

MANAGEMENT DISCUSSION AND ANALYSIS (MDA)

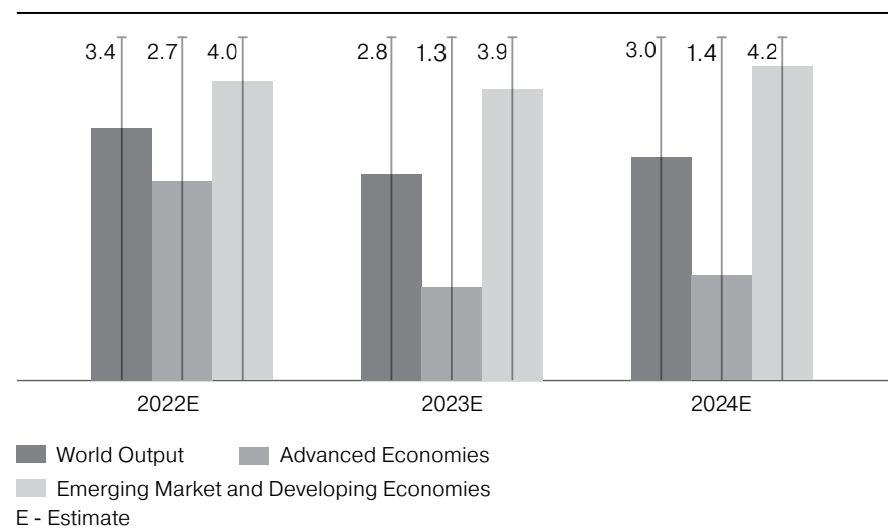
1. Economic Overview

Global Economy

Real global gross domestic product (GDP) grew by 3.4% in 2022, as estimated by the International Monetary Fund (IMF). The world witnessed a major geopolitical conflict in early 2022 which prolonged economic recovery, followed by supply chain disruptions, rise in commodity prices and surge in inflation in most economies. The tightening of financial conditions across the world took its toll on economic activity, while financial markets remained volatile. Central banks, led by the US Federal Reserve, responded with a synchronised policy rate action. As the global economy continues to face headwinds and due to a tighter monetary policy, the International Monetary Fund (IMF) has forecasted global GDP growth at 2.8% in 2023, before rebounding to 3% in 2024. It also predicts global inflation to reduce to 6.6% in 2023 and 4.3% in 2024, significantly lower than 8.8% in 2022. With the shift to clean energy accelerating, global investment in clean energy technologies is significantly outpacing spending on fossil fuels.

As COP27 conference urged world leaders to move faster in facilitating energy transitions, U.N. Secretary General Antonio Guterres described the situation as 'Code Red for Humanity', and a death knell for coal and fossil fuels, before they destroy the planet. As the world is certain to face further climate disruptions for decades, immediate, rapid and large-scale action is a must to reduce greenhouse gas emissions and bring global warming under control.

World Economic Output (%)



Indian Economy

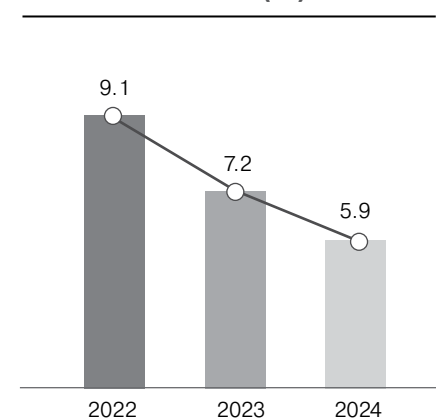
India's GDP in FY 2022-23 was 7.2%, against 9.1% in the earlier fiscal year, outpacing major economies. The growth was driven by broad-based investment in domestic drivers such as private consumption, public consumption and investments. India remains the world's fifth-largest economy, underpinned by strong investment activity bolstered by the government's capex push and buoyant private consumption.

The economy is expected to be at 5.9% in FY 2023-24, based on IMF's estimates, citing lower consumption growth and challenging external conditions. IMF has projected that India will be the fastest growing economy in the world, despite considerable challenges such as inflationary pressures, effects of the Russia-Ukraine war and the persistent impact of Covid-19 over the past three years.

With its sheer size and huge scope for growth, India's energy demand is set to grow. At COP27, it laid the plan for

long-term decarbonisation. For the global fight against climate change, it is implementing a phased transition to cleaner fuels to achieve net zero emissions by 2070. Renewable energy is growing at a faster rate in India than any other major economy, with new capacity additions on track. As a leading Company providing energy and environment solutions, Thermax is well-positioned to be a partner in the energy transition journey of its customers as well as contribute to the sustainability of our planet.

IMF's Projection on India's Economic Growth (%)



2. Industry Overview

Refinery & petrochemicals, food & beverages, metal/steel, sugar/distillery, power and chemicals are the top sectors that contributed to Thermax's order book during the year. However, the orders received from power and chemical industries have declined compared to the previous year due to increase in commodity prices.

