

# Management Discussion & Analysis

## 1. Business Environment

### a. Global Economic Outlook

Global growth is projected to moderate from an estimated 3.4% in 2022 to 2.9% in 2023, then rise to 3.1% in 2024 - lower than the historical annual average of 3.8%. The lower growth in 2023 is due to the rising central bank rates to combat inflation and the war in Ukraine. Emerging market and developing economies are expected to recover in 2023 and 2024, while advanced economies will experience a decline in growth. The world trade growth is forecasted to decline to 2.4% in 2023 before rising to 3.4% in 2024. In 2023, oil prices are projected to fall by about 16%, while non-fuel commodity prices are expected to fall, on average, by 6.3%.

The global inflation rate is expected to decrease from 8.8% in 2022 (average) to 6.6% in 2023 and 4.3% in 2024, due to the declining international fuel and commodity prices as well as the cooling effect of monetary policy tightening on underlying (core) inflation. The inflation forecast for 2023 is 4.6% for advanced economies and 8.1% for emerging market and developing economies.

The energy crisis of 2023 is expected to be less severe than previously seen, due to efforts in stress-testing and improving energy systems, diversifying energy sources, and improving energy efficiency and consumption patterns. Despite the decline in oil prices to pre-war levels, global gas prices have remained high. Policymakers, particularly in Europe, will be focussed on controlling energy costs and ensuring stable energy supplies. The ongoing impact of the Russia-Ukraine war will continue to affect global energy security, economy and energy mix.

For advanced economies, growth is projected to decline sharply from 2.7% in 2022 to 1.2% in 2023, before rising to 1.4% in 2024. About 90% of the advanced economies are projected to see a decline in growth in 2023, with the UK experiencing a negative growth rate of 0.6%. The United States and Europe are expected to see growth rates of 1.4% and 0.7%, respectively, in 2023. The decline in growth is attributed to factors such as tighter fiscal and monetary policies, financial conditions, and high energy retail prices affecting household budgets.

The growth rate for emerging market and developing economies is expected to increase marginally, from 3.9%

in 2022 to 4.0% in 2023, and further to 4.2% in 2024. However, half of these economies will have a slower growth rate in 2023 compared to 2022. China's growth rate is estimated at 5.2% in 2023, while India's growth is projected to decline, from 6.8% in 2022 to 6.1% in 2023, before rebounding to 6.8% in 2024, due to strong domestic demand.

*Source: International Monetary Fund, Chief Economist Outlook by World Economic Forum, January 2023*

### b. India Economic Outlook

India's economy recovered quickly from the pandemic and further growth is expected to be supported by solid domestic demand and increase in capital investments. The International Monetary Fund (IMF) and Reserve Bank of India (RBI) estimate real GDP growth of 6.8% in 2022-23 and 6.1% in 2023-24. The agriculture sector has been growing at an average annual rate of 4.6% over the past six years, and the industrial sector is estimated to grow at 4.5% in FY 2022-23. The services sector saw quick recovery in FY 2021-22, growing 8.4% Y-o-Y, and continued to grow in FY 2022-23.

RBI's enterprise surveys point to some softening of input cost and output price pressures in manufacturing. Considering these factors, and assuming an average crude oil price (Indian basket) of US\$ 95 per barrel, inflation is projected at 6.5% in FY 2022-23, with Q4 at 5.7%. On the assumption of a normal monsoon, CPI inflation is projected at 5.3% for FY 2023-24, with Q1 at 5.0%, Q2 at 5.4%, Q3 at 5.4% and Q4 at 5.6%, and the risks evenly balanced.

The capital expenditure for FY 2022-23 stands at 2.9% of GDP, indicating the Government's commitment to investing in the country's growth. Moreover, the Government has announced an even larger allocation of ₹ 10 lakh crore for the next fiscal year, which demonstrates their long-term vision for the economy. Of this amount, a considerable sum of ₹ 1.78 lakh crore has been earmarked for the Ministry of Chemicals and Fertilisers, reflecting the Government's emphasis on promoting the chemical and agriculture sectors. Overall, these budgetary allocations signal the Government's determination to accelerate economic growth and create a more prosperous and resilient India.

*Source: Budget 2023, RBI, Economic Survey 22-23, Ministry of Finance*

## 2. Chemical Industry

### a. Global Chemical Industry

Global chemical growth moderated in 2022 due to lockdowns in China, supply chain bottlenecks, and disruptions caused by the Russian invasion of Ukraine. As a result, global chemical output grew by only 2.0% in 2022. In 2023, production is expected to expand at 2.9% amid rebound in Western Europe and the Asia-Pacific. The industry is focussing on meeting the growing global demand and enhancing sustainability through carbon reduction projects and advanced recycling and recovery. The biggest risk to the outlook is persistent inflation and continued increase in interest rates that could prolong and deepen the downturn, but other risks may include escalation of wars, financial instability, and supply chain disruptions.

The US chemical industry had a strong start in 2022, with output growing by 3.9%. However, in 2023, this growth is expected to marginally decline due to deceleration in end-use markets, a stronger dollar, and lower global growth. Many manufacturers have increased inventories of raw materials and products due to supply chain issues, which resulted in higher-than-normal inventories at the end of the year. US chemicals remain advantaged due to abundant domestic production of natural gas. Capital spending grew 9.0% to US\$ 33.5 billion in 2022 and is expected to grow at 3.6% in 2023.

After declining by 3.2% in 2022, chemical production in Western Europe is expected to marginally grow at 0.8% in 2023. This is mainly due to an uncertain energy price outlook and depressed economic growth outlook. However, the silver lining is that natural gas prices have dropped to their pre-war levels and are expected to remain below the 2022 levels.

China's chemical industry is expected to recover after the lifting of COVID-19 restrictions. Sectors such as pharmaceuticals and agricultural chemicals are expected to lead the growth.

*Source: Chemical Processing, American Chemistry Council, C&EN*

### b. Key Global Trends

The chemical industry is an integral element of the global economy. It serves numerous sectors such as agriculture, construction, automotive, FMCG, consumer durables, electronics, healthcare and many more. The industry is at the cusp of significant transformation, driven by various mega trends that are shaping the future of the world

economy. Of the numerous trends impacting this industry, the most significant are Sustainability, Digitalisation and Supply Chain Resilience.

**Sustainability** is the key trend shaping the way chemicals are produced and used. While the chemical sector has been under increasing pressure to reduce its environment footprint, promote sustainable practices and mitigate ESG exposure, it also plays a critical role in providing sustainable products and services to the various sectors it services.

- Considered as a 'hard to abate' sector, access to clean energy is essential for this industry to become sustainable. Led by the commitment of the Paris Climate Accords, almost all leading global chemical companies have prioritised reduction of their carbon emissions in a phased manner and eventually become carbon neutral. The chemical industry is one of the key contributors of the US\$ 1.1 trillion investments made in low carbon energy technologies in the year 2022.
- In addition to carbon emission, reducing water footprint is also a key imperative for the sector. Companies are gradually becoming water neutral through various interventions, such as water recycling, reducing (low water technologies) and recovering (ZLD technologies & harvesting).
- Developing sustainable chemicals and materials aligned to the principles of Green Chemistry is a leading sustainability trend in this industry. Under the umbrella of green chemistry, companies are focussing on developing renewable or circular feedstock, innovating sustainable processes that consume low energy, generating zero waste, and ensuring such waste is harmless to the entire ecosystem. Bio-based chemicals derived from renewable sources, biodegradable polymers, carbon capture & utilisation technologies, and fermentation & extraction technologies are some leading examples of green chemicals and processes. The demand for green chemicals and materials is estimated to outpace the global chemical industry by 3x in the next 5 to 7 years.

**Digitalisation** is transforming the chemical industry by making manufacturing facilities and workplace safer, improving operational efficiency, increasing productivity, and enabling new business models. Smart Factories or Industry 4.0 are integrating advanced technologies such as automation, analytics, Artificial Intelligence (AI) and Industrial Internet of Things (IIoT) to drive efficiencies and

productivity. As part of the Fourth Industrial Revolution, the installation of IoT devices, including in the chemical industry, has grown by 16% in the last 5 years. In addition, investments in AI reached US\$ 32 billion by 2020, with an annual growth rate of around 40%.

- Companies are improving their safety lag indicators, such as TRIFR (Total Recordable Injury Frequency Rate) and PSI (Progressive Safety Index), with the help of digital technologies like remote monitoring, smart cameras, predictive maintenance, Virtual Reality (VR) and Augmented Reality (AR), to provide workers with virtual training and simulations to practice safety procedures and emergency response.
- Automation is helping streamline the production process, reducing manual labour and minimising the risk of human error.
- Digital twin technologies are effectively used to replicate physical assets or processes, thus considerably reducing the capex and time. Blockchain technologies in the chemical industry are helping track the movement of chemicals and materials throughout the supply chain, providing greater transparency and traceability.

**Supply Chain Resilience** - The industry's complex supply chain involves the production of basic chemicals, intermediate chemicals and specialty chemicals, and encompasses multiple stages, including sourcing of raw materials, manufacturing, transportation and distribution. The pandemic exposed the vulnerability of supply chains in the chemical industry, causing delays and congestion in ports and rail transportation, and led to the creation of new local systems. Regulatory influences, geo-political uncertainty, and the need to meet decarbonisation goals are further adding to the challenges.

