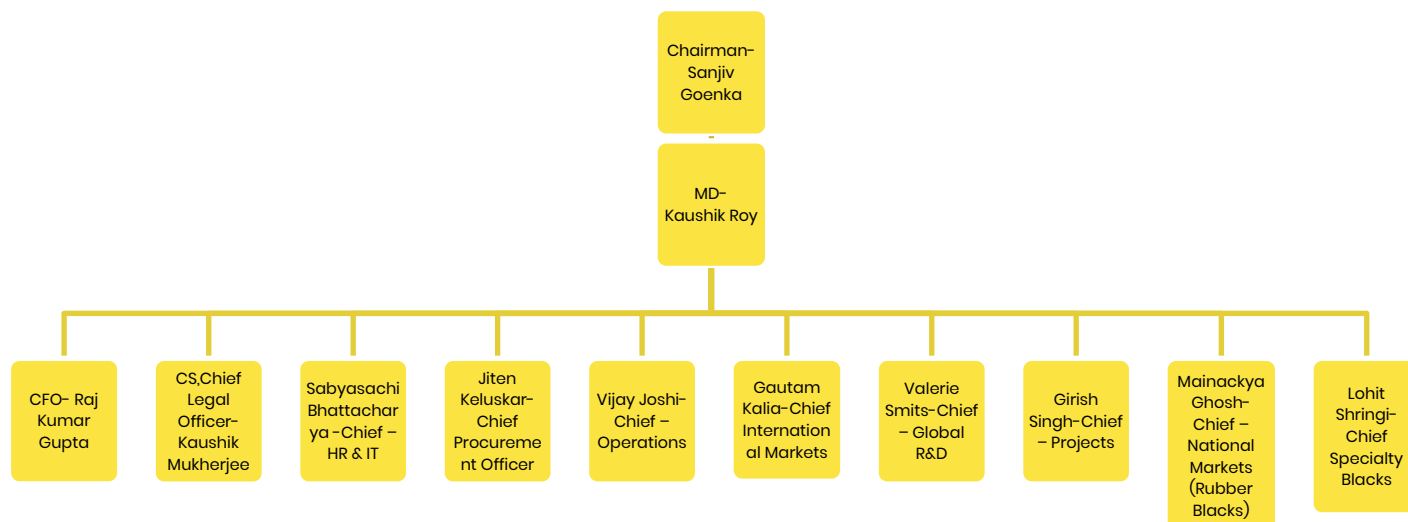
Source: Company, B&K Research

Relationship between Directors

| Name of Directors | Relationship |
|--------------------|--|
| Mr Sanjiv Goenka | Husband of Preeti Goenka |
| | Father of Shashwat Goenka |
| Mrs Preeti Goenka | Wife of Sanjiv Goenka |
| | Mother of Shashwat Goenka |
| Mr Shashwat Goenka | Son of Sanjiv Goenka and Preeti Goenka |

Source: Company, B&K Research

Organisational structure



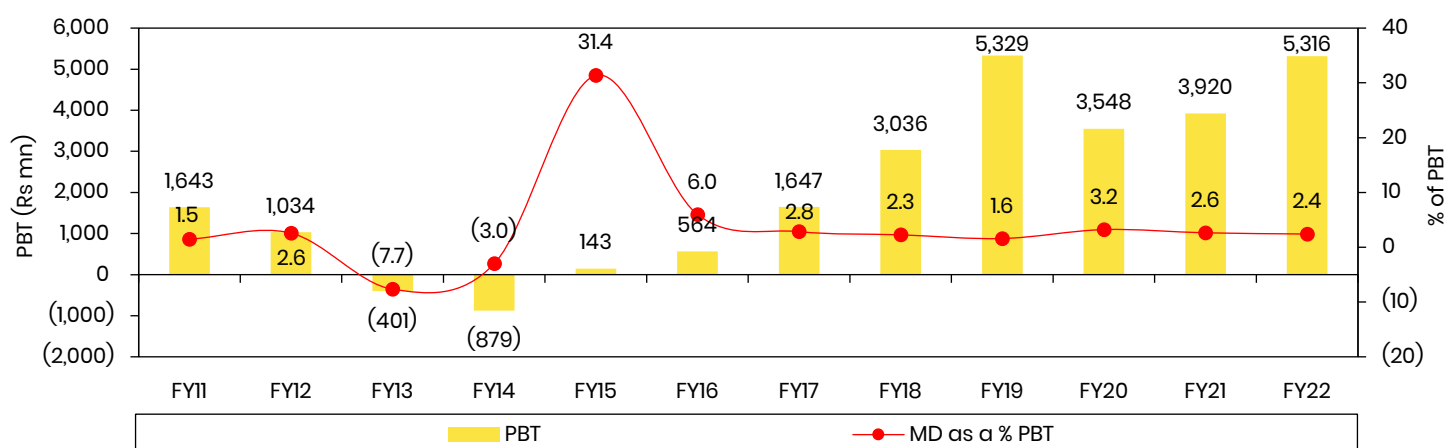
Source: Annual Report, B&K Research

Committee of Board of Directors

| Committee | Members |
|---|---|
| Audit Committee | Paras Kumar Chowdhary (Chairman), Pradip Roy, R K Agarwal and Mr. T C Suseel Kumar |
| Nomination and Remuneration Committee | Paras Kumar Chowdhary (Chairman); Rusha Mitra and Pradip Roy |
| Stakeholders' Relationship Committee | Rusha Mitra (Chairman), Pradip Roy and Kaushik Roy |
| Risk Management Committee | Kaushik Roy (Chairman); Paras K Chowdhary and Pradip Roy |
| Corporate Social Responsibility Committee | Kaushik Roy (Chairman); Rusha Mitra and Shashwat Goenka |
| Independent Directors' Committee | Paras Kumar Chowdhary (Chairman); Pradip Roy; Rusha Mitra and R K Agarwal |
| Fund Raising Committee | Kaushik Roy (Chairman); Paras Kumar Chowdhary; Mrs. Rusha Mitra and Mr R.K. Agarwal |

Source: Company, B&K Research

CMD remuneration as a % of PBT – Well below ceiling limit



Source: Company, B&K Research

Auditors: The auditors of the company are S. R. Batliboi & Co. LLP. They have remained the auditors of the company for the last five consecutive years. Prior to this, the auditors were M/s Price Waterhouse.