Order Booking by Industry

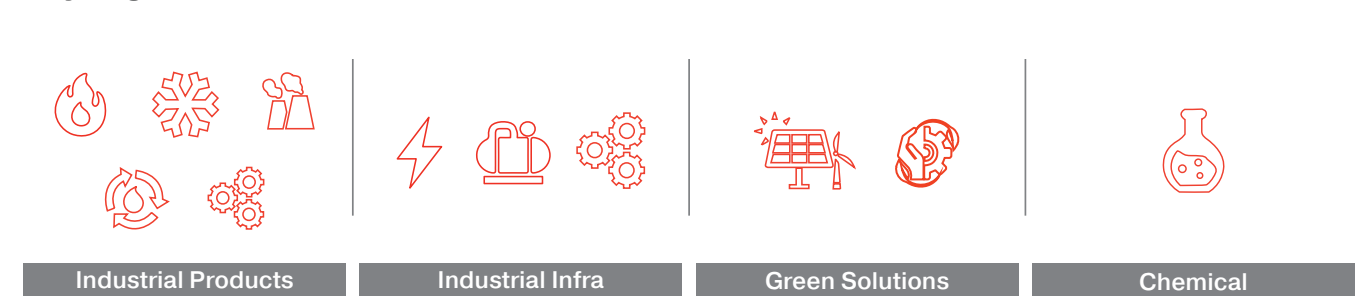
	Percentage Growth		
	FY 2020-21	FY 2021-22	FY 2022-23
Refinery & Petrochemicals	16%	12%	15%
Food & Beverages	8%	7%	15%
Metals/Steel	10%	8%	13%
Sugar/Distillery	3%	6%	9%
Power	5%	18%	8%
Chemical	10%	14%	8%

3. Company Overview

Incorporated in 1966 as Wanson India, Thermax Group is a Rs. 8,090 crore company headquartered in Pune, India. It has grown into a leading conglomerate in the energy and environment space, strategically spreading its operations to markets worldwide and catering to a gamut of industries. The Company offers integrated solutions in heating, cooling, power generation, water treatment and recycling, air pollution control and chemicals, with an emphasis on ensuring clean air, clean energy and clean water.

As a one-stop utility solutions provider, Thermax extends comprehensive operations and maintenance support allied to each of its business verticals as well as a multitude of several specialised services, including retrofitting, revamping, upgrading, and auditing. Additionally, the Company has also expanded its services portfolio by introducing digital solutions catering to all asset lifecycle needs on a real-time basis for a diverse range of its products.

Key Segments



For more details, refer to the Core Business Segments on page 08.

4. Performance Snapshot

The overall revenue of Thermax Group for 2022-23 was up 32% compared to 28% in the earlier year. The share of international business in total revenue was 25% as compared to 26% in the previous year.

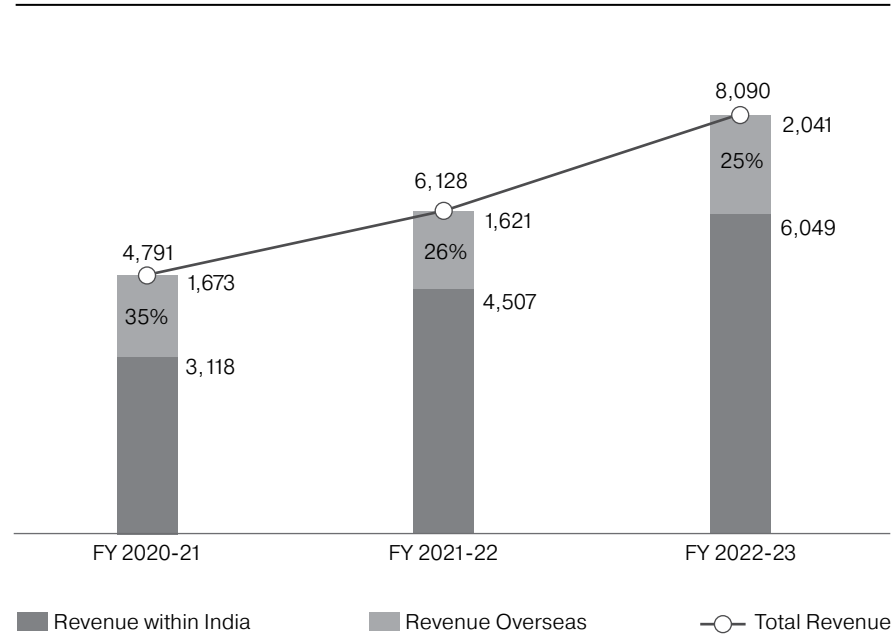
The consolidated order booking for the year stood at Rs. 8,788 crore, compared with Rs. 9,410 crore in the last fiscal year of FY 2021-22. The previous year's order book included two major orders from the Industrial Infra segment - one for a sulphur recovery block system worth Rs. 1,176 crore and flue gas desulphurisation (FGD) systems worth Rs. 546 crore, resulting in a higher order book.

The international business accounted for 23.5% of total order booking, with international orders standing at Rs. 2,064 crore, up 9.9% from Rs. 1,878 crore.

5. Business Segments of the Company

Energy and economic development go hand in hand, forming the foundation of growth, progress and sound economic development. As India aims to transform into a leading and one of the fastest growing global economies, while fulfilling its carbon commitments, it will have to shift from fossil-based energy production to cleaner fuels to maintain growth. A recent report by Deutsche Bank stated that the Indian economy is set to double its current annual GDP of close to USD 3.5 tn to USD 7 tn by 2030, based on the

Geographical Revenue Generation (Rs. crore)



For more details, refer to notes 21, 22 of the Consolidated Profit & Loss Account on page 153.

achievement of the goals on rapid financialisation, clean energy transition and the digital revolution.

In FY 2022-23, Thermax has taken a strategic decision to realign the disclosure related to Ind AS 108 'Operating Segment', formerly Energy, Environment, and Chemical, into four distinct categories: Industrial Products, Industrial Infra, Green Solutions and Chemical. This is to align the disclosures in line with the allocation of resources and assessment of business performance by the Managing Director and CEO. This aims

to disclose the new energy solutions businesses such as Thermax Onsite Energy Solutions Limited (TOESL) and First Energy Private Limited (FEPL), under the build-own-operate model for industrial energy and utility. The reclassification of businesses under each segment is based on several factors, including the nature of the business offering, customer base, capital employed, and risk, to name a few. This strategic step aligns with Thermax's future priorities and the changing energy and environment requirements to provide sustainable solutions for a better tomorrow.