- In the post-pandemic world, successful supply chains will need to balance agility, efficiency and resilience, while considering the costs and carbon footprint.
- E-commerce is becoming an increasingly important channel for chemical companies to reach customers, particularly for specialty chemicals. Online marketplaces and digital platforms are enabling companies to offer greater product visibility, pricing transparency, and more efficient ordering processes.
- The Asia-Pacific region has become a key growth market for the chemical industry, with China, India, and Southeast Asia leading the way. Economic

rebalancing of the global supply chain reinforces the attractiveness of India, which will remain one of the fastest growing chemical markets globally. With government support and schemes, companies are investing in local production and distribution networks to meet the growing demand in the region, and reduce supply chain risks associated with long-distance transportation and geo-political conflicts.

### c. Indian Chemical Industry

The Indian chemical industry is the 6<sup>th</sup> largest producer of chemicals globally and 3<sup>rd</sup> in Asia. India ranks 14<sup>th</sup> in chemical products' exports and 8<sup>th</sup> in imports. The Indian chemical industry stood at US\$ 232 billion in 2022, and is expected to reach US\$ 304 billion by 2025, registering a CAGR of 9.3%. The cumulative FDI equity inflow in the chemical industry (excluding fertilisers) was US\$ 20.96 billion from April 2000 to December 2022. This constituted 3.35% of the total FDI inflow across sectors.

India is the 4<sup>th</sup> largest producer of agrochemicals globally and reached a value of almost US\$ 6 billion in the year 2022. The market is further expected to grow at a CAGR of 8.5% between 2023 and 2028, to reach a value of almost US\$ 9.82 billion by 2028. Agrochemicals sector exports accounted for US\$ 4.84 billion in CY 2022 with Y-o-Y growth of 28.7%, while imports were US\$ 1.69 billion with Y-o-Y growth of (2.39%). Increased Government initiatives to assist farmers and rapid technological advancements are propelling the growth of the agrochemicals sector.

Specialty chemicals constitute 22% of the total chemicals and petrochemicals market in India. The sector is expected to reach US\$ 40 billion by 2025. A significant opportunity for the Indian chemical industry is the increasing demand for specialty chemicals globally. Another opportunity for the industry is the growing demand for green chemicals, which are eco-friendly and sustainable.

For CY 2022, the export value of chemicals and allied products was up by 5% year-on-year, to US\$ 63\* billion, while imports were up 22% year-on-year, to US\$ 95.96\* billion.

The Indian chemical and petrochemical sector is expected to attract an investment worth ₹ 8 lakh crore by 2025. The Union Budget 2023 is a growth-oriented, progressive and prudent budget with specific focus on stability, sustainable and inclusive development, announcing

*\*HS Code Chapter 28-32, 3301-3302, 3402-3404, 35,38, 3901-3914, 4001-4003, 4005*

various policies which will generate demand for a variety of chemicals including construction chemicals, emission control catalyst, polyurethanes, TPU (Thermoplastic Polyurethane), bio-pesticides, etc. Further changes in BCD (Basic Custom Duty) rates of various goods like crude glycerin, denatured ethyl alcohol, acid grade fluorspar, specified chemicals for manufacture of pre-calcined ferrite powder, etc. would provide impetus to the domestic demand for these products. However, the Indian chemical sector, which has all the ingredients to become a global manufacturing hub, continues to await the much expected and anticipated production-linked incentive scheme, which has unfortunately not been announced in Budget 2023.

The Indian chemical industry has numerous opportunities, considering the supply chain disruption in China and the trade conflict among the US, Europe and China. Anti-pollution measures in China will also create opportunities for the Indian chemical industry in specific segments. The dedicated integrated manufacturing hubs under Petroleum, Chemicals and Petrochemicals Investment Regions (PCPIR) policy is expected to attract an investment of ₹ 20 lakh crore (US\$ 276.46 billion) by 2035. Additionally, special incentives through PCPIRs or SEZs (Special Economic Zones) to encourage downstream units will enhance production and further boost the industry growth.

*Source: Union Budget 2023, IBEF, Ministry of Commerce, Expert Market Research*

### 3. Company Overview

A part of the US\$ 128 billion (revenue for FY 2021-22) Tata Group, Tata Chemicals Limited ('the Company' or 'TCL') is a sustainable chemistry solutions company. The Company operates through two verticals - Basic Chemistry (Alkali Chemicals - Soda Ash, Sodium Bicarb, Salt, Silica & other Halogen Chemicals) and Specialty Products (Specialty Silica, Prebiotics & Formulations, Agrochemicals and Seeds). The Company's product portfolio provides key ingredients to many of the world's leading brands for glass, detergents, pharma, food, animal feed, and other industries. The Company is a global major in Soda Ash and Sodium Bicarbonate (market position of 3<sup>rd</sup> and 6<sup>th</sup> respectively), with manufacturing facilities in India, US, UK and Kenya.

The specialty products vertical, with focus on Green Chemistry solutions, comprises Highly Dispersible Silica ('HDS') and Prebiotics. HDS was developed based on patented technology for rubber, food, feed, detergents

and oral care applications. The Company has a domestic market leadership position in prebiotics, and has built a robust and high-growth fermentation platform that provides attractive future growth opportunities. The flagship product - fructo-oligosaccharide, is a prebiotic dietary fibre that promotes the growth of gut microbiome, and improves digestive and immune health.

Rallis India Limited ('Rallis'), a listed leading agri sciences company, with a product portfolio offering comprehensive crop care solutions, including active ingredients and formulations for crop protection, crop nutrition, seeds and biopesticides. A strong distribution network, with over 7,200 dealers and 1,00,000 retailers, reaches a multitude of India's farmers, covering 80% of the country's districts, and having export access to 60+ countries. It is a leading global manufacturer of active ingredients such as Acephate, Hexaconazole, Pendimethalin and Metribuzin. Rallis is expected to drive its growth through manufacturing capacity expansion and widening customer reach.

The Company's businesses are supported by the pillars of safety, sustainability, operational excellence, customer focus, innovation and digitalisation. The Company has committed to reducing its carbon footprint with focus on net neutrality. Its Carbon Capture and Utilisation (CCU) plant in the UK is the first of its kind to be commissioned in that geography. It captures CO<sub>2</sub> emitted by the gas-powered energy system, and uses it as a feedstock to manufacture high purity sodium bicarbonate for the pharma and food industries.

The Company supports key communities with development models that are sustainable and scalable. It also promotes biodiversity in a significant way through plantation, ecosystem creation, species conservation, as well as water and resource conservation around its plants. Through its wholly-owned subsidiary, Ncourage Social Enterprise Foundation, the Company is focussed on initiatives like livelihood creation, capacity building, rural entrepreneurship development, market linkages, and enriching lifestyle through quality products and services. These initiatives are woven around core intervention areas that include empowerment of rural women, youth, farmers, providing safe drinking water, animal care and clean energy.

Innovation at Tata Chemicals is focussed on delivering value to the customers by integrating chemistry with other sciences. At present, the Company has three centres for innovation located in Pune and Bengaluru.

Operational excellence permeates every aspect of the Company's operations and its people. Cost reduction, faster resolution of customer issues, and world-class manufacturing are the mainstays of a culture of continuous improvement at the Company.

The Company is on an accelerated path towards digitalisation. By adopting several digital initiatives and new age technologies like IIoT, remote sensing, automation etc., the Company is focussed on improving its manufacturing and process efficiencies.

## 4. Operational Performance

### a. Tata Chemicals Overview

#### i. Annual Performance Overview

The Company achieved a consolidated revenue of ₹ 16,789 crore (33% increase over FY 2021-22) and EBITDA of ₹ 3,822 crore (66% increase over FY 2021-22).

The global soda ash demand continued to recover at a gradual pace in FY 2022-23. The consolidated soda ash sales volumes were slightly down by 3%, to 35.4 lakh Metric Tonnes ('MT'), in FY 2022-23 against the previous year. The pace of global demand was affected by the Russia-Ukraine conflict, elevated energy prices and subsequent monetary tightening policies in the US, and slowing economic growth. Indian soda ash demand remained steady, driven mainly by container, flat and solar glass segments. Solar glass and lithium carbonate continued to drive soda ash demand globally. Despite a challenging input cost and supply chain environment, the Company was able to generate record profitability in FY 2022-23.

All the geographies showed improved operating and financial performance in FY 2022-23 against FY 2021-22. The soda ash export markets, which are in particular served by the US and Kenyan units, saw strong demand and pricing recovery during FY 2022-23. The Indian market continues to be short supplied and remains a net importer of soda ash, which is expected to continue. This provides an opportunity for further capacity expansion, and the Company has planned for phase 2 capacity expansion in Mithapur for soda ash and sodium bicarbonate, and in Cuddalore for silica, as part of its growth plans.

Salt volumes grew at a steady pace of 1%, to 16.3 lakh MT, in FY 2022-23, and the volume of sodium

bicarbonate was down by 3% to 2.3 lakh MT in FY 2022-23.

### b. Basic Chemistry Products

#### Industry Structure & Developments

The Company serves customers across five continents through its Basic Chemistry Products ('BCP') business (soda ash, salt, sodium bicarbonate, cement and marine chemicals). The Company's global supply chain gives it the unique advantage of maintaining reliable supply and efficient service at competitive prices.