Employees and ESOPs

The company has a workforce of 1,135+ employees at present. Additionally, the company contracts with third party manpower and services firms for the supply of contract labour for transportation of raw materials and products, loading and unloading of raw materials, etc. (they hired 810 contract labours in 2021). The company does not have any employee stock option scheme/employee stock purchase scheme for its employees.

Subsidiaries

| Name of Subsidiary | Country of Incorporation | % of ownership |
|---|--------------------------|----------------|
| Phillips Carbon Black Cyprus Holdings Limited | Cyprus | ~100.0 |
| Phillips Carbon Black Vietnam Joint Stock Company | Vietnam | ~80.0 |
| PCBL (Tamil Nadu) Limited | India | ~100.0 |

Source: Company, B&K Research

Key milestones

| | |
|-------------|---|
| 1960 | Incorporated as a Public Limited Company in collaboration with Phillips Petroleum Company, USA. |
| 1962 | Started production at Durgapur facility. |
| 1974 & 1995 | Durgapur plant capacity enhanced to 78,000 MT. |
| 1996 | Acquisition of carbon black unit of Gujarat Carbon Limited adding 25,000 MT (total capacity enhanced to 103,000 MT). |
| 1997 | Amalgamation with Carbon and Chemicals Limited, Kochi adding 40,000 MT (total capacity enhanced to 143,000 MT) and 2.5 MW CPP. |
| 1998 & 2003 | Durgapur plant capacity increased to 135,000 MT (total capacity enhanced to 200,000 MT). |
| 2004 | Palej's plant capacity increased to 70,000 MT, Durgapur plant capacity increased by 25,000 mtpa. |
| 2005 | Expansion of 12 MW power plant at Palej, Vadodra (total power capacity: 18.5 MW). |
| 2009 | <ul style="list-style-type: none"> Commencement of 30 MW power plant at the Durgapur facility on 01 April 2009. Commencement of 90,000 MT carbon black plant at the Mundra facility on 17 October 2009 (total capacity 360,000 MT). Commencement of 16 MW co-generation power plant at the Mundra facility on 24 December 2009 (total capacity 60.5 MW). |
| 2011 | <ul style="list-style-type: none"> Expansion of 10 MW co-generation power plant at Kochi (total power capacity: 70.5 MW). New soft black line of capacity 50,000 mtpa initiated at the Mundra facility (total capacity: 410,000 MT). |
| 2012 | <ul style="list-style-type: none"> Expansion of 8 MW co-generation power plant at the Mundra facility (total power capacity: 76.5 MW). Capacity addition of 12,000 MT at the Durgapur facility (total capacity: 422,000 MT). |
| 2013 | New soft black line of capacity 50,000 mtpa initiated at Kochi (total capacity: 472,000 MT). |
| 2018 | Commissioned Sushila Goenka R&D centre at Palej. Capacity increased by 43,000 mtpa across plants by de-bottlenecking. |
| 2019 | Capacity addition of 56,000 MT at the Mundra facility. |
| 2021 | <ul style="list-style-type: none"> Capacity addition of 32,000 MT at the Palej facility. Greenfield project initiated in Chennai – 147,000 MT. |

Source: Company, B&K Research

History of changes in equity

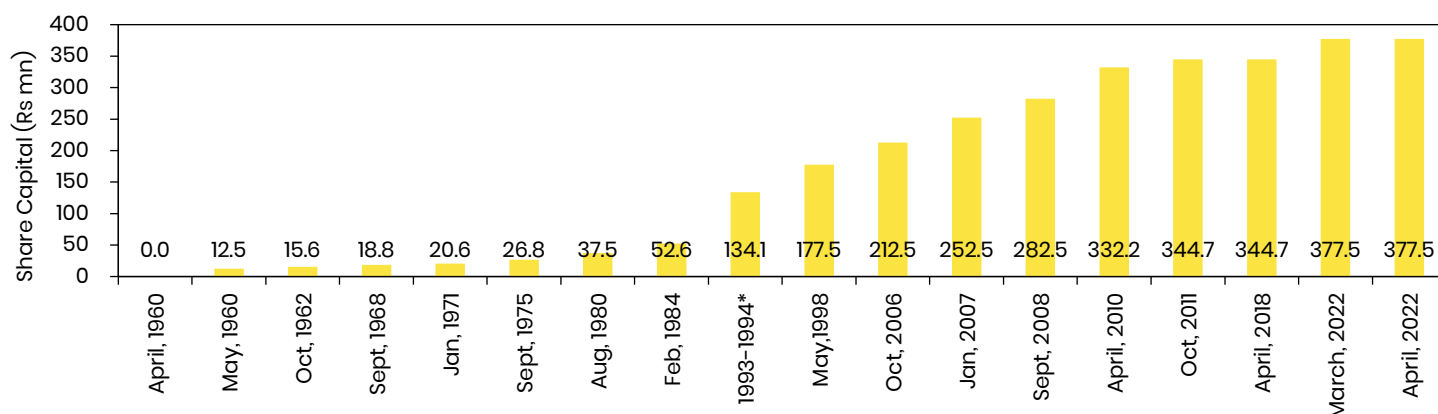
The company has raised Rs 4.0 bn in FY22 at an issue price of ~Rs 122 each (adjusted for sub-division of shares done in April 2022), the net proceeds of which will be utilised for upcoming capex, working capital needs and debt reduction.