Industrial Products

Overview

The Company's Industrial Products segment comprises its largest portfolio.

Under Clean Energy, this segment supplies packaged boilers and fired heaters, besides turnkey solutions for process heating, through a range of heating media, such as steam, thermic fluid, hot water and hot air. Furthermore, it also provides biomass-fired equipment for the combustion of green fuels, including agricultural waste and industrial process waste, as well as heat recovery solutions for clean energy production. It is complimented by steam engineering products and accessories.

In order to provide environment-friendly cooling and heating products and services to industries and commercial complexes, it uses energy-efficient vapour absorption machines and process cooling equipment.

Under Clean Air, Thermax provides air pollution control systems for both particulate and gaseous exhaust. It offers broad-based, single-source expertise and flange-to-flange solutions in all areas of environment protection – from products and systems for air pollution control (APC) to retrofit and rebuild services. Tie-ups with technology majors and extensive work with diverse industry sectors facilitate the Company in taking up turnkey environment-related projects from concept to commissioning. The APC business has successfully completed over 27,000 installations up to FY 2022-23 across a wide range of industries.

In line with our brand promise of conserving resources and preserving

the future, the Company's Water and Waste Solutions (WWS) business assists industrial and commercial establishments with products and services to reuse and recycle water and treat sewage and effluents. It also provides seawater desalination solutions, reducing freshwater consumption and contributing to water conservation. Till date, the WWS business has completed more than 27,000 standard installations and 600 industrial large-scale installations.

Our Growth Drivers

- Emphasis on clean energy driving a shift in energy mix, creating opportunities for greenfield projects and brownfield replacements
- Growth in industries like food, pharma, chemicals, cement, and steel, given the encouraging policies and macro-economic factors
- A key impetus on local manufacturing by the government under the 'Make in India' initiative
- Insufficient clean water in India
- Stringent regulatory norms for water and effluent treatment
- Market demand for modularised/ plug-and-play water and wastewater treatment products
- Increased investment by cement and steel industries for new and existing projects
- Global enforcement of air pollution emission norms

Our Key Focus Areas

- Strengthening the green portfolio with waste heat recovery and

waste-to-energy solutions cater to growing market demand

- Continued focus on digitalisation and remote monitoring of equipment
- Modularisation of new products
- Focus on urban and commercial segments to offer sewage recycling solutions with newer, compact products based on membrane bioreactor (MBR) and sequential batch reactor (SBR) technologies
- Emphasis on zero liquid discharge (ZLD) systems with advanced multi-effect evaporator (MEE) and mechanical vapour recompression (MVR) technologies developed in-house
- Development of new air pollution control technologies to manage diverse versions of gaseous pollutants and enable agro-based fuel combustion
- Product development for near zero emission guarantee (<5 mg/Nm³)
- Retrofitting and upgradation of old industrial plants with industrial air pollution control solutions to meet stringent regulatory norms of the government
- Need to strengthen presence in the overseas markets

Key Risks

- Impact of commodity price increase
- Disruption in global supply chain
- Dependency on single source vendors for critical products
- Change in government policy affects the demand for our customers' products
- Impact of energy transition on certain product offerings

The MDA covers significant subsidiaries impacting segmental performance. The following subsidiaries are part of the Industrial Products segment. For detailed information on each subsidiary, please refer to AOC-1 on page 244.

Danstoker Group

Based in Herning, Denmark	
Key solutions provided	<ul style="list-style-type: none"> • Solid fuel-fired (biofuels) boiler • Electric boiler • Waste heat recovery boiler • Oil/gas-fired boiler
Sustainable growth plan	<ul style="list-style-type: none"> • To expand the business with waste biomass as a fuel which is expected to experience huge demand in Europe in the years ahead. The growing demand is a consequence of Europe's plan to be independent of Russian gas supply • To leverage the growing demand in Europe for biomass boilers and electric boilers
Business performance*	The subsidiary's revenue grew by 25.1% in FY 2022-23 (FY 2021-22 saw a degrowth of 7%), while the order booking grew by 52.7% (FY 2021-22 saw a degrowth of 2%). The revenue from the overseas business has increased owing to high activity in the biomass/waste market. A growth ranging between 50% and 70% is projected in the segment.
Key industries	<ul style="list-style-type: none"> • Automotive • Breweries • Crematories • Dairies • District Heating • Food & Beverages • Pharmaceuticals • Wood
Geographical footprint	<ul style="list-style-type: none"> • Denmark • Poland • Norway, Sweden, Finland • Baltic countries • Western Europe (France, Germany, Netherlands, and Belgium)
Highlights	<ul style="list-style-type: none"> • Received a contract for two large waste-fired boilers in Norway, leading to a breakthrough in this technology

* The figures mentioned in () are for FY 2021-22.