The Company has a soda ash capacity of 4.3 million tonnes. More than two-thirds of this is natural soda ash, located in Green River Basin, Wyoming, USA, where the world's largest deposits of Trona are situated, and in Lake Magadi in Kenya. In addition to having lower manufacturing costs, natural soda ash has a lower energy and environmental footprint. Synthetic soda ash and sodium bicarbonate are manufactured at Mithapur, India and Northwich, UK, to cater to their respective domestic and export markets.

#### i. Soda Ash

World soda ash capacity contracted a little, which pushed operating rates slightly on the upward side, in the financial year under review due to tight supplies. Solar glass and lithium carbonate continued to drive the soda ash demand in China and Latin America.

Aggressive focus on green energy is driving increased usage of glass for solar panels and lithium carbonate for EV battery applications, leading to sharp demand growth for soda ash, which is a vital ingredient in these two sectors.

Indian soda ash demand remained steady during FY 2022-23, growing at around 4.0-4.5%, driven mainly by container, flat and solar glass segments. Considering annual solar installations of 20-25 GW, solar glass is expected to remain a key demand driver. Increasing supply chain costs and rise in global soda ash prices resulted in import parcels coming at higher prices during the year.

Domestic availability remained normal, with no major outages and high operating rates due to steady demand.

Imported material availability was tight in the first half of the year but started to ease in the second half with easing of supply chains and lower ocean freight rates. Coal prices remained volatile and surged after the Russia-Ukraine conflict. This kept the production



costs higher, though some of this was passed on to the customers. Prices began to fall in the second half, but high inflationary pressures kept demand and margins under control.

## II. Sodium Bicarbonate

Sodium bicarbonate is a versatile product having a wide range of applications like food additives, animal feed, pharmaceuticals, dyes, textiles and industrial emission control. The Company believes that given its wide range of current and emerging new applications, sodium bicarbonate will sustain consistent growth, besides offering significant value addition potential in the future.

The Company has a total annual capacity of 0.24 million tonnes per annum in India and the UK. Sodium bicarbonate demand grew at a healthy rate of about 4% in FY 2022-23. Higher demand for processed food products, pharmaceuticals, textiles, specialty chemicals and animal feed will continue to drive bicarb demand in India at 6% to 7% CAGR for the next five years. Indian bicarb capacity was flat in FY 2022- 23 and overall demand-supply remained between balanced and tight.

## III. Salt

Being an essential food ingredient, edible salt did not experience demand challenges in India even during the high inflationary situation. However, in the UK market, the demand for both edible and non-edible applications was affected due to slowdown in the leisure and hospitality sectors.

## c. Specialty Products

### I. Specialty Silica

TCL's wide range of conventional and HDS products allows it to participate in markets poised for growth, driven by a push for sustainability across application sectors. In FY 2022-23, the overall market demand growth remained healthy. The Company believes that long-term trends like tightening of automotive labelling standards will drive demand for high-performance, low noise and fuel-efficient green tyres, which need superior materials like HDS.

### II. Prebiotics & Formulations

The Company has growing expertise in the fermentation platform for synthesis of products and solutions. The business offers solutions for human and animal gut health through its flagship product -

fructo-oligosaccharide, a prebiotic dietary fibre that promotes the growth of the gut microbiome which in turn positively improves digestive health, mineral absorption and immunity.

The Company's partnership with Indian and global academic institutions and research bodies to further understand the gut microbiota and related health effects will help it build a leadership position in this space in the long run. This will create a base for extending the fermentation platform to several other green and sustainable solutions for a wider range of products and applications.

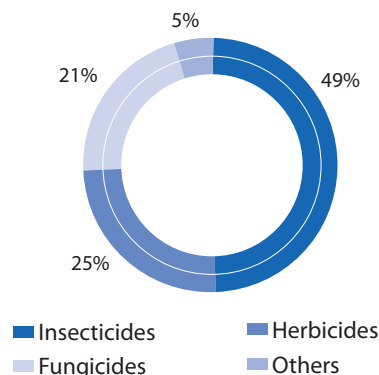
## III. Agrochemicals & Seeds

India has emerged as a net exporter of agricultural products in recent years. During FY 2021-22, agricultural exports reached an all-time high of US\$ 50.2 billion. The value of agri-food exports, including processed food exports, was about 10.9% of India's total exports during FY 2021-22. Government encouragement to farmer-producer organisations, thrust on crop diversification, improved agricultural productivity through support provided for mechanisation, and the creation of the Agriculture Infrastructure Fund helped in improvement of yields. However, India's crop yields are still lower than the Americas, Europe and China.

### Agrochemicals

The agrochemicals market in India is a rapidly growing industry due to the increasing demand for food and the need to ensure food security in the country. India's agrochemicals market is projected to sustain the past five-year growth trend of ~6% over the next five years. Indian agriculture is faced with the challenge of losses caused by pest attacks. Every year in India, pests, diseases and weeds cause crop loss of 20-30% on an average. Despite this, India's crop protection usage is one of the lowest worldwide.

### Indian Agrochemicals usage pattern



The market is expected to continue growing as farmers adopt modern farming practices and seek solutions to protect their crops from various threats. Agriculture has various challenges, such as increasing pest pressure, soil degradation, and changing weather patterns, which are affecting crop yields. To address these challenges, there is need for quality agri-inputs. Use of bio-pesticides is increasing in India as they affect only the target pest. The Government has adopted Integrated Pest Management Practices (IPM) with emphasis on the use of bio-pesticides.

**Seeds**

The seed industry size in India is projected to maintain the 5% growth trend in the next five years. The industry is working closely with the Government to enhance adoption of high-quality hybrid seeds. This will support in increasing the productivity and quality of agri produce in India.

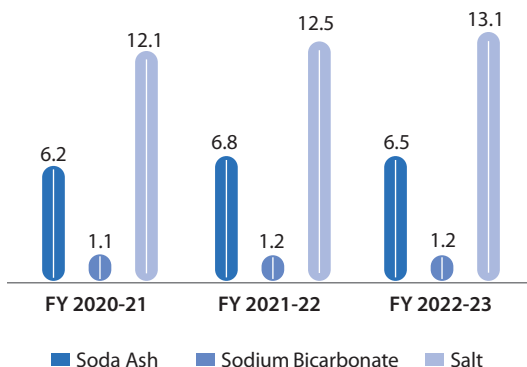
**d. Entity-wise Performance**

**TCL India (Standalone)**

**I. Operations**

Sales trend of Basic Chemistry Products is as follows:

**TCL India - Basic Chemistry Products Sales Volume in lakh MT**



Soda ash realisations improved during FY 2022-23, resulting in increase in revenues and EBITDA over FY 2021-22. Higher than expected demand, coupled with supply constraints and the pressure of increased input and energy costs led to increased pricing. On the manufacturing side, solar salt production was affected due to brine dilution, owing to extended rains and flooding. Proactive planning, strong customer relationships, robust processes and product configuration changes helped to overcome these

challenges. Strict cost control measures and rapid digitisation helped mitigate some of these pressures.

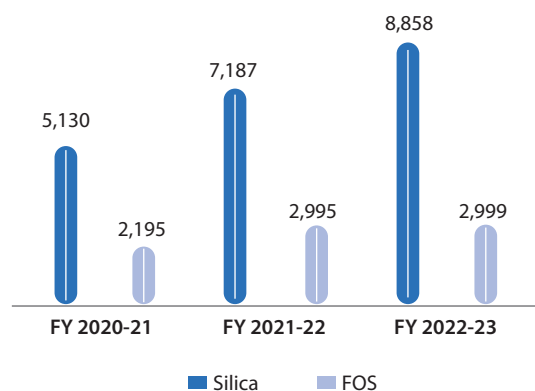
TCL India is the largest manufacturer of edible iodised salt in the country. The Company recorded its highest ever sale of salt at 13.1 lakh MT during the year, an increase from 12.5 lakh MT in FY 2021-22. The Company is investing to increase its salt production capacity to meet the growing demand of its key customer, Tata Consumer Products Limited ('TCPL').

With favourable demand for sodium bicarbonate, the Company achieved higher realisations across branded and non-branded segments of the market during the year. The Company continued focussing on growing its portfolio of high value branded sodium bicarbonate sales.

'Chem Connect', the Company's online customer portal and mobile app, remained at the forefront with user-friendly dashboards for ease of customer support, engagement and navigation. Customer engagement activities such as senior leader connect, annual reward and recognition events for channel partners, Club 15K meets, knowledge-sharing sessions, 'Web pe Charcha', were the hallmarks of staying connected with the customers and partners.

Sales trend of Specialty products is as follows:

**TCL India-Specialty Products Sales Volume in MT**



Tyre demand normalised during FY 2022-23. Tyre labelling norms will continue to drive HDS demand.

Silica margins in FY 2022-23 were impacted by a steep increase in raw material and energy costs. The Company's primary focus will be on scaling HDS use in tyre to protect overall realisations.

## Prebiotics & Formulations

The Company stabilised its operations at its state-of-the-art greenfield facility in Mambattu, Andhra Pradesh. Food safety certifications (FSSAI, FSSC 22000, FAMI QS, Halal, Kosher), strong scientific backing, regulatory support, together with ongoing application development have enabled the Company to serve customers across the globe.

In addition to continuing growth from the US and S.E. Asian markets, there has been encouraging potential also opening up from the EU. The facility has been qualified by some global customers, putting the Company on the path of achieving full capacity utilisation in the coming year. There were specific intervention projects during the year to improve efficiencies and cost of operations.