History of changes in equity

| Equity as on | No. of shares (before change) | No. of shares added/reduced | No. of shares subs (after change) | Face value (Rs) | Issue price per equity share | Nature of consideration | Equity capital (before change) (Rs mn) | Equity capital (after change) (Rs mn) | Reasons |
|--------------|-------------------------------|-----------------------------|-----------------------------------|-----------------|------------------------------|-------------------------|--|---------------------------------------|--|
| Apr. 1960 | – | 11 | 11 | 10 | 10 | Cash | – | 0.0 | Subscription to MOA at the time of Incorporation |
| May 1960 | 11 | 1,249,989 | 1,250,000 | 10 | 10 | Cash | 0.0 | 12.5 | Further Issue |
| Oct. 1962 | 1,250,000 | 312,500 | 1,562,500 | 10 | 13 | Cash | 12.5 | 15.6 | Right Issue issued in ratio of 1:4 |
| Sep. 1968 | 1,562,500 | 312,500 | 1,875,000 | 10 | – | Bonus | 15.6 | 18.8 | Bonus Issue issued in ratio of 1:5 |
| Jan. 1971 | 1,875,000 | 187,500 | 2,062,500 | 10 | – | Bonus | 18.8 | 20.6 | Bonus Issue issued in ratio of 1:10 |
| Sept. 1975 | 2,062,500 | 618,750 | 2,681,250 | 10 | – | Bonus | 20.6 | 26.8 | Bonus Issue issued in ratio of 3:10 |
| Aug. 1980 | 2,681,250 | 1,072,500 | 3,753,750 | 10 | – | Bonus | 26.8 | 37.5 | Bonus Issue issued in ratio of 2:5 |
| Feb. 1984 | 3,753,750 | 1,501,500 | 5,255,250 | 10 | – | Bonus | 37.5 | 52.6 | Bonus Issue issued in ratio of 2:5 |
| 1993-94* | 5,255,250 | 8,151,279 | 13,406,529 | 10 | 40 | Cash | 52.6 | 134.1 | Rights issue issued in ratio 3:2 |
| May 1998 | 13,406,529 | 4,346,667 | 17,753,196 | 10 | 10 | Non-Cash | 134.1 | 177.5 | Issue of shares on amalgamation of Carbon & Chemicals India Limited with the Company as per Scheme of Amalgamation approved by the High Court at Calcutta and Kerala |
| Oct. 2006 | 17,753,196 | 3,500,000 | 21,253,196 | 10 | 66 | Cash | 177.5 | 212.5 | Preferential Allotment |
| Jan. 2007 | 21,253,196 | 4,000,000 | 25,253,196 | 10 | 66 | Cash | 212.5 | 252.5 | Conversion of Warrants on Preferential Basis |
| Sep. 2008 | 25,253,196 | 3,000,000 | 28,253,196 | 10 | 149 | Cash | 252.5 | 282.5 | Conversion of Warrants on Preferential basis |
| Apr. 2010 | 28,253,196 | 4,964,376 | 33,217,572 | 10 | 200 | Cash | 282.5 | 332.2 | QIP |
| Oct. 2011 | 33,217,572 | 1,250,000 | 34,467,572 | 10 | 196 | Cash | 332.2 | 344.7 | Conversion of Warrants on Preferential Basis |
| Apr. 2018 | 34,467,572 | 137,870,288 | 172,337,860 | 2 | – | – | 344.7 | 344.7 | Splitting face value of Rs 10 each to Rs 2 each |
| Mar. 2022 | 172,337,860 | 16,393,442 | 188,731,302 | 2 | 244 | Cash | 344.7 | 377.5 | QIP |
| Apr. 2022 | 188,731,302 | 188,731,302 | 377,462,604 | 1 | 244 | – | 377.5 | 377.5 | Sub-division of 1 Equity Share of the Face Value of Rs 2/- per share to 2 Equity Shares of the Face Value of Re 1/- per share |

Source: Company, B&K Research. *Month of allotment could not be verified.

History of changes in equity

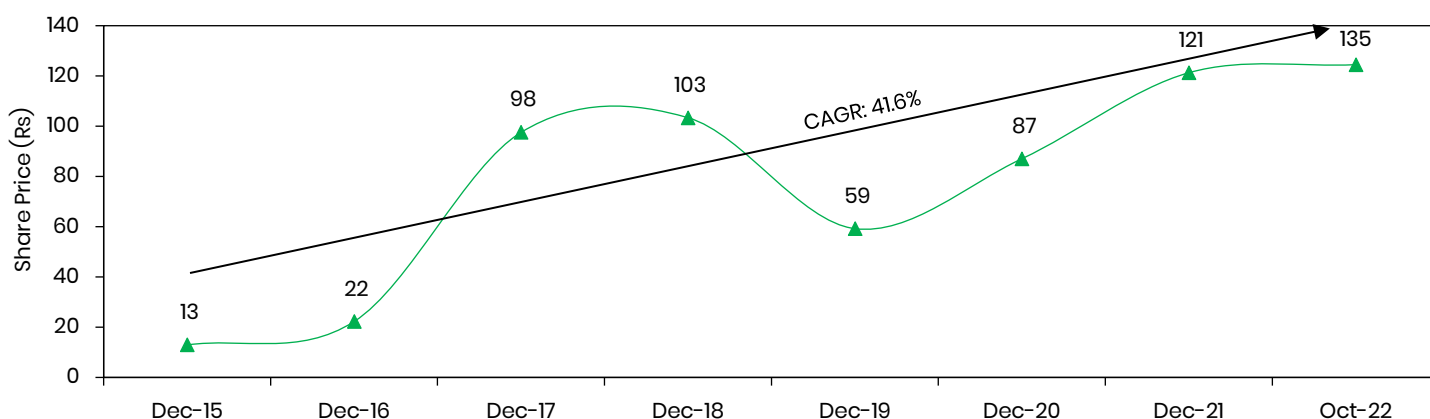


Source: Company, B&K Research. **Month of allotment could not be verified.

Wealth created by PCBL

The company has generated a 10.6% CAGR return since IPO. However, industry dynamics turned around since 2016 and hence, wealth created by the company since 2016 has been significant and they reported a CAGR of 41.6% from 2016 till date.