PT Thermax International, Indonesia (PT TII)

Based in Jakarta, Indonesia	
Key solutions provided	<ul style="list-style-type: none"> • Offers process heating equipment such as steam boilers, hot water and hot air generators, thermic fluid heaters and thermosyphon • Emerges as a one-stop solution for process plants with heating product ranging from steam generation (boilers) to condensate recovery systems (steam accessories), along with fuel and ash handling systems • Complements the heating portfolio with air pollution control equipment, steam engineering and services
Sustainable growth plan	<ul style="list-style-type: none"> • To streamline local manufacturing facilities and increase the capacity utilisation • To penetrate the market with aggressive selling and marketing activities and with competitive products and pricing • To strengthen the services business by revamping and retrofitting boilers, heaters and air pollution control equipment • To remain focussed on customer service and retention • To develop a network of channel partners & dealers and increase customer reach and visibility • To conduct marketing campaigns on sustainability, enabling fuel shift from fossil fuels to green biomass fuels

Business performance*	The subsidiary registered 83.3% (19%) growth in revenue and 61.7% (3%) growth in order booking, with the highest order book achieved for products and services. This growth can be attributed to strengthening of the team personnel and ensuring improved coordination with the front-end. Another key reason has been the fuel shift to biomass and an increased focus on efficiency, owing to an increase in fuel prices.		
Key industries	<ul style="list-style-type: none"> • Agriculture & Allied • Chemicals • Food & Beverages • Palm Oil 	<ul style="list-style-type: none"> • Paper & Packaging • Petrochemicals • Pharmaceuticals • Rubber 	<ul style="list-style-type: none"> • Textiles • Tobacco
Geographical footprint	<ul style="list-style-type: none"> • Indonesia • South-East Asia 		
Highlights	<ul style="list-style-type: none"> • Received an order from an American multinational tobacco company. This marks several significant firsts: first order for an Ultrapac reciprocating grate boiler in Indonesia, first project with this customer globally, and first turnkey project outside TOESL • Received an order from a global lubricant supplier in Indonesia backed by continued association with the customer in India • First breakthrough order from one of the largest food & beverage companies in Indonesia 		

* The figures mentioned in () are for FY 2021-22.

Thermax Europe

Based in Bletchley, United Kingdom	
Key solutions provided	<ul style="list-style-type: none"> • Installs absorption chillers and heat pumps with a capacity of 35 kW to 12,000 kW • Facilitates chillers and heat pumps driven by hot water, steam, oil & gas and waste energy, making them more energy-efficient, innovative and sustainable • Leverages technology for cooling commercial establishments and industrial processes, and other district heating applications
Sustainable growth plan	<ul style="list-style-type: none"> • To focus on the industrial waste heat recovery absorption chiller and heaters for various applications
Business performance*	Registered higher year-on-year performance in line with expectations. During the year, order booking was 23.8% (27%) lower than the previous year owing to continuously changing economic conditions and shortage of fuels in Europe, affecting the inflow of new contracts. However, the revenue increased by 9.4% (-16%).
Key industries	<ul style="list-style-type: none"> • District Heating • Power
Geographical footprint	<ul style="list-style-type: none"> • United Kingdom • Denmark • Germany • Italy • Poland • Scandinavia
Highlights	<ul style="list-style-type: none"> • The chiller business continued to be driven by the on-site power generation market in Italy, Germany, Spain and the United Kingdom • The heat pump business was driven by the district heating segment and the commitment made by select European countries to reduce dependency on fossil fuels and increase energy efficiency • Received large heat pump orders from Denmark and Poland; and chiller orders received from a large confectionery company in the United Kingdom • Exceeded performance expectations in the service & spare parts business owing to large orders received for spare parts

* The figures mentioned in () are for FY 2021-22.

Success Story



This innovative project enhanced the efficiency of heat generation from waste at MVB's waste recycling plant. This efficient use of waste heat contributed to Hamburg's climate neutrality journey by way of decarbonisation of district heating and helped save 1,04,000 tonnes of CO₂ annually. MVB has thus emerged as one of the significant suppliers of climate-friendly energy for the region without using additional fuel.

The infrastructure will feed an additional 3,50,000 MWh/a of heat into the performance network of Hamburger Energiewerke, and assist in supplying climate-neutral energy and meeting the heat requirements of 35,000 more households from the waste recycling process.

This unique nationwide project comprising the heat pumps has been awarded the German Renewables Award 2021. To watch the video, click here: https://www.youtube.com/watch?v=NwjwULu_sMU/

Thermax Caters to the District Heating Needs of Hamburg, Germany

As part of its waste to energy project, a district heating plant in Borsigstraße, Hamburg, Germany, Müllverwertung Borsigstraße (MVB), required heat pumps to meet the district heating needs and ensure its stable and secure supply, especially during market price fluctuations witnessed by fossil fuels. For the same, Thermax supplied three single-effect steam-fired heat pumps.

Thermax Inc., USA

Based in Houston, Texas, United States	
Key solutions provided	<ul style="list-style-type: none"> • Sale of absorption chillers and heat pumps
Sustainable growth plan	<ul style="list-style-type: none"> • To focus on promoting absorption heat pumps in the United States, with markets inclined towards heat pumps and hybrid chillers
Business performance	<ul style="list-style-type: none"> • Despite stiff competition, the Cooling business has maintained a consistent performance at par with last year in terms of order booking as a holistic service provider. Markets have shown an inclination towards heat pumps/hybrid chillers, giving us a good opportunity to promote our absorption heat pumps across the USA
Key industries	<ul style="list-style-type: none"> • Commercial • Electronics • Food & Beverages • Paper • Urban
Geographical footprint	<ul style="list-style-type: none"> • North America
Highlights	<ul style="list-style-type: none"> • Received new orders from the hospitality sector • Good traction continued in orders from Puerto Rico and Mexican regions

Performance of Industrial Products Segment in FY 2022-23

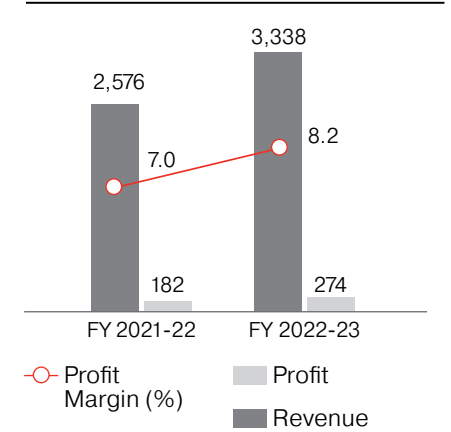
In FY 2022-23, the Industrial Products segment accounted for 40.2% (40.8% in FY 2021-22) of the Group's gross operating revenue.