### II. Financials (continuing operations) ₹ in crore

TCL India	FY 2022-23	FY 2021-22
Revenue from Operations	4,930	3,721
EBITDA	1,235	951
Profit before tax (PBT)	1,265	988
Profit after tax (PAT)	1,027	787

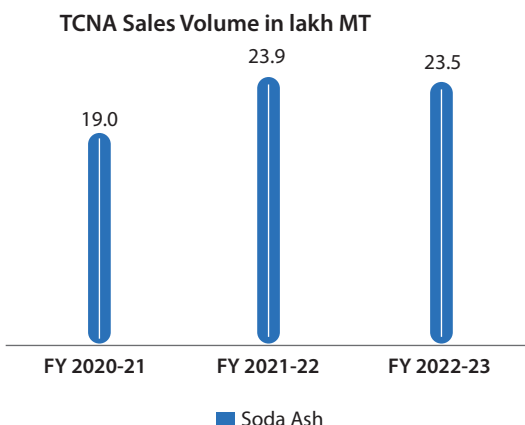
## Subsidiaries

### a. Basic Chemistry Products

#### Tata Chemicals North America Inc., USA ('TCNA')

##### I. Operations

Sales trend of Basic Chemistry Products is as follows:



In FY 2022-23, sales volumes decreased by 2% as compared to FY 2021-22. Demand for soda ash has fully recovered from the decline seen in previous years due to the COVID pandemic. Internally, efforts

will continue to improve manufacturing efficiency, supported by improved operational efficiencies, and capital improvements to alleviate bottlenecks and minimise unplanned shutdowns, with a particular emphasis on controlling energy consumption to mitigate recent increases in energy costs, and improve electrical power management as the US continues to experience significant inflationary pressures.

### II. Financials (continuing operations) ₹ in crore

TCNA (USA)	FY 2022-23	FY 2021-22
Revenue from Operations	5,271	3,688
EBITDA	1,269	787
PBT	750	338
PAT after non-controlling interest	601	270

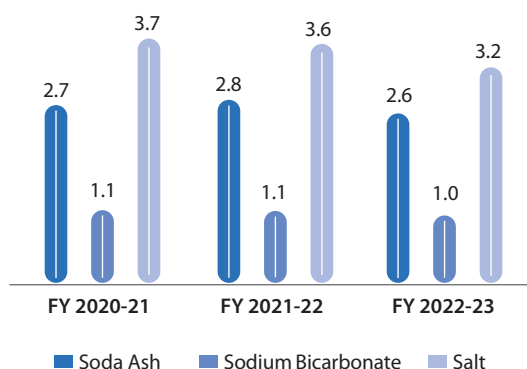
The revenue increase is mainly driven by an increase in prices.

#### Tata Chemicals Europe Group Limited, UK ('TCE Group')

##### I. Operations

Sales trend of Basic Chemistry Products is as follows:

#### TCE Group Sales Volume in lakh MT



TCE catered to 50% of the UK market demand of soda ash from its manufacturing operations at Lostock. All input costs rose strongly, particularly in the second half of the year. The Company, by engaging with its customers was able to secure mid-year price increases to cope with these unprecedented cost pressures.



In FY 2022-23, salt volumes decreased by 10% as compared to FY 2021-22. Strong revenue growth in FY 2022-23 was due to the price increase during the year to cover increased energy costs. Gas prices remained volatile throughout FY 2022-23, with decline towards Q4. Capping of energy prices in Europe may stabilise energy markets. However, there remain a significant number of uncertainties as 2023 unfolds quarter by quarter.

The UK sodium bicarbonate business had a good year, including the full commissioning of the new CCU plant which is now providing the European Industrial Gases Association (EIGA) standard CO<sub>2</sub> required for high grade sodium bicarbonate production, and has also reduced emissions by over 10% in the process.

## II. Financials (continuing operations) ₹ in crore

TCE Group (UK)	FY 2022-23	FY 2021-22
Revenue from Operations	2,629	1,949
EBITDA	615	118
PBT	382	(85)
PAT	435	(85)

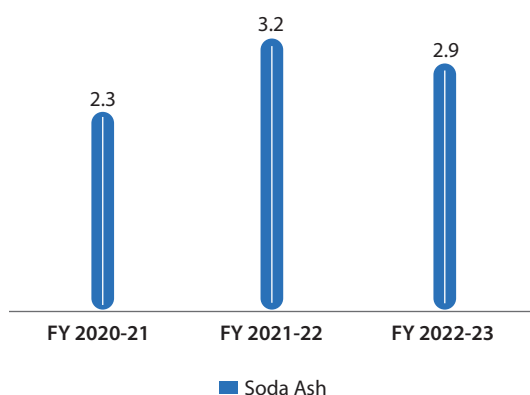
The revenue grew 35% compared to the previous year, led by higher soda ash, salt and sodium bicarbonate revenue.

### Tata Chemicals Magadi Limited, Kenya ('TCML')

#### I. Operations

Sales trend of Basic Chemistry Products is as follows:

#### TCML Sales Volume in lakh MT



Soda ash is the key product in the TCML portfolio, mainly servicing the container glass and silicate sectors in the East African domestic market, and the export markets in SEA and the Indian subcontinent.

## II. Financials (continuing operations) ₹ in crore

TCML (Kenya)	FY 2022-23	FY 2021-22
Revenue from Operations	945	577
EBITDA	468	143
PBT	439	94
PAT	450	94

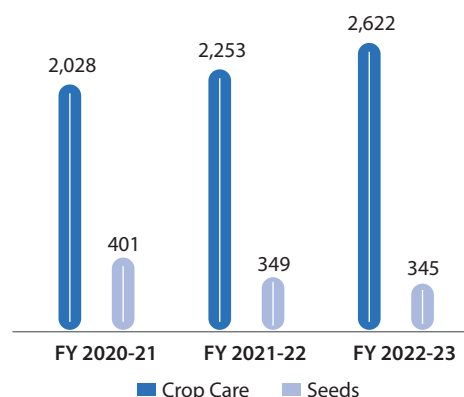
The revenue increased by 64% compared to the previous year, on account of better realisations due to favourable market demand. Hence, PAT improved by ₹ 356 crore. A tight control on costs, especially lowering of fixed cost, coupled with higher realisations resulted in better EBITDA.

#### b. Specialty Products

### Rallis India Limited ('Rallis')

#### I. Operations:

#### Rallis Revenue ₹ in crore



Note: Excluding inter-company transactions

Rallis registered ₹ 2,967 crore during FY 2022-23 compared with ₹ 2,602 crore recorded in the previous year in a challenging business environment. Rallis was able to take calibrated price increases to the domestic customers, in order to absorb the input costs, by leveraging its strong brands. International markets had

high price opening inventory issues and pressure on prices due to drop in raw material prices in the latter part of the year, resulting in Profit After Tax of ₹ 92 crore compared to ₹ 164 crore achieved during FY 2021-22

## II. Financials ₹ in crore

Rallis	FY 2022-23	FY 2021-22
Revenue from Operations	2,967	2,602
EBITDA	219	276
PBT	128	222
PAT	92	164

*Note: The figures are as per TCL's consolidated books*

The revenue grew 14% compared to the previous year on account of growth in Crop Care. Crop Nutrition business registered 21.8% growth over the previous year. Growth in Crop Care business was positive at 16.3%, though margins were under pressure due to steep cost volatility. Seeds business had a challenging year, resulting in degrowth of 1.3%, impacted by both internal and external factors. Optimising the fixed costs and net working capital are key priorities going forward.

## 5. Business Outlook

The Company continues to focus on growth of its core businesses and develop new products that serve customers' needs along the vectors of sustainability and green chemistry. The demand growth is in sustainability driven applications like solar glass, lithium carbonate and shift from plastic to glass containers, and also in sectors such as food, feed and pharma. These, in turn, will continue to drive the Company's current and future investments as an ingredients supplier of choice to these sectors.

Global demand growth for FY 2022-23 saw strong demand across all sectors, continuing the post COVID-19 economic recovery which began mid 2021. There will be a new capacity of 1 million tonne coming online in the US in 2023 and 1.5 to 2 million tonnes in China by year end. This may put pressure on prices for FY 2023-24 supply period.

In India, recovery in soda ash demand across application sectors, an anticipated reduction in imports, and increasing energy and freight costs will necessitate increased focus on operating rates and the ongoing programmes for driving cost reductions and efficiencies, which are likely to yield benefits in margins. Timely completion of phase 1 expansion under execution, and projected phase 2 expansion at Mithapur will further drive growth across the Company's product portfolio in its core business.

A key focus area will be continuing push on expanding value-added sodium bicarbonate sales into the growing food, feed and pharma sectors, in line with the Company's transformation strategy, and offering customers in these sectors a portfolio of products, including its NQ range of prebiotics. This would also further ramp up capacity utilisation of the new prebiotics plant. Similarly, the ongoing project to increase salt capacity in order to service long-term growth in demand from the key customer, TCPL, will continue.

Sustainability driven trends in the rubber and tyre industry are calling for incorporation of specialty grades of silica, which augurs well for the growth of the specialty silica business in terms of customer acquisition and capacity growth.

The outlook for TCNA, US, remains positive, with soda ash operating rates at maximum levels driven by a continued ongoing recovery in export markets. At TCNA, continuous improvement, cost reduction and sustainability in operations will remain areas of focus to drive margin improvement. Generating free cash flow and prepaying debt remains a key area of focus.