Price trend since 2016



Source: Company, B&K Research

PCBL has outperformed tyre companies since 2016

| Company name | PCBL | NOCIL | Rajratan | Apollo | MRF | JK Tyre | CEAT | Balkrishna Industries |
|--------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|-----------------------|
| Date | Stock price (Rs) | Stock price (Rs) | Stock price (Rs) | Stock price (Rs) | Stock price (Rs) | Stock price (Rs) | Stock price (Rs) | Stock price (Rs) |
| Dec 15 | 13 | 60 | 16 | 152 | 39,213 | 112 | 1,036 | 325 |
| Dec 16 | 22 | 67 | 55 | 192 | 48,855 | 112 | 1,152 | 544 |
| Dec 17 | 98 | 228 | 61 | 265 | 70,861 | 144 | 1,918 | 1,212 |
| Dec 18 | 103 | 160 | 65 | 233 | 67,004 | 107 | 1,320 | 929 |
| Dec 19 | 59 | 99 | 57 | 164 | 63,765 | 72 | 992 | 945 |
| Dec 20 | 87 | 150 | 84 | 177 | 75,278 | 71 | 1,036 | 1,537 |
| Dec 21 | 121 | 232 | 400 | 215 | 71,579 | 143 | 1,216 | 2,245 |
| Sep 22 | 135 | 253 | 1,196 | 279 | 81,833 | 166 | 1,572 | 1,884 |
| CAGR (%) | 41.6 | 23.7 | 88.8 | 9.4 | 11.5 | 6.1 | 6.4 | 29.7 |

Source: Company, B&K Research

We expect EBITDA per tonne to improve from current level of Rs 14.4k to Rs 15.8k by FY25E aided by expected increase in VAP mix and scale benefit

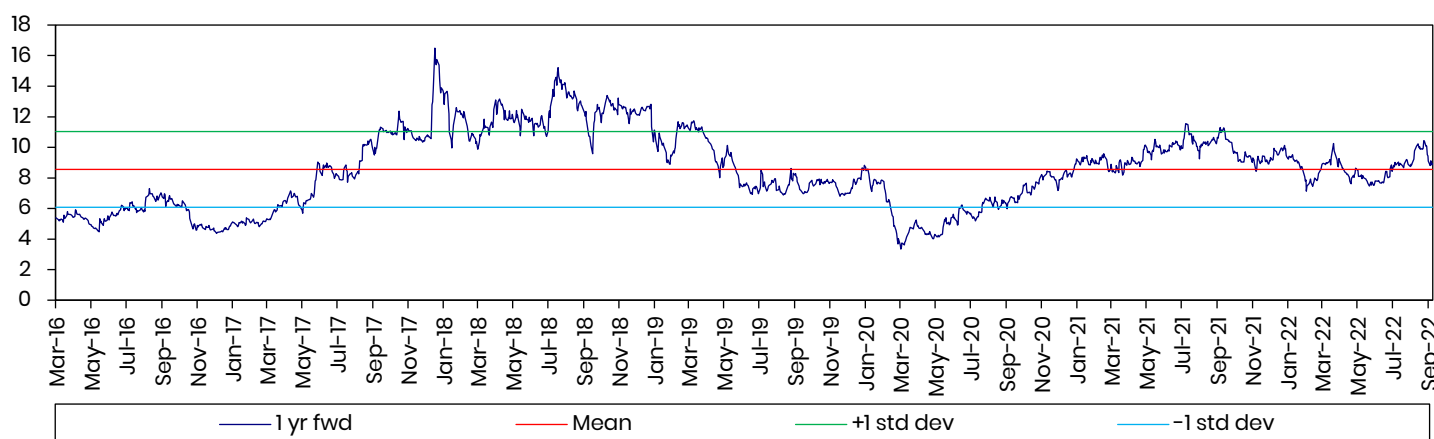
PCBL is no longer a pure commodity player, implied by reducing correlation between its operating performance and crude oil prices

Outlook and Recommendation

Going forward, the company is expected to benefit from China's CB demand-supply imbalance and also rise in prices of Chinese feedstock – coal tar. To address the incremental demand arising due to China factor, the company is increasing the CB capacity by 27.7%. In addition to this, through leveraging its R&D capability, the company is expanding capacity in the specialty CB by 55.6% supported by introduction of ~6-7 grades over the next two-three years. We expect the company to report revenue CAGR of ~9.5%, primarily supported by volumes and better product mix. Also, we expect EBITDA per tonne to improve from current level of Rs 14.4k to Rs 15.8k by FY25E aided by expected increase in VAP mix and scale benefit.

PCBL is no longer a pure commodity player, implied by reducing correlation between its operating performance and crude oil prices. However, we believe, the stock valuation of 9.6x/8.1x FY24/25E appears to be at a commodity valuation and fails to capture the structural changes in the industry and stability in the operating performance achieved by the company. Faster ramp-up of expanded capacities and stable operating performance during prevailing volatility in the crude prices, will be key triggers for valuation re-rating. **We initiate coverage on PCBL with a Buy rating on the stock with a target price of Rs 251 (based on 15.0x FY25E). On two-year perspective, we believe the stock can deliver ~35.0% CAGR return. Key triggers: Improving VAP mix, filling the expanded capacity faster in both Chennai and Mundra, new grade launches in Specialty CB and improvement in EBITDA per kg above Rs 15.0.**