The operating revenue (net) stood at Rs. 3,338 crore (Rs. 2,576 crore), while segment profit* was Rs. 274 crore (Rs. 182 crore) for the same period. In FY 2022-23, order booking was Rs. 4,172 crore, up from Rs. 2,891 crore in the previous year.

The higher revenue can be attributed to the favourable momentum in the Indian economy, increasing demand for green energy, and a strong emphasis on the development of sustainable products and services.

**Note: Segment profit – Profit before interest, tax, and other unallocable income, net of unallocable expenditure.*

Financial Performance – Industrial Products Segment (Rs. crore)



Industrial Infra

Overview

Optimising resource utilisation has always been an integral part of Thermax's DNA. The new segment – Industrial Infra covers our Projects and Energy Solutions (P&ES) and Thermax Babcock & Wilcox Energy Solutions (TBWES) businesses.

P&ES offers captive power plants, cogeneration systems, waste heat recovery power plants and independent power plants in the utility space on EPC basis.

The business provides captive and independent power plants operating on a variety of renewable fuels. It also offers equipment and solutions based on conventional fuels (solid, liquid and gaseous).

Cogeneration is a system that produces heat and electricity in a single plant powered by a single energy source. This drives savings in cost as well as resources for customers. Waste heat recovery power plants use waste heat from various processes in large industries such as steel and cement and convert these to power, thereby reducing consumption of fossil fuels.

Additionally, P&ES includes the installation of sulphur recovery block on EPC basis. It also offers flue gas desulphurisation (FGD) systems for fossil fuel-based power plants, which aid in capturing SO_x (sulphur oxides) emissions.

TBWES, a wholly owned subsidiary, provides steam generation for process and power needs, as well as waste heat recovery solutions. It also retrofits boilers and process furnaces.

For more details on the subsidiary, refer to page 32.

Our Growth Drivers

- Emphasis on clean energy driving shift in the energy mix, creating opportunities for greenfield projects and brownfield replacements
- Increasing demand for EPC, renewable energy, waste-to-energy, waste heat recovery plants and biofuels with focus on sustainability and energy-efficient solutions
- Government mandate to power companies to install FGD systems within a stipulated timeframe to mitigate SO_x emissions

Our Key Focus Areas

- To diversify EPC offering into international markets, unconventional fuels and renewable energy
- To strengthen our green portfolio with waste heat recovery and waste-to-energy solutions and to cater to growing market demand
- To continue making investments in value-added service offerings, such as Industrial Internet of Things (IIoT) solutions, remote assistance technology and automation
- Modularisation
- Need to strengthen presence in the overseas markets

Key Risks

- For our EPC business, availability of skilled manpower is a challenge
- Coal-based power projects are on the decline
- Recession outside India is affecting our export business
- Execution risk on large projects

The MDA covers significant subsidiaries impacting segmental performance. The following subsidiaries are part of the Industrial Infra segment. For detailed information on each subsidiary, please refer to AOC-1 on page 244.

Thermax Babcock & Wilcox Energy Solutions Limited (TBWES)

Based in Pune, Maharashtra, India													
Key solutions provided	<ul style="list-style-type: none"> Offers equipment and solutions for generating steam for process and power through the combustion of various solid, liquid and gaseous fuels and through heat recovery from turbine/engine exhaust and (waste) heat recovery from industrial processes Offers heaters for various applications in chemical, petrochemical and refinery segments The Services arm offers spares, plant services and performance improvement projects for boilers and heaters 												
Sustainable growth plan	<ul style="list-style-type: none"> To expand its green portfolio in conjunction with the trend towards clean energy, TBWES has formed strategic partnerships and developed newer technologies focussed on waste to energy, municipal solid waste (MSW) incineration and waste heat recovery To develop and deploy multiple green energy solutions and continue to focus on plant improvement projects that increase capacity, reliability, emissions performance, useful lives and the efficiency of existing plants 												
Business performance*	<p>Achieved 15.7% (64%) growth in order booking and 31.6% (31%) growth in revenue, in comparison with its performance in the previous year. TBWES received orders from the Indian oil refining sector, which continued capacity and value addition projects.</p> <p>It also received orders for waste heat recovery projects from the cement and steel sectors as Indian manufacturing companies invested in energy efficiency improvement.</p>												
Key industries	<table border="0"> <tr> <td>• Cement</td> <td>• Non-Ferrous Metals</td> <td>• Refinery</td> </tr> <tr> <td>• Chemicals</td> <td>• Paper</td> <td>• Steel</td> </tr> <tr> <td>• Distillery</td> <td>• Petrochemicals</td> <td>• Sugar</td> </tr> <tr> <td>• Fertilisers</td> <td>• Power</td> <td>• Textiles</td> </tr> </table>	• Cement	• Non-Ferrous Metals	• Refinery	• Chemicals	• Paper	• Steel	• Distillery	• Petrochemicals	• Sugar	• Fertilisers	• Power	• Textiles
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• Chemicals	• Paper	• Steel											
• Distillery	• Petrochemicals	• Sugar											
• Fertilisers	• Power	• Textiles											
Geographical footprint	<table border="0"> <tr> <td>• Asia</td> <td>• Africa</td> </tr> <tr> <td>• South-East Asia</td> <td>• Latin America</td> </tr> <tr> <td>• Middle East</td> <td>• Europe</td> </tr> </table>	• Asia	• Africa	• South-East Asia	• Latin America	• Middle East	• Europe						
• Asia	• Africa												
• South-East Asia	• Latin America												
• Middle East	• Europe												
Highlights	<ul style="list-style-type: none"> Received an EPC order for the design, manufacture, supply, erection and commissioning of 2 x 260 TPH utility boilers for a major refinery and petrochemicals complex Received an order for the design, manufacture and supply of 4 x 125 TPH waste heat recovery boilers on the largest sponge iron kiln block Received an EPC order for the design, manufacture, supply, erection and commissioning of five fired heaters for a major refinery in eastern India 												

* The figures mentioned in () are for FY 2021-22.