In TCE, UK, product demand across the range has built strongly throughout the year from a slightly hesitant start, with price rises occurring on the back of the significantly increasing input price pressures. The sodium bicarbonate plant is now self-sufficient in carbon dioxide, having successfully commissioned the CCU plant as part of the Company's overall sustainability push towards its carbon reduction targets. Future sodium bicarbonate and salt growth is being driven by focus and investment in high grade pharmaceutical applications, including investment in a pharma salt plant at the Middlewich site, due onstream in 2024.

For TCML, Kenya, sustained demand in export markets with a focus on developing the domestic East African market to maximise overall price realisation through strategic market mix, would be an area of focus. In addition, ensuring plant reliability as well as optimising costs would continue to be

key result areas. Generating free cash flow and prepaying debt remains a critical area of focus.

For Rallis, manufacturing capacity and introduction of new products will provide a growth platform for both exports business and domestic sales. Rallis is augmenting its product portfolio through co-marketing and in-house research & development (R&D). Manufacturing capacity is being augmented, marketing activities are being intensified and distribution networks are being strengthened in key states. Seeds business will address challenges to stabilise operations in FY 2023-24.

## 6. Risks and Opportunities

### India

Higher energy costs due to higher coal and fuel costs is a significant risk to the Company's business performance. Other risks include pricing risk on account of capacity additions in US & China, higher inflation and recessionary pressure (both global and domestic) leading to demand slowdown, currency devaluation, and changes in the export sector or imports from global markets. The Company continues to remain focussed on keeping the costs low, including variable costs like fuel, salt and limestone through raw material securitisation, and continuous improvement programmes to help mitigate the adverse impact of these risks such as diversifying energy sourcing in addition to current sources to improve sourcing flexibility, working on changing fuel mix, maximising use of alternate energy sources, different contracting strategies and continuing with strategies like commodity hedging / advance fixing of prices.

Execution of expansion project, adherence to more stringent environmental norms, packaging and improving safety performance in a sustainable manner are other key areas that the Company continues to focus on during FY 2023-24.

El Niño effect on weather and monsoon, and supply chain disruptions due to rake availability etc. are some other risks which need to be considered. Excessive rains are resulting in dilution of brine, which is affecting captive solar salt availability, leading to rise in cost of production as there is an increased need to purchase salt. The Company is enhancing production capacity of salt through joint development projects with TCPL, including working with TCPL on logistics options to maximise movements. Changes in monsoon pattern may also have adverse effect on the agrochemicals demand.

Carbon emissions taxation will impact the cost of production. The Company is developing a holistic carbon abatement strategy at a corporate level, which will help in mitigating this risk.

In Bicarb, capacity addition by competition and the Company itself may lead to temporary oversupply. Threat of substitution from sodium sulphate in animal feed, which is a cheaper variant, also needs to be considered. Bicarb use in the flue gas segment continues to be a promising opportunity, but there still remains uncertainty in consistent off-take by power plants. The Company had started supplies in FY 2020-21, and expects the engagement to continue as the regulations are implemented.

The Government's push towards renewables will accelerate consumption of various products in India in a significant manner. Its focus on 'Atmanirbhar Bharat' opens up opportunities in terms of kick-up of demand from infrastructure development, boost to domestic manufacturing through several initiatives like PLIs, import restriction measures, and softer finance facilities. This will have a positive impact on soda ash, bicarb and cement consumption, either directly or through increase in demand of the end segments.

Coming to silica, delay in product approval from major tyre and non-tyre customers will negatively impact the plant utilisation rates. Both R&D and business development teams are engaging with critical customers on a constant basis to fast track product approvals and increase commercial sales. The Company's HDS (Highly Dispersible Silica) has gained approval among large tyre manufacturers like CEAT, with whom TCL is working closely to scale in the high margin business. The Company is working towards reducing the variable cost of production of silica through local sourcing of low-cost raw materials, and enhancing plant efficiencies through better process control.

In FOS, lower sales off-take are resulting in low plant utilisation. Margin erosion can happen due to escalating raw material costs, primarily sugar and rice husk, and softening of selling prices of FOS. However, the favourable regulatory landscape of certain countries will work as a growth lever, to open more territories where FOS can be sold. The Company is using data from third party data aggregators to directly target the existing users of FOS. This can help the Company in achieving quicker conversions. GRAS (Generally Recognised as Safe), Halal & Kosher certifications for FOS from a fungus called *Aspergillus Niger* can open additional markets for the Company.

In addition to enhanced ease of doing business, customer partnerships around themes of innovation and sustainability continue to offer opportunities for stronger customer connect. Increasing value-added products and sustainable supply chain practices like bulk material are some steps the Company will continue to focus on.

Using technology for digitalisation of the plants, and making processes smoother for customers and internal stakeholders is going to be crucial as the Company heads into a digital age. Multiple projects around plant and supply chain automation, as well as customer relationship management are being implemented.

Rallis has a robust and comprehensive framework to address the vagaries of monsoon and its impact on India's agriculture sector through deeper engagement with farmers. In addition, the steep increase in input costs is being addressed through combination of localisation of intermediates, and appropriate engagement and contracting with suppliers. Increased domestic usage of agrochemicals and exports out of India are immediate opportunities. The long-term trend of shift to biologics remains an area of product development focus.

### Overseas

TCNA, US is well prepared to address the short-term export risks subsequent to the exit from the American National Soda Ash Corporation ('ANSAC') in December 2022. ANSAC exit allows the Company to drive direct customer engagement and to better align the strategic goals of the business with the market.

Adherence to more stringent environmental and regulatory norms, and sustainably improving safety performance are other key issues for the business. A focus on these initiatives, including investment and resource prioritisation, form a mitigation strategy to systematically address them.

TCE, UK continues to address the inflationary environment and higher energy costs with a focus on reduction of fixed costs and customer engagement. TCE UK continues to work on growth opportunities of Ekokarb® in the global market and leverage the new warehouse to enhance customer experience and quality. The proposed pharma salt project will give a boost to offering premium grade products to customers.

In Kenya, the focus is largely on quality and capacity utilisation. To maintain a niche in the container glass and silicate sector, the quality of soda ash needs to be maintained, which remains a challenge. This shall be mitigated with stringent quality controls. Energy saving through solar power and innovation shall continue to help reduce the cost of production, which is critical in helping the Kenya operations remain favourable on cost leadership.

## 7. Financial Performance (continuing operations)

### (A) Standalone performance for the year ended March 31, 2023

₹ in crore

Particulars	FY 2022-23	FY 2021-22	Change	% Change	Remarks
Revenue from operations	4,930	3,721	1,209	32	<b>Basic Chemistry Products:</b> Higher realisation in soda ash and salt, and increased volumes of salt have contributed in higher revenue for the Company. <b>Specialty Products:</b> Growth is due to increase in sale of nutrition products.
Other income	301	278	23	8	Other income has increased mainly on account of higher dividend received from non-current investments.
Cost of materials consumed	1,138	814	324	40	Cost of materials is higher due to higher input costs of raw materials.
Purchases of stock-in-trade	130	160	(30)	(19)	Purchases of stock-in-trade decreased mainly on account of lower opportunities for nutrition solutions related business.
Power and fuel	1,188	670	518	77	The increase in power and fuel cost is mainly on account of higher coal prices and other variants.
Employee benefit expenses	274	249	25	10	Overall employee costs have gone up mainly due to higher actuarial valuation impact as compared to FY 2021-22.
Freight and forwarding expenses	527	460	67	15	Freight and forwarding charges have increased majorly due to higher sales volumes of soda ash and salt.
Finance costs	26	19	7	37	Finance costs increased majorly on account of interest on acceptances.

**(B) Standalone Balance Sheet Analysis****1. Investments:**

₹ in crore

Particulars	FY 2022-23	FY 2021-22	Change	% Change
Investments in equity instruments in subsidiaries	3,607	3,607	-	-
Investment in joint venture	336	336	-	-
Investment in preference shares in subsidiaries	750	750	-	-
Investment in other companies*	4,889	4,971	(82)	(2)
Investments in non-convertible debentures	39	150	(111)	(100)
Investment in mutual funds	1,010	1,113	(103)	(9)
Investment in perpetual instruments	150	-	150	100
<b>Total Investment</b>	<b>10,781</b>	<b>10,927</b>	<b>(146)</b>	<b>(1)</b>

\* Decrease in the value of investments in other companies is mainly due to changes in fair value of investments.

**2. Inventories:**

₹ in crore

Particulars	FY 2022-23	FY 2021-22	Change	% Change
Inventories	1,203	880	323	37

Inventories are higher primarily due to higher prices on inventory of raw materials and coal.

**3. Trade Receivables:**

₹ in crore

Particulars	FY 2022-23	FY 2021-22	Change	% Change
Trade receivables	201	182	19	10

Trade receivables are higher primarily due to the higher sales during the year.

**4. Loans, other financial assets, advance tax assets (net) and other assets:**

₹ in crore

Particulars	FY 2022-23	FY 2021-22	Change	% Change
Loans*	325	-	325	100
Other financial assets	26	64	(38)	(59)
Advance tax assets (net)	667	613	54	9
Other assets	295	278	17	(6)
<b>Total</b>	<b>1,313</b>	<b>955</b>	<b>358</b>	<b>37</b>

\*inter-corporate deposits made during the year

Decrease in other financial assets is mainly due to reduction in subsidy receivables. Decrease in other assets is mainly due to settlement of advances given and reduction in statutory receivables.