One-year forward PE



Key historical financials

P&L statement

| (Rs mn) | FY11 | FY12 | FY13 | FY14 | FY15 | FY16 | FY17 | FY18 | FY19 | FY20 | FY21 | FY22 |
|-------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Net revenue | 16,901 | 21,868 | 22,849 | 22,775 | 24,702 | 18,947 | 19,270 | 25,470 | 35,286 | 32,435 | 26,595 | 44,464 |
| RM cost | 12,394 | 16,582 | 18,636 | 18,305 | 19,404 | 13,446 | 12,365 | 16,593 | 22,966 | 21,895 | 16,089 | 31,338 |
| Gross profit | 4,507 | 5,286 | 4,212 | 4,470 | 5,298 | 5,502 | 6,904 | 8,877 | 12,320 | 10,540 | 10,506 | 13,126 |
| Gross margin (%) | 26.7 | 24.2 | 18.4 | 19.6 | 21.4 | 29.0 | 35.8 | 34.9 | 34.9 | 32.5 | 39.5 | 29.5 |
| Employee cost | 477 | 524 | 584 | 629 | 702 | 734 | 820 | 974 | 1,111 | 1,346 | 1,324 | 1,589 |
| Other expenses | 1817 | 2670 | 2893 | 3585 | 3074 | 3119 | 3503 | 4135 | 5047 | 4554 | 4002 | 5008 |
| EBITDA | 2,213 | 2,092 | 735 | 255 | 1,523 | 1,650 | 2,581 | 3,768 | 6,162 | 4,641 | 5,180 | 6,530 |
| EBITDA margin (%) | 13.1 | 9.6 | 3.2 | 1.1 | 6.2 | 8.7 | 13.4 | 14.8 | 17.5 | 14.3 | 19.5 | 14.7 |
| PAT | 1,163 | 871 | (206) | (866) | 126 | 227 | 687 | 2,296 | 3,827 | 2,875 | 3,140 | 4,263 |
| PAT margin (%) | 6.9 | 4.0 | (0.9) | (3.8) | 0.5 | 1.2 | 3.6 | 9.0 | 10.8 | 8.9 | 11.8 | 9.6 |

Source: Company, B&K Research

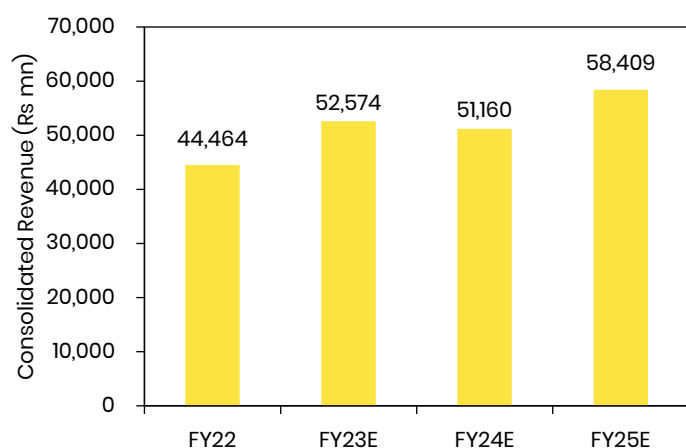
Balance Sheet

| (Rs mn) | FY11 | FY12 | FY13 | FY14 | FY15 | FY16 | FY17 | FY18 | FY19 | FY20 | FY21 | FY22 |
|--|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Net worth | 5,222 | 6,118 | 5,891 | 5,025 | 5,102 | 10,384 | 11,307 | 13,776 | 16,499 | 16,991 | 19,355 | 26,140 |
| Total debt | 5,014 | 7,108 | 8,745 | 10,866 | 12,197 | 10,244 | 7,582 | 7,173 | 7,934 | 6,170 | 6,068 | 6,840 |
| Other non-current liabilities | 570 | 735 | 533 | 304 | 284 | 1,475 | 2,154 | 2,346 | 2,639 | 3,684 | 3,784 | 3,759 |
| Current liabilities (excluding debt) | 6,396 | 6,941 | 7,788 | 5,012 | 2,045 | 3,645 | 4,701 | 5,419 | 6,799 | 6,261 | 8,054 | 11,109 |
| Total liabilities | 17,202 | 20,902 | 22,956 | 21,207 | 19,628 | 25,747 | 25,745 | 28,714 | 33,871 | 33,107 | 37,260 | 47,847 |
| Net block | 7,842 | 8,124 | 9,118 | 9,250 | 8,939 | 14,891 | 14,626 | 14,616 | 16,709 | 18,161 | 18,984 | 20,199 |
| Other non-current assets | 575 | 1,485 | 1,477 | 1,262 | 1,262 | 1,490 | 2,458 | 3,820 | 3,015 | 3,508 | 3,583 | 4,941 |
| Current assets (excluding Cash & Cash Equivalents) | 8,132 | 11,158 | 11,694 | 10,606 | 9,312 | 8,764 | 8,401 | 8,553 | 12,992 | 9,917 | 12,050 | 21,117 |
| Cash & Cash equivalents | 653 | 136 | 668 | 89 | 115 | 602 | 259 | 1,726 | 1,155 | 1,521 | 2,644 | 1,591 |
| Total Assets | 17,202 | 20,902 | 22,956 | 21,207 | 19,628 | 25,747 | 25,745 | 28,714 | 33,871 | 33,107 | 37,260 | 47,847 |