Success Story

Thermax Delivers One of the Largest Assembled Flue Gas Coolers to a Mexican Customer on Schedule

One of the largest assembled flue gas coolers was timely delivered to a Mexican customer due to the enhanced modularisation capabilities of TBWES. This saved considerable construction time at the site. The overall structure of the flue gas cooler was massive, weighing approximately 1,600 tonnes in total, and hence was supplied in two modules that were assembled at the Mundra manufacturing facility. The project faced several challenges,

such as assembling five convection modules with a super heater on the base frame with tube expansion, a massive bolted structure with approximately 14,000 bolts, about 3,600-inch diameter welding, and stringent inspection requirements.

However, the collaborative efforts of the team helped overcome these challenges successfully.

Thermax booked a break bulk vessel one year in advance from the proposed shipment plan to optimise the cost of shipping. The transportation of these modules was carried out through self-propelled modular transport (SPMT) from the Mundra manufacturing facility to the port. Thermax also selected a faster vessel with a 'last in-first out' basis, enabling 36 days of transit instead of the regular 55 days.

With the excellent planning, execution, and teamwork, Thermax successfully delivered the flue gas cooler to the customer in Mexico on the agreed schedule. This success is a testament to Thermax's expertise in providing innovative and efficient solutions to complex challenges in the energy and environment sector.



Thermax Bioenergy Solutions Private Limited (TBSPL)

Based in Pune, Maharashtra, India

Key solutions provided	<ul style="list-style-type: none"> Offers solutions to generate bio-CNG (compressed biogas) from wastes like biomass, agricultural waste, municipal solid waste and food processing waste Ensures availability of clean and sustainable energy, while contributing to a circular economy
Sustainable growth plan	<ul style="list-style-type: none"> To expand manufacturing and geographical footprint by deepening the business presence in domestic markets and extending solutions in select international markets To engage in strategic partnerships and promote sustainable energy, offering a one-stop solution for bio-CNG and contributing to a circular economy To generate employment opportunities for the local communities
Business performance	NA (The entity started operations during the year under review)
Key industries	<ul style="list-style-type: none"> Oil & gas Transportation
Geographical footprint	<ul style="list-style-type: none"> Punjab Uttar Pradesh Gujarat Parts of Delhi
Highlights	<ul style="list-style-type: none"> Setting up a bio-CNG plant for a municipal corporation in North India Projects under-execution in Punjab, Uttar Pradesh and Gujarat

Performance of Industrial Infra Segment in FY 2022-23

In FY 2022-23, the Industrial Infra segment accounted for 47.3% (47.3% in FY 2021-22) of the Group's gross operating revenue.

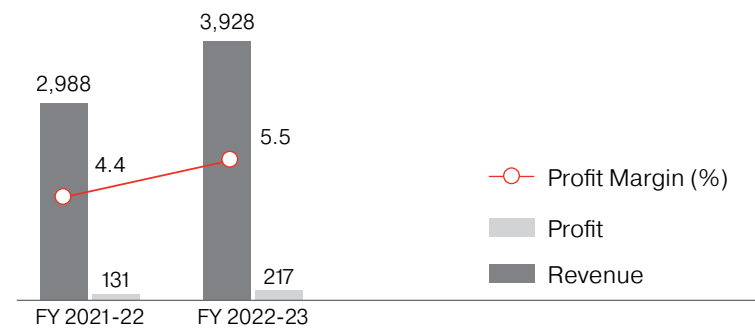
The operating revenue (net) stood at Rs. 3,928 crore (Rs. 2,988 crore), while segment profit was Rs. 217 crore (Rs. 131 crore) for the same period. The growth in revenue is attributed to the improved order balance, primarily driven by orders received in the previous year for Projects and Energy Solutions, TBWES, and flue gas desulphurisation solutions.

In FY 2022-23, order booking was Rs. 3,779 crore, down from Rs. 5,820 crore in the previous year.

The decline in order booking during the current year can be attributed to the absence of significant large orders, unlike last year, which saw

major orders - two worth Rs. 1,376 crore from the FGD business, and one worth Rs. 1,176 crore secured for a sulphur recovery block.

Financial Highlights – Industrial Infra Segment (Rs. crore)



Green Solutions

Overview

Energy transition is a continuous commitment that requires a reliable partner. With India's focus on renewable energy and hydrogen, Green Solutions is set to take centre stage in the years ahead. Thermax stands as a partner for customers seeking a comprehensive energy solutions provider who will diligently address their energy needs. The Green Solutions segment includes Thermax Onsite Energy Solutions Limited (TOESL) which provides green utilities such as steam, heat, treated water, chilled water, and cogeneration power, along with other utilities on a long-term basis (build-own-operate model).

In addition, Thermax has expanded its offerings in the renewable space on an EPC basis, constructing solar, wind and hybrid farms (and storage) based on the opex/BOO model, through its subsidiary First Energy Private Limited (FEPL). It positions Thermax as an energy manager, offering customised off-grid solutions, helping the customers go from 'behind the meter' to 'beyond the meter' in the long run.