**5. Cash & Cash Equivalent (net)**

₹ in crore

Particulars	FY 2022-23	FY 2021-22	Change	% Change
Cash and cash equivalent (including Bank balances)	85	493	(408)	(83)
<b>Borrowings</b>				
Current - lease liabilities	-	(3)	3	(100)
<b>Total Borrowings</b>	<b>-</b>	<b>(3)</b>	<b>3</b>	<b>(100)</b>
<b>Cash and Cash equivalent (net)</b>	<b>85</b>	<b>490</b>	<b>(405)</b>	<b>(83)</b>

Lower cash and cash equivalents have been represented through higher outflow in corporate deposits.

**6. Trade payables, other financial liabilities, other liabilities, provisions, current tax liabilities (net) and deferred tax liabilities (net)**

₹ in crore

Particulars	FY 2022-23	FY 2021-22	Change	% Change
Trade payables	698	560	138	25
Other financial liabilities	256	181	75	41
Other liabilities	89	75	14	19
Provisions	372	352	20	6
Current tax liabilities (tax)	91	107	(16)	(15)
Deferred tax liabilities (net)	390	397	(7)	(2)
<b>Total</b>	<b>1,896</b>	<b>1,672</b>	<b>224</b>	<b>13</b>



Increase in trade payables is mainly due to higher cost of raw materials reflected through an overall increase in the cost base.

### (C) Standalone Cash flow analysis

₹ in crore

Particulars	FY 2022-23	FY 2021-22
Cash from operating activities	885	582
Cash from investing activities	(558)	(355)
Cash from financing activities	(332)	(270)

**Net cash flow from operating activities:** Higher operating cash flow in FY 2022-23 against FY 2021-22 is mainly on account of change in working capital.

**Net cash flow from investing activities:** Higher investing cash outflow in FY 2022-23 is mainly on account of redemption of current investments compensated by higher purchase of property, plant and equipment (including capital work-in-progress).

**Net cash flow from financing activities:** Higher cash outflow in FY 2022-23 is mainly on account of dividend paid.

### (D) Details of significant changes in key Standalone financial ratios:

**Debt Equity Ratio (times)** of the Company has improved due to increase in equity (on account of profits earned during the year), while debt continued to remain almost negligible during the year.

### (E) Consolidated performance for the year ended March 31, 2023:

#### i. Revenue from operations

₹ in crore

Entity	FY 2022-23	FY 2021-22	Change	% Change
Tata Chemicals Limited ('TCL'), India	4,930	3,721	1,209	32
Tata Chemicals North America Inc. ('TCNA'), USA	5,271	3,688	1,583	43
TCE Group Limited - Consolidated ('TCE Group'), UK	2,629	1,949	680	35
Tata Chemicals Magadi Limited ('TCML'), Kenya	945	577	368	64
Rallis India Limited ('Rallis'), India	2,967	2,602	365	14
Others and Eliminations	47	85	(38)	(45)
<b>Total</b>	<b>16,789</b>	<b>12,622</b>	<b>4,167</b>	<b>33</b>

Higher realisation for soda ash across geographies compared to previous year.

#### ii. Cost of materials consumed

₹ in crore

Entity	FY 2022-23	FY 2021-22	Change	% Change
TCL, India	1,138	814	324	40
TCE Group, UK	246	181	65	36
Rallis, India	1,592	1,448	144	10
Others and Eliminations	(29)	(19)	(10)	53
<b>Total</b>	<b>2,947</b>	<b>2,424</b>	<b>523</b>	<b>22</b>

The increase in cost of materials reflects higher raw material costs across units. In case of TCNA and TCML, raw materials are primarily mined and do not involve external purchases and are hence not reflected in cost of materials consumed.

#### iii. Purchases of stock-in-trade

₹ in crore

Entity	FY 2022-23	FY 2021-22	Change	% Change
TCL, India	130	160	(30)	(19)
TCNA, USA	26	24	2	8
Rallis, India	158	120	38	32
Others and Eliminations	50	32	18	56
<b>Total</b>	<b>364</b>	<b>336</b>	<b>28</b>	<b>8</b>

#### iv. Power and fuel

₹ in crore

Entity	FY 2022-23	FY 2021-22	Change	% Change
TCL, India	1,188	670	518	77
TCNA, USA	610	392	218	56
TCE Group, UK	960	878	82	9
TCML, Kenya	136	103	33	32
Rallis, India	94	69	25	36
<b>Total</b>	<b>2,988</b>	<b>2,112</b>	<b>876</b>	<b>41</b>

Power and fuel costs have increased on account of higher coal and gas prices across units.

**v. Employee benefit costs** ₹ in crore

Entity	FY 2022-23	FY 2021-22	Change	% Change
TCL, India	274	249	25	10
TCE Group, UK	224	212	12	6
TCML, Kenya	65	69	(4)	(6)
TCNA, USA	868	763	105	14
Rallis	256	239	17	7
Others	4	8	(4)	(50)
<b>Total</b>	<b>1,691</b>	<b>1,540</b>	<b>155</b>	<b>10</b>

Employee costs increased due to increments in TCL, TCE, TCNA and Rallis.

**vi. Freight and forwarding charges** ₹ in crore

Entity	FY 2022-23	FY 2021-22	Change	% Change
TCL, India	527	460	67	15
TCE Group, UK	194	175	19	11
TCML, Kenya	118	101	17	17
TCNA, USA	1,245	953	292	31
Rallis	98	112	(14)	(13)
Others	2	5	(3)	(60)
<b>Total</b>	<b>2,184</b>	<b>1,806</b>	<b>378</b>	<b>21</b>

Freight and forwarding charges have increased primarily due to increase in fuel cost over the period in TCL, TCNA, TCE and TCML.

**vii. Finance costs** ₹ in crore

Entity	FY 2022-23	FY 2021-22	Change	% Change
TCL, India	26	19	7	37
TCE Group, UK	90	65	25	38
TCML, Kenya	9	14	(5)	(36)
TCNA, USA	167	127	40	31
Rallis	12	5	7	140
Others and Eliminations	102	73	29	40
<b>Total</b>	<b>406</b>	<b>303</b>	<b>103</b>	<b>34</b>

Increase in finance cost in TCNA is due to increase in LIBOR/ SOFR rate.

**viii. Other expenses** ₹ in crore

Entity	FY 2022-23	FY 2021-22	Change	% Change
TCL, India	545	460	85	18
TCE Group, UK	391	354	37	10
TCML, Kenya	176	145	31	21
TCNA, USA	1,225	836	389	47
Rallis	467	396	71	18
Others and Eliminations	17	31	(14)	(45)
<b>Total</b>	<b>2,821</b>	<b>2,222</b>	<b>599</b>	<b>27</b>

**ix. Other expenses represent the following** ₹ in crore

Entity	FY 2022-23	FY 2021-22	Change	% Change
Stores and spares consumed	348	314	34	11
Packing materials consumed	318	319	(1)	-
Repairs	593	448	145	32
Rent	50	43	7	16
Royalty, rates and taxes	518	378	140	37
Distributor's service charges and sales promotion	140	79	61	77
Others(*)	854	641	213	33
<b>Total</b>	<b>2,821</b>	<b>2,222</b>	<b>599</b>	<b>27</b>

\* Others include insurance charges, professional fees, foreign exchange loss, travelling expense, provision for doubtful debts and advances, directors' fees / commission, subcontracting cost, outsourcing cost and other expenses.

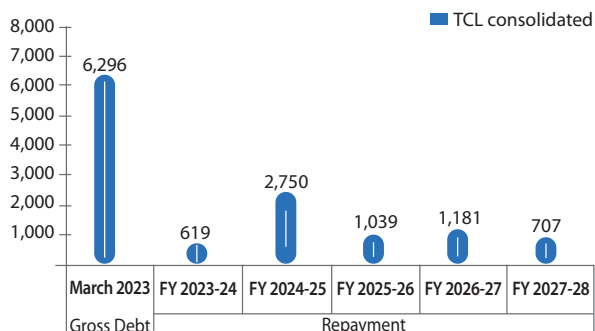
**(F) Details of significant changes in key Consolidated financial ratios:**

- Interest Coverage Ratio (times)** has increased to 7.75 (FY 2021-22: 5.79) due to increase in revenue from operations and earnings before interest and tax across geography.
- Current Ratio (times)** has increased to 1.66 (FY 2021-22: 1.23) mainly due to decrease in current borrowing and lease liabilities to ₹ 619 crore (FY 2021-22: ₹ 3,164 crore)
- Net Profit Margin (%)** has increased to 14.70% (FY 2021-22: 11.18%) due to increase in revenue and profit from operations across geography.

4. **Return on Net Worth (%)** has increased to 12.23% (FY 2021-22: 8.19%) due to increase in revenue and profit from operations across geography.

### (G) Total Debt and Amortisation Schedule

#### Repayment schedule of existing debt ₹ in crore



#### Notes:

- Gross debt of ₹ 6,296 crore includes ₹ 325 crore of working capital loans/short-term borrowings.
- The repayment schedule for term loans has been prepared considering the existing repayment terms. Some of these loans/facilities may be refinanced / pre-paid, in full or in part, from time to time in future depending on the requirement and the business plans. Non-current portion of finance leases has been included in FY 2024-25 repayment.