Source: Company, B&K Research

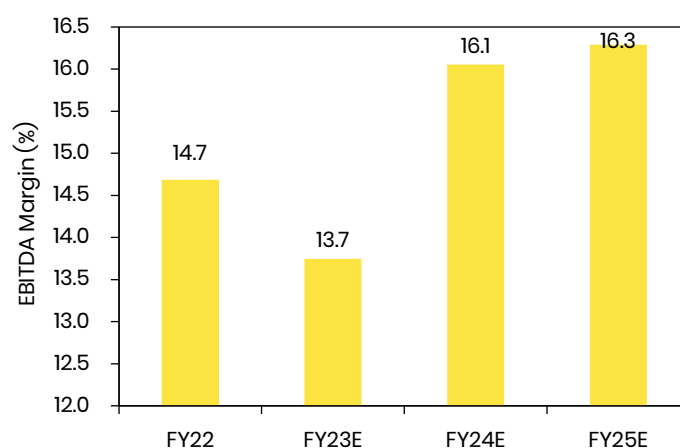
Story in Charts

Revenue to grow at a CAGR of 9.5% led by volume CAGR of 9.8%

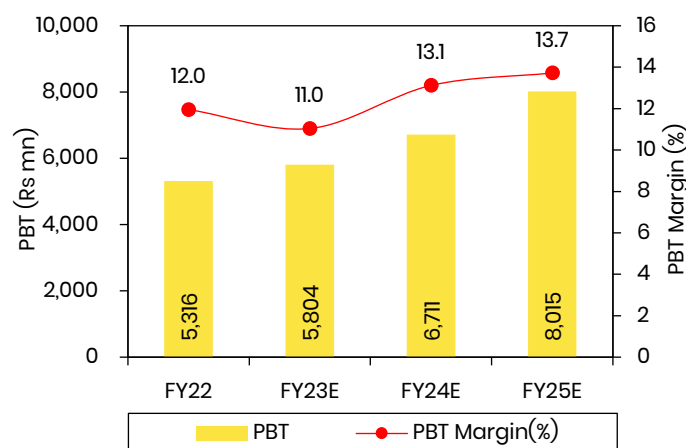


Source: Company, B&K Research

EBITDA margins will be expanded on better product mix and utilisations

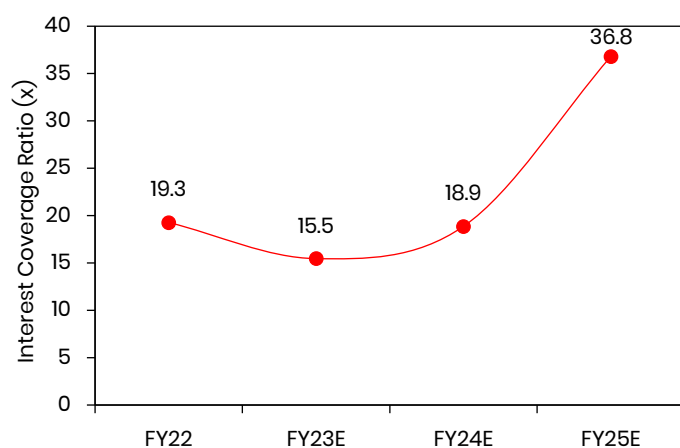


PBT margin will be expanded on better EBITDA margins

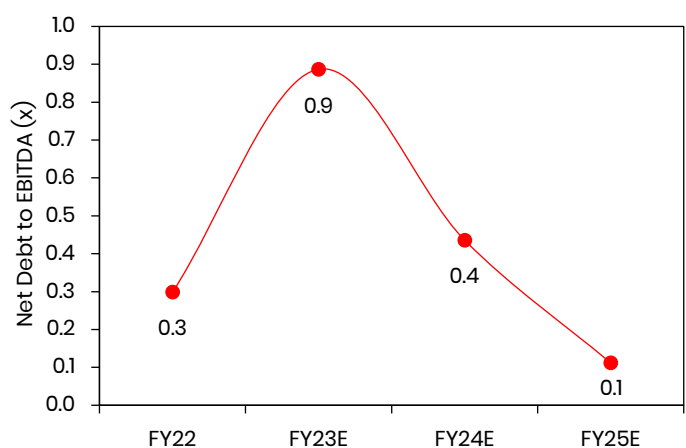


Source: Company, B&K Research

Interest coverage will rise due to better profitability and debt repayments

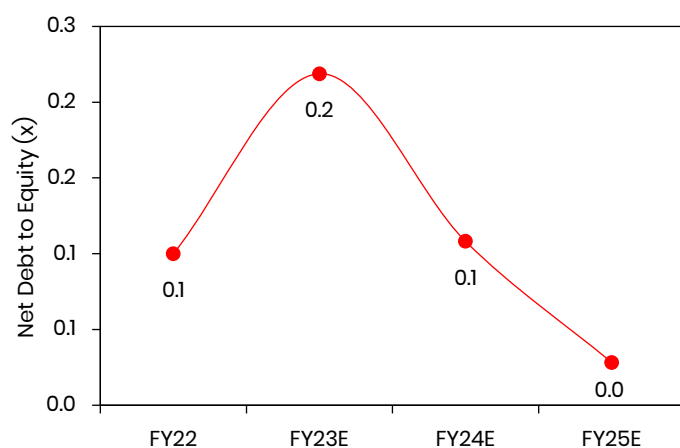


Net debt-to-EBITDA will fall sharply on rise in EBITDA and repayment of debt

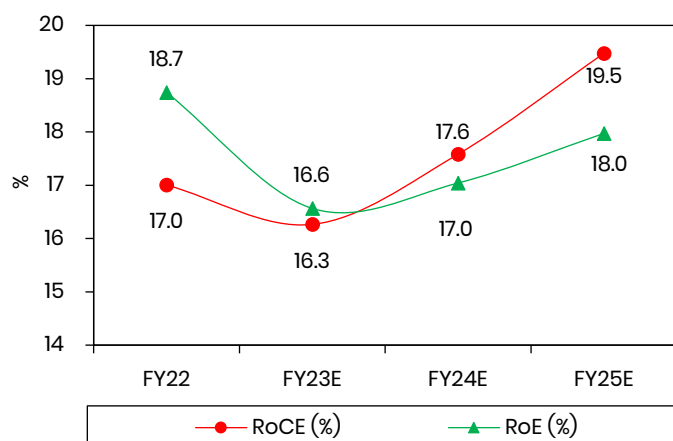


Source: Company, B&K Research

Net debt-to-equity will fall sharply on rise in earnings

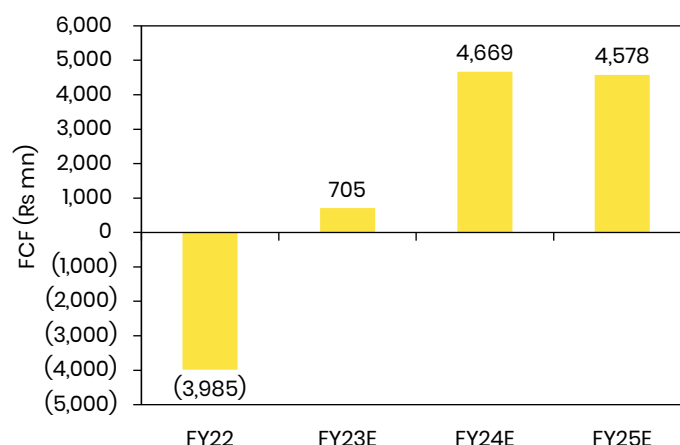


Return ratios will improve with better utilisations and product mix

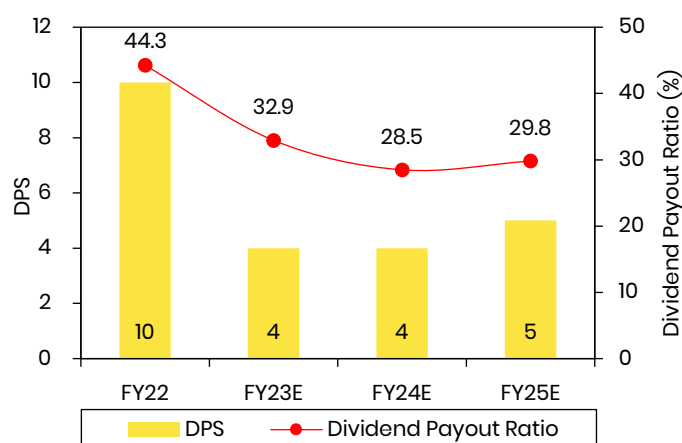


Source: Company, B&K Research

The company will start generating higher FCF towards end of capex cycle

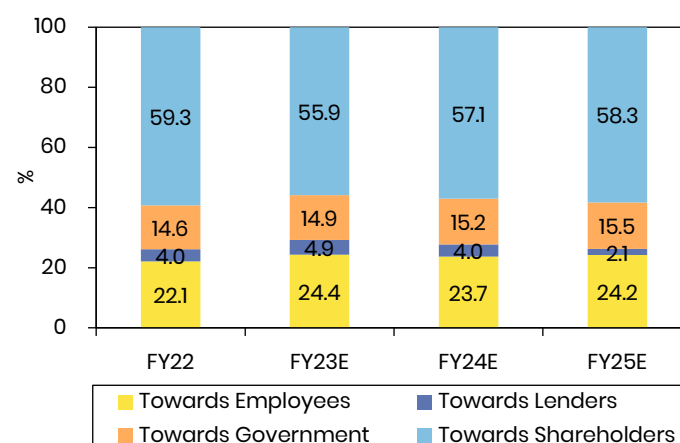


The company is expected to remain consistent in paying dividends



Source: Company, B&K Research

Contribution towards shareholders is expected to remain stable



Income Statement (Consolidated)

| Period end (Rs mn) | Mar 22 | Mar 23E | Mar 24E | Mar 25E |
|---------------------------------------|---------------|---------------|---------------|---------------|
| Net sales | 44,464 | 52,574 | 51,160 | 58,409 |
| Growth (%) | 67.2 | 18.2 | (2.7) | 14.2 |
| Operating expenses | (37,935) | (45,347) | (42,948) | (48,894) |
| Operating profit | 6,530 | 7,227 | 8,213 | 9,516 |
| EBITDA | 6,530 | 7,227 | 8,213 | 9,516 |
| Growth (%) | 26.0 | 10.7 | 13.6 | 15.9 |
| Depreciation | (1,209) | (1,495) | (1,586) | (1,628) |
| Other income | 286 | 473 | 460 | 350 |
| EBIT | 5,607 | 6,205 | 7,087 | 8,238 |