Thermax recently entered into a partnership for green hydrogen projects for commercial and industrial customers in India. The production of green hydrogen at an industrial scale would be a major step forward in decarbonising hard-to-abate industries such as refineries, fertilisers and steel.

Thermax's integrated Energy Management Solutions offer guaranteed energy savings to our customers across sectors, including cement, steel, paper etc. Equipped with a cutting-edge digital solution, the offerings help customers with higher energy efficiency, reduced

carbon footprint and improved sustainability.

Our Growth Drivers

- Energy transition and action on climate change are key priorities of governments globally; the Indian Government's target is to reduce carbon emissions intensity by 45% by 2030
- Gradual shift from capex to opex-based models
- Government's push for energy security in India; favourable policies and key incentives announced in the Union Budget
- Shift from coal to biomass and other agro-based fuels

Our Key Focus Areas

- To continue the momentum in opex-based renewable energy solutions, including in international markets
- Enter into business development partnerships with industry associations, OEMs, process licensors and consultants in key markets
- To diversify into other green avenues such as biomass gasification

Key Risks

- Dependency on government policies/cash starved state utilities
- High dependency on biomass waste
- International markets with low price competition from local players



A glimpse of FEPL's wind-solar hybrid project in Gujarat

The MDA covers significant subsidiaries impacting segmental performance. The following subsidiaries are part of the Green Solutions segment. For detailed information on each subsidiary, please refer to AOC-1 on page 244.

Thermax Onsite Energy Solutions Limited (TOESL)

Based in Pune, Maharashtra, India	
Key solutions provided	<ul style="list-style-type: none"> Supplies utilities such as steam, heat, treated water and cogeneration power through the build-own-operate (BOO) business model Invests in the capital, sets up and operates utility plant for the entire lifecycle at the customer's premise Undertakes comprehensive operations & maintenance, also handles supply chain management of fuel, spares and consumables Helps customers focus more on core manufacturing processes, rather than owning and running such utilities
Sustainable growth plan	<ul style="list-style-type: none"> TOESL aims to offer 100% green solutions and to help its customers reduce their carbon footprint by replacing fossil fuel consumption. To date, it has enabled customers to reduce nearly 1 million tonnes of CO₂ equivalent To strengthen its current portfolio through backward integration, digitalisation and strategic business development To tap new markets through selective internationalisation by capitalising on its present strengths To diversify the portfolio with a focus on bio-CNG, biomass gasification and water & wastewater treatment solutions under the build-own-operate model
Business performance*	Registered satisfactory performance, with revenue growing by 60.5% (75%) and profits increasing by 13.8% (22%). During the financial year, biomass fuel prices, a market-driven cost element, have significantly increased over 58%. However, absolute margins remain intact due to fuel pass-through agreement with customers.
Key industries	<ul style="list-style-type: none"> Chemicals Food & Beverages Pharmaceuticals Textiles
Geographical footprint	<ul style="list-style-type: none"> South Asia (India, Sri Lanka, and Bangladesh) South East Asia (Indonesia, Philippines, Vietnam, Thailand, and Malaysia) Africa (Kenya, Nigeria, and Ghana)
Highlights	<ul style="list-style-type: none"> Received its maiden order in Sri Lanka for steam supply to a Swiss-based food & beverage company. Received two other steam supply orders for two of its plants in India Received a maiden project for biomass-based hot water generation and supply from a global manufacturing company for its first and upcoming plant at Erode, Tamil Nadu, India Bagged two orders for steam supply from chemical companies Received another steam supply order from a US-based multinational pharmaceutical company

* The figures mentioned within () are for FY 2021-22.

Success Story

TOESL Secures a Hot Water Supply Project from a Global Safety Solutions Expert

A global safety solutions expert based in Malaysia approached TOESL to implement a 100% agro-waste biomass fuel-fired hot water generator for its greenfield project in Tamil Nadu, India. Despite the customer having existing working hot water generators from a competitor OEM in Sri Lanka and Thailand, continuous engagement with the customer and visits to TOESL's project sites instilled their confidence in our solutions and operations, leading to TOESL winning the order.

The project was unique as it was for a new product and application and for the customer's first plant of glove manufacturing in India. The biomass-based hot water generator is highly efficient for 100% biomass-based combustion, resulting in significant cost savings for the customer.

With the implementation of this model, the customer shall save approximately Rs. 9.5 crore on committed offtake and has the potential to save up to Rs. 20 crore with a rise in consumption. Additionally, it enables the customer to achieve an estimated CO₂ reduction of over 17,000 tonnes annually against furnace oil. A dedicated biomass fuel supply chain was developed, ensuring consistent quantity and quality at the right price.

First Energy Private Limited (FEPL)