## 8. Innovation and Technology

### Innovation Centre

The Innovation Centre ('IC') at Pune is the Company's science and technology hub for seeding new businesses and accelerating the Company's sustainable long-term growth. IC supports the Company's businesses by providing cutting-edge technology solutions, and a customer-centric, multi-disciplinary problem-solving approach for sustainable growth and differentiation. The Company has filed 199 patent applications (cumulative) with 133 patent grants.

During the year, IC made significant contributions to the development of green highly dispersible silica (HDS), functional silica and environment-friendly process for bio-based surfactants, increased yield of bioactives in medicinal plants through Aeroponics. IC also developed new FOS variants and co-created innovative applications of FOS with customers. The Company won the prestigious CII's India's top 50 Innovative Company Award and Top Innovative Company (Large) in Manufacturing (category winner). The Company received special appreciation award for its Intellectual Property ('IP') practices and portfolio from CII as well.

## 9. Digitalisation and Information Technology

The Company is currently undertaking a project to modernise its Enterprise Resource Planning (ERP) system, with a focus on Business Process Re-engineering (BPR). The Company aims to migrate from SAP ECC6 to S/4HANA to streamline processes across all geographies, establish best practices, and improve operational efficiency. TCL's Industry 4.0 agenda includes enhancing its Industrial IIoT applications, with a particular focus on areas such as the Carbonation Towers located in its Mithapur plant, India. Additionally, TCL is developing and testing IIoT applications for its MUW plant for salt, with the goal of increasing efficiency and improving yield.

To address the issue of unplanned downtime for critical equipment, TCL is developing a predictive analytics application that predicts Induced Draught (ID) fans and CO<sub>2</sub> pumps. The Company has also introduced a video analytics solution to improve bag counting accuracy and remotely monitor solar salt pan intake pump operations. TCL has also introduced e-logbooks to digitalise its data capture system. In addition to the above, the Company plans to implement a spends analytics solution to improve visibility, mitigate risks, analyse historical data, and identify savings opportunities.

TCL's IT and digital transformation strategy is regularly reviewed and revised to align with industry trends and business requirements, with digital initiatives being adopted across all functions. TCL has implemented a Transportation Management System (TMS) for Tata Chemicals and Rallis to improve collaboration with transporters and logistics management. Additionally, the Company has implemented Robotic Process Automation (RPA) for selected finance processes to enhance productivity. To ensure compliance with labour regulations, TCL has implemented a contractor management system. The Company also plans to introduce digital dashboards for all Key Performance Indicators (KPIs) to democratise the usage of data and analytics.

TCL recognises the importance of cybersecurity in safeguarding its operations as it journeys towards digitisation. To enhance manageability, scalability, and agility, TCL is upgrading its on-premises IT infrastructure and adopting cloud technology. Moreover, the Company has upgraded its email, office applications and collaboration systems to a more advanced platform that provides better user experience and enhanced cybersecurity.

TCL's subsidiary, Rallis, continues to embrace digital and analytics solutions to enable agility and excellence in business operations. For instance, Rallis is implementing

'SeedSay,' a seed demand forecast system based on advanced analytics, to optimise seed placement in shops and reduce sales returns. Moreover, Rallis is using 'DRISHTI,' a state-of-the-art decision intelligence system that harnesses the power of Spaceborne Remote Sensing and Artificial Intelligence, to monitor hybrid seed production farms. Rallis has been awarded the CII-DX award under the 'Most Innovative' category for leveraging DRISHTI.

In conclusion, TCL's new initiatives are aimed at improving operational efficiency, performance and decision-making. The Company is committed to staying ahead of the curve by incorporating the latest technologies and digital solutions to achieve its goals.

## 10. Human Resources

The steady engagement of its people has enabled the Company to achieve its key objectives in FY 2022-23. Various changes in technology were embraced and the employees are working towards achieving the next level of excellence by focussing on their skill development and innovative practices.

In line with its commitment to increase diversity in the workforce, the Company has increased the hiring of women across all its plants. Graduate engineer trainees were hired in order to build a pipeline of engineers for production units with an intake of 50% women engineers. The Company's manufacturing sites today have women in all the three shifts in India.

During the year, the Company continued to build future capability interventions based on 'future ready' and "future engaged" competencies. The Company's rich digital learning platforms like Global Gyan, Tata Tomorrow University and LinkedIn Learning enabled continuous learning and upskilling to its people. Structured interventions like INVEST helped build the managerial capability. Plants continued their functional capability programmes, supplemented by centrally run virtual trainings on POSH (Prevention of Sexual Harassment), ABAC (Anti-Bribery & Anti-Corruption), Ethics, D&I (Diversity & Inclusion), etc.

The Company's new 'my WOW' (My World of Work) HRMS (Human Resources Management System) Oracle platform under the OTON (One Tata Operating Network) programme is being well adopted by its people. This migration has helped increase the efficiency of the people processes, and also helped address the needs and aspirations of the emerging multigenerational workforce.

The Company's Employee Assistance Programme 'We Care' supported India-based employees and their families in building psychological, physical, emotional and financial wellness to help them cope with stressful times.

Frequent communication by leaders, town halls and team connects, rewards & recognition, advisories and policy/process changes were in place to keep the employees engaged and motivated.

The details of number of the employees as on March 31, 2023 are given on page no. 76 of this Integrated Annual Report.

## 11. Safety and Health

Health and safety continues to be one of the most important values at TCL. The Company has a comprehensive approach to ensure that all employees, associates, assets and the environment are protected from harm to achieve 'Target Zero Harm'. It has adopted a proactive approach to health and safety management, which includes creating policies and procedures to promote safe working practices and providing appropriate training to employees. Additionally, the Company is also ensuring that it has the right systems in place to monitor performance and identify potential risks before they become an issue. By taking these steps, TCL ensures that its commitment to 'Target Zero Harm' is met.

The Company has a Board-level Safety, Health, Environment and Sustainability ('SHES') Committee, chaired by an Independent Director. The Committee reviews and monitors the sustainability, safety, health and environmental policies and activities of the Tata Chemicals Group on behalf of the Board to ensure that the Group is following appropriate laws and legislation. This Committee also provides valuable direction and guidance to the Management to ensure that safety and sustainability implications are duly addressed in all new strategic initiatives, budgets, audit actions and improvement plans.

The Company has an integrated Safety, Health & Environment (SHE) Policy in place, as part of its commitment to ensuring the safety and well-being of all key stakeholders. Each site or subsidiary has adopted the Corporate SHE Policy or developed their own policy in alignment with the Corporate Policy and local regulatory requirements. The Corporate SHE Policy is aligned with other key policies and guidelines like the Group Safety Policy, Consequence Management guidelines, Corporate Sustainability, Corporate Mission, Vision & Values, Responsible Care guidelines, and the

International Labour Organisation (ILO). The Company has adopted a comprehensive approach to ensure the highest standards of safety, health, and environmental protection across the organisation. This policy ensures that all relevant stakeholders are aware of their responsibilities, and the Company's commitment to upholding the highest standards of safety, health, and environmental protection is maintained.

The Company is committed to ensuring steady improvement in its safety, health, and environment (SHE) performance. The adoption of voluntary standards, such as Process Safety and Risk Management (PSRM), ISO 45001, ISO 14001, Responsible Care, and the British Safety Council guidelines, help the Company to benchmark its performance against established best practices and continuously improve its safety management system. The Company's commitment to safety follows a top-down approach, with the senior management taking the lead in establishing, demonstrating, sustaining and improving the safety culture and creating a safety-conscious workforce. Its specially trained employees are a valuable asset for the Company in identifying and mitigating potential hazards that may arise in the course of their work. Periodic industrial hygiene assessment and medical check-ups are conducted to identify possible risks to human health, and for initiating corrective and preventive steps based on the risk profile of the work area to help the Company to focus its efforts where they are needed the most. Adequate medical facilities are available at all manufacturing sites, and the Company has also established tie-ups with specialised medical facilities, such as hospitals and nursing homes, for ensuring the health and well-being of its employees.

The Company has adopted a continuous improvement approach to its safety performance through the 'Target Zero Harm' programme. The identification of key lead and lag measures, alignment of these measures to functional processes and strategic objectives, besides setting of targets based on past performance, stakeholder requirements, legal and voluntary requirements, and industry benchmarks, are important steps towards achieving the goal of zero harm.

The capture of data associated with key lead and lag measures through various pre-defined reports, log sheets, and web portals is an efficient way to track performance. Pre-defined reports configured in portals for necessary data analysis and management reports help the Company to identify trends and areas for improvement. The use of tools like trend analysis, Root Cause Analysis (RCA),

and comparative performance analysis further aid in assessing the current performance and identifying the improvements required.

The introduction of a Positive Assurance Matrix at all the sites to track SHE, Fire Safety and Electrical Safety Performance, which is reviewed by the SHES Committee of the Board, is aimed at ensuring accountability and transparency in the Company's safety performance.

To create a culture of safety, the Company has introduced various programmes to encourage employees to identify and report potential hazards, near-misses and unsafe behaviours. The programme involves training employees on identifying and correcting unsafe behaviours, conducting safety audits, and providing regular feedback. Tata Chemicals has also implemented a comprehensive PSRM programme to manage the risks associated with its manufacturing processes. The Company has also established a Contractor Safety Management programme to ensure that contractors working on its sites follow the same safety standards as Tata Chemicals' employees.