| Finance cost | (291) | (401) | (376) | (224) |
| Profit before tax | 5,316 | 5,804 | 6,711 | 8,015 |
| Tax (current + deferred) | (1,052) | (1,219) | (1,409) | (1,683) |
| Profit / (Loss) for the period | 4,263 | 4,585 | 5,302 | 6,332 |
| Reported Profit / (Loss) | 4,263 | 4,585 | 5,302 | 6,332 |
| Adjusted net profit | 4,263 | 4,585 | 5,302 | 6,332 |
| Growth (%) | 35.8 | 7.5 | 15.6 | 19.4 |

Balance Sheet (Consolidated)

| Period end (Rs mn) | Mar 22 | Mar 23E | Mar 24E | Mar 25E |
|---------------------------------------|---------------|---------------|---------------|---------------|
| Share capital | 378 | 378 | 378 | 378 |
| Reserves & surplus | 25,762 | 28,837 | 32,629 | 37,073 |
| Shareholders' funds | 26,140 | 29,215 | 33,007 | 37,451 |
| Minority interest and others | 82 | 82 | 82 | 82 |
| Non-current liabilities | 5,880 | 5,925 | 5,973 | 6,023 |
| Long-term borrowings | 2,203 | 2,203 | 2,203 | 2,203 |
| Other non-current liabilities | 3,676 | 3,722 | 3,770 | 3,820 |
| Current liabilities | 15,745 | 17,341 | 14,760 | 14,349 |
| ST borrowings, Curr maturity | 4,637 | 4,337 | 1,987 | – |
| Other current liabilities | 11,109 | 13,005 | 12,773 | 14,349 |
| Total (Equity and Liabilities) | 47,847 | 52,563 | 53,822 | 57,905 |
| Non-current assets | 25,140 | 31,218 | 33,208 | 34,161 |
| Fixed assets (Net block) | 21,093 | 27,099 | 29,013 | 29,885 |
| Non-current Investments | 2,580 | 2,580 | 2,580 | 2,580 |
| Long-term loans and adv. | 10 | 10 | 10 | 10 |
| Other non-current assets | 1,456 | 1,529 | 1,605 | 1,686 |
| Current assets | 22,708 | 21,346 | 20,614 | 23,745 |
| Cash & current investment | 4,891 | 130 | 611 | 1,141 |
| Other current assets | 17,817 | 21,216 | 20,003 | 22,604 |
| Total (Assets) | 47,847 | 52,563 | 53,822 | 57,905 |
| Total debt | 6,840 | 6,540 | 4,190 | 2,203 |
| Capital employed | 36,739 | 39,559 | 41,049 | 43,556 |