The Company has implemented a SIF (Serious Injury and Fatality) Potential Approach as part of its accident prevention programme, to identify and address potential hazards that could lead to serious injuries or fatalities. This is a proactive approach to safety, which goes beyond traditional safety programmes and focusses on the prevention of incidents that have the potential to cause serious harm. The Company has also implemented a Safety Felt Leadership Programme (SFLP) to promote a culture of safety across the organisation, which aims to empower leaders to take ownership of safety and drive continuous improvement in safety performance.

The Company tracks lead indicators under PSI elements to determine the safety progress. The elements of PSI have been selected through prevalent legislative requirements of the respective locations, as well as the world-class frameworks for Safety & Environment Management Systems like ISO 45001, ISO 14001, HSG 65, etc. Annual targets are set for each element, based on organisational requirements and past performance of the locations.

To assist individual units, the Company is working on digitisation and data analytics to forecast key vulnerable areas. Over the past 12 years, the Company has reduced its TRIFR by 62%.



## 12. Sustainability

At the Company, sustainability is aligned with the UN Sustainable Development Goals, and the Environmental, Social and Governance principles are integrated into its business. TCL's sustainability framework is designed along the axis of Materiality and Responsible Care. During the year, the Company undertook a large-scale stakeholder-driven materiality assessment with the support of a third party.

Aligned to Tata Group's sustainability policy and sustainability ambition, as articulated in its Project Aalingana TCL has articulated its sustainability policy and is taking actions towards three key themes - Climate change and emissions, Circular economy and Resources (Water, Material and waste) management, and Preserving nature and biodiversity.

On the path of decarbonisation, the Company has committed to reduce absolute emissions by 30% and achieve net zero emissions. In line with its commitment, the Company has initiated various levers, on shifting to low emission/carbon neutral fuels, enhancing energy efficiencies, use of renewable energy, and carbon capture and utilisation, with several more in the pipeline.

The Company has committed to becoming water positive and zero solid waste to landfill. As part of its efforts to promote sustainable growth through circular economy, it has adopted the 3R (Reuse, recycle and reduce) strategy at its manufacturing facilities.

The Company has committed to net zero impact on biodiversity, and to the conservation and strengthening of biodiversity in and around the areas of its operations. Its focus is on coastal and marine ecosystem.

The Company has developed an internal tool (Responsible Manufacturing Index) to monitor key sustainability indicators on a monthly basis.

TCL uses frameworks such as ISO 14001, OHSAS 18001, Global Reporting Initiative ('GRI'), Carbon Disclosure Project ('CDP'), International Integrated Reporting Council ('IIRC'), United Nations Global Compact ('UNGC'), Science Based Target initiatives (SBTi), India Business & Biodiversity Initiative (IBBI) reporting, etc. to disclose as well as to share its performance with stakeholders. This allows the Company to get feedback from the stakeholders and engage with the key customers under supply chain programmes.

## Integrated Report

The Company has adopted the IIRC framework to establish integrated reporting within the mainstream business. In accordance with the IIRC Framework, the Company has included an Integrated Report <IR>. The <IR> seeks to provide a concise and integrated account of how the Company's strategy, governance, performance and prospects are delivering on its core purpose – being a global company. The <IR> encompasses all key financial and non-financial performance indicators which are material to the Company as per GRI, UNGC and CDP. It plays a crucial role in establishing the linkages between environmental and social sustainability, as well as the financial growth of the organisation. The <IR> contains assured sustainability data for FY 2022-23 for entities across the enterprise. The financial information has been audited by B S R & Co. LLP, and the non-financial information has been assured by Ernst & Young Associates LLP.

## 13. Business Excellence

The Company remains committed to continually raising the bar on performance in all aspects of its business. The Tata Business Excellence Model ('TBEM') serves as a pivotal framework that allows the Company to gain insights into its performance, and establish continuous improvement initiatives for attaining superior business results and maximising satisfaction and value for the customers. The TBEM framework comprises six core areas of business excellence: Leadership, Strategic Planning, Customer Focus, Analysis and Knowledge Management, Workforce Focus, and Process Management. For the Company, a global organisation that has its manufacturing operations spread across four continents with diverse business segments and employees from different cultures, TBEM serves as a platform to establish a consistent standard of excellence. The Company participated in the Tata Group level TBEM assessment in 2021 and achieved a coveted Industry Leader status. This affirms the Company's commitment to strengthening the culture of excellence and progress towards becoming a world-class organisation.

## 14. Internal Controls

The Company has an independent Internal Audit function with a well-established risk management framework. The scope and authority of the Internal Audit functions are derived from the Internal Audit Charter approved by the Audit Committee. The Company has engaged a reputable external firm to support the Internal Audit function for carrying out the Internal Audit reviews.

Reviews are conducted on an ongoing basis based on a comprehensive risk-based audit plan, which is approved by the Audit Committee at the beginning of each year. The Internal Audit team reviews and reports to the management and the Audit Committee about compliance with internal controls, and the efficiency and effectiveness of operations as well as the key process risks.

The Audit Committee meets every quarter to review and discuss the various Internal Audit reports, and follow up on action plans of past significant audit issues and compliance with the audit plan.

**The risk management framework is described below:**



## 15. Risk Management Framework

The Company has constituted a robust governance structure consisting of five levels, thereby ensuring both bottom-up and top-down approaches.

A Risk Management Committee ('RMC') is constituted to oversee the risk efforts in the Company. The RMC meets quarterly to review key risks and assess the status of mitigation measures. The Company's approach to risk management is designed to provide reasonable assurance that its assets are safeguarded, and the risks facing the business are being assessed and mitigated.

The key roles and responsibilities regarding risk management in the Company are summarised as follows:

### 1. Board of Directors

- Reviewing and guiding Risk Policy of the Company
- Ensuring the integrity of the systems for risk management

### 2. Risk Management Committee of the Board

- To formulate a detailed risk management policy which shall include:
  - o A framework for identification of internal and external risks, specifically faced by the Company, in particular, including financial, operational, sectoral, sustainability (particularly ESG related risks), information, cyber security risks or any other risk as may be determined by the Committee
  - o Measures for risk mitigation including systems and processes for internal control of identified risks
  - o Business continuity plan
- To ensure that appropriate methodology, processes and systems are in place to monitor and evaluate risks associated with the business of the Company
- To monitor and oversee implementation of the risk management policy, including evaluating the adequacy of risk management systems
- To periodically review the risk management policy, at least once in two years by considering the changing industry dynamics and evolving complexity
- To keep the Board of Directors informed about the nature and content of its discussions, recommendations and actions to be taken
- The appointment, removal and terms of remuneration of the Chief Risk Officer (if any) shall be subject to review by the Risk Management Committee

### 3. Risk Management Group at Senior Leadership Level

- Identification and review of enterprise risks from time to time, initiating mitigation actions, identifying owners and reviewing progress
- Identification and review of risk appetite and risk trigger (at Enterprise Level)
- Implementation of Risk reduction strategies
- Formulating and deploying Risk Management Policy
- Deploying practices for identification, assessment, monitoring, mitigation and reporting of risks
- Providing updates to RMC from time to time on the enterprise risks and actions taken

### 4. Risk Management Group at Business Unit (BU) Level/ Subsidiary Level

- Reviewing respective BU/Subsidiary risks from time to time, initiating mitigation actions, identifying owners and reviewing progress
- Identification and review of risk appetite and risk trigger (at BU/Subsidiary Level)
- Implementation of risk reduction strategies
- Deploying Risk Management Policy
- Deploying practices for identification, assessment, monitoring, mitigation and reporting of risks
- Providing updates to TCL Management Committee (RMG) and RMC level from time to time on the respective Business / Subsidiary level risks and actions taken

### 5. Risk Owners

- Responsible for developing and acting on the risk mitigation plan
- Providing periodic updates to RMC on risks with the mitigation plan

## Risk Categories

The following categories of risks have been considered in the Risk Management Framework:



- **Sustainability Risks** are the risks arising out of adverse impacts that the business activities have on environment (planet) and communities (people).
- **Strategic Risks** include the range of external events and trends (like Government policy) that can adversely impact the Company's strategic growth trajectory and destroy stakeholder value. They also include the risks arising out of the choices the Company has made in defining its strategy.
- **Operational Risks** are those risks that are associated with operational uncertainties, including failure in critical equipment, attrition, loss of data from cyber attacks, etc.
- **Financial Risks** are risks faced by the organisation in terms of internal systems, planning and reporting.
- **Regulatory and Policy Risks** are risks on account of inadequate compliance of regulations, contractual obligations and intellectual property violations, leading to litigation and loss of reputation.
- **Reputational Risks** include a range of events that creates a mismatch between stakeholders' expectations and their perceptions of the Company's performance around those expectations.

For more details on key risks and their mitigation plans, please refer to page no. 50 of this Integrated Annual Report.

## Cautionary Statement

Statements in the Management Discussion & Analysis describing the objectives, projections, estimates and expectations of the Company, its direct and indirect subsidiaries and its associates, may be 'forward-looking statements' within the meaning of applicable laws and regulations. Actual results might differ substantially or materially from those expressed or implied. Important factors that could make a difference to the Company's operations include, among others, economic conditions affecting demand/supply, price conditions in the domestic and overseas markets in which the Company operates, changes in the Government regulations, tax laws, and other statutes and incidental factors.