Cash Flow Statement (Consolidated)

| Period end (Rs mn) | Mar 22 | Mar 23E | Mar 24E | Mar 25E |
|---------------------------------|----------------|----------------|----------------|----------------|
| Profit before tax | 5,316 | 5,804 | 6,711 | 8,015 |
| Depreciation | 1,209 | 1,495 | 1,586 | 1,628 |
| Change in working capital | (2,445) | (1,504) | 982 | (1,025) |
| Total tax paid | (1,004) | (1,219) | (1,409) | (1,683) |
| Others | 5 | (72) | (85) | (127) |
| Cash flow from oper. (a) | 3,081 | 4,504 | 7,785 | 6,808 |
| Capital expenditure | (2,255) | (7,500) | (3,500) | (2,500) |
| Change in investments | (3,872) | 3,300 | – | – |
| Others | (939) | 400 | 384 | 270 |
| Cash flow from inv. (b) | (7,067) | (3,800) | (3,116) | (2,230) |
| Free cash flow (a+b) | (3,985) | 705 | 4,669 | 4,578 |
| Equity raised/(repaid) | 33 | – | – | – |
| Debt raised/(repaid) | 772 | (300) | (2,350) | (1,987) |
| Dividend (incl. tax) | 1,887 | 1,510 | 1,510 | 1,888 |
| Others | 241 | (3,376) | (3,348) | (3,949) |
| Cash flow from fin. (c) | 2,933 | (2,166) | (4,188) | (4,048) |
| Net chg in cash (a+b+c) | (1,053) | (1,461) | 481 | 530 |

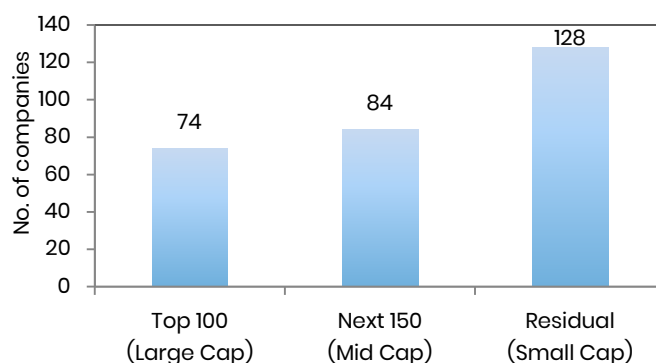
Key Ratios (Consolidated)

| Period end (%) | Mar 22 | Mar 23E | Mar 24E | Mar 25E |
|-------------------------------|--------|---------|---------|---------|
| Adjusted EPS (Rs) | 11.3 | 12.1 | 14.0 | 16.8 |
| Growth | 35.8 | 7.5 | 15.6 | 19.4 |
| CEPS (Rs) | 14.5 | 16.1 | 18.2 | 21.1 |
| Book NAV/share (Rs) | 69.2 | 77.3 | 87.3 | 99.1 |
| Dividend/share (Rs) | 5.0 | 4.0 | 4.0 | 5.0 |
| Dividend payout ratio | 44.3 | 32.9 | 28.5 | 29.8 |
| EBITDA margin | 14.7 | 13.7 | 16.1 | 16.3 |
| EBIT margin | 12.6 | 11.8 | 13.9 | 14.1 |
| Tax rate | 19.8 | 21.0 | 21.0 | 21.0 |
| RoCE | 17.0 | 16.3 | 17.6 | 19.5 |
| Total debt/Equity (x) | 0.3 | 0.2 | 0.1 | 0.1 |
| Net debt/Equity (x) | 0.1 | 0.2 | 0.1 | 0.0 |
| Du Pont Analysis – RoE | | | | |
| Net margin | 9.6 | 8.7 | 10.4 | 10.8 |
| Asset turnover (x) | 1.0 | 1.0 | 1.0 | 1.0 |
| Leverage factor (x) | 1.9 | 1.8 | 1.7 | 1.6 |
| Return on equity | 18.7 | 16.6 | 17.0 | 18.0 |

Valuations (Consolidated)

| Period end (x) | Mar 22 | Mar 23E | Mar 24E | Mar 25E |
|----------------|--------|---------|---------|---------|
| PER | 12.0 | 11.1 | 9.6 | 8.1 |
| PCE | 9.3 | 8.4 | 7.4 | 6.4 |
| Price/Book | 2.0 | 1.7 | 1.5 | 1.4 |
| Yield (%) | 3.7 | 3.0 | 3.0 | 3.7 |
| EV/EBITDA | 8.1 | 7.9 | 6.6 | 5.5 |

B&K Universe Profile – by AMFI Definition



B&K Securities is the trading name of Batlivala & Karani Securities India Pvt. Ltd.

B&K Investment Ratings

| | LARGE CAP (Market Cap > USD 2 bn) | MID & SMALL CAP (Market Cap < USD 2 bn) |
|-------------|-----------------------------------|---|
| BUY | >+15% | >+20% |
| HOLD | +15% to -10 % | +20% to -15 % |
| SELL | <-10% | <-15% |

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| | |
|--|--------|
| Ownership interest in the issuer of the securities mentioned | < 1% |
| Other financial interest in the issuer | None |
| Other material conflict of interest | None |
| Compensation/benefits received from issuer/3rd Parties in past 12 months: | |
| Public offerings managed/co-managed for issuer | None |
| Fees for merchant banking, investment banking or brokerage services (as percentage of issuer's turnover) | < 0.1% |
| Compensation for other services (as percentage of issuer's turnover) | < 0.1% |
| Analyst service as officer, director or employee of the issuer | None |
| Involvement in market-making in the issuer's securities | None |

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Batlivala & Karani Securities India Pvt. Ltd.

Equity Research Division: Unit No. 1101, 1103, 1104, 11th Floor, Hallmark Business Plaza, Sant Dnyaneshwar Marg, Near Guru Nanak Hospital, Bandra East, Mumbai - 400 051, India. Tel: +91-22-4007 6000, Fax: +91-22-2651 0024 / +91-22-2640 1520.

Registered Office: Room No. 3/4, 7 Lyons Range, Kolkata-700 001. Tel.: 91-033-2243 7902.

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