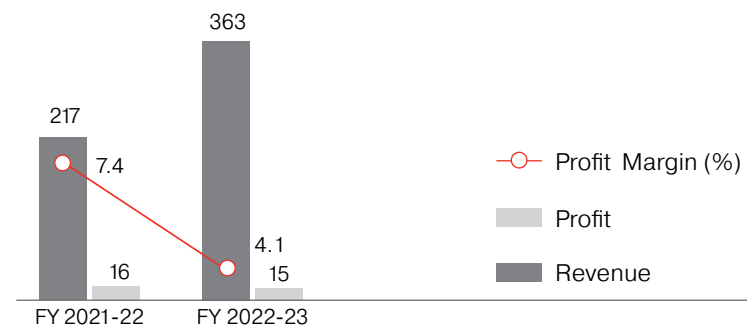
Based in Pune, Maharashtra, India	
Key solutions provided	<ul style="list-style-type: none"> Understands the unique energy matrix and designs custom-made solutions to suit different industries, applications and energy management goals Manages the entire energy corridor – from behind to beyond the meter – assuring dependable and reliable round-the-clock (24 x 7 x 365) green power to customers
Sustainable growth plan	<ul style="list-style-type: none"> To set up renewable captive power plants (solar, wind, hybrid and storage) to tackle renewable power requirements, providing a sustainable solution for industries and reducing India's carbon footprint To explore the option of connecting large power projects with CTU in the future To collaborate with credible partners To explore additional revenue sources such as carbon market exchanges To adopt new technologies and automate business processes
Business performance	Registered 27.5 MWp of captive renewable power projects in India in FY 2022-2023, along with 45.8 MW wind-solar hybrid capacity projects nearing commissioning. Additionally, it is also working on a 129 MWp solar-wind bundled renewable power project in Tamil Nadu. The projects are expected to be commissioned in FY 2023-24.
Key industries	All industrial clusters
Geographical footprint	<ul style="list-style-type: none"> Maharashtra Gujarat Tamil Nadu
Highlights	Concluded a ~180 MWp captive renewable power project for industrial consumers

Performance of Green Solutions Segment in FY 2022-23

In FY 2022-23, the Green Solutions segment accounted for 4.4% (3.4% in FY 2021-22) of the Group's gross operating revenue. The operating revenue (net) stood at Rs. 363 crore (Rs. 217 crore), while segment profit was Rs. 15 crore (Rs. 16 crore) for the same period. In FY 2022-23, order booking was Rs. 195 crore, up from Rs. 127 crore in the previous year.

An increase in revenue is mainly due to growth in the TOESL business. However, segment profits are lower due to initial set up costs in FEPL.

Financial Highlights – Green Solutions Segment (Rs. crore)



Success Story



FEPL Successfully Commissions an Open Access Solar PV Plant in Tamil Nadu, India

FEPL had undertaken the commissioning of a 16 MWp solar PV power generation plant under open access at Mangudi village of Sivagangai district in Tamil Nadu with the aim of exporting power generated at the 110/22 kv Manamadurai substation of Tamil Nadu Generation and Distribution Corporation Limited (TANGEDCO).

However, during the mid-execution stage, the identified project land had to be changed due to a stay from the Supreme Court. This led to a delay in the project schedule and posed challenges to the execution of the project.

To mitigate the risks, the project team identified another piece of land in Pillur and Kovanur village of Sivagangai district, exporting power generated at the 110/22 kv Idayamelur substation and targeted block-wise commissioning of the plant to minimise the impact of adverse weather conditions.

Another challenge during the construction phase was the Right of Way (RoW) issue observed while laying transmission lines. Moreover, creating safety awareness among local villagers and addressing their concerns was also a major challenge.

With the team's efforts, construction and commissioning were completed in compliance with all statutory requirements. Regular safety induction and training, toolbox talks, and subjective training helped improve awareness, and the team managed to complete the job in >78,000 safe man-hours.

The solar PV power generation plant has helped meet the region's energy needs and contributed to a reduction in carbon emissions.

Chemical

Overview

The Chemical segment manufactures and markets a wide range of specialty chemicals to help improve processes and water use efficiency across a spectrum of industries. Thermax is recognised as Asia's leading manufacturer and exporter of ion exchange resins and is a pioneer in water and wastewater treatment chemicals. It also manufactures construction and oil-field chemicals. With these specialty chemicals and its strong dealer network, it serves a number of industrial sectors and customers globally. We are equipped with modern research, state-of-the-art manufacturing facilities and qualified professionals to offer customised solutions. The USA is an important market for this business.

Our Growth Drivers

- Increase in demand for solvent-free and low total organic carbon (TOC) resins for ultrapure water applications in food, pharma and electronics industries

- Increasing emphasis and government push towards water recycling in the wake of worldwide water crisis and severe regulatory criteria for water and wastewater treatment
- Rise in demand for reverse osmosis (RO), multi-effect evaporator (MEE) and incinerators to boost water treatment chemicals aiding in zero liquid discharge and effluent treatment
- Investment in petrochemicals sector leading to opportunities for monoethylene glycol (MEG) and catalyst resins
- New demand from infrastructure segments (cement and steel), supported by infrastructure expansion and government policies

- India becoming a reliable manufacturing hub with global standards and compliances
- Increasing government investments in infrastructure projects, especially in power generation

Our Key Focus Areas

- To enhance market presence and broaden our portfolio of specialty resins, building references for specialty applications
- To expand our global market presence through a dealer network and collaborate with industrial licensors and consultants
- To widen the market reach of water treatment chemicals by focussing on digitalisation and remote monitoring of water treatment products and systems
- To focus on the polyelectrolytes business

Key Risks

- Fluctuation in commodity prices
- Geopolitical situations

The MDA covers significant subsidiaries impacting segmental performance. The following subsidiary is part of the Chemical segment. For detailed information on the below subsidiary, please refer to AOC-1 on page 244.

Thermax Inc., USA

Based in Houston, Texas, United States	
Key solutions provided	Sale of chemicals (ion exchange resins)
Sustainable growth plan	To expand into Canada, Mexico, and Latin America markets through our distribution channel with a focus on mix bed application in the North American market. We are collaborating with a technology partner for our catalyst product line and to develop lithium, PFOS/PFOA removal applications.
Business performance*	Thermax Inc. experienced a 29.60% (60%) growth in revenue compared to the previous year due to orders from industrial deionisation and mix bed applications, accompanied by a slight rise in profitability.
Key industries	<ul style="list-style-type: none"> • Chemical • Electronics • Oil & Gas • Petrochemicals • Commercial • Food & Beverages • Paper • Urban
Geographical footprint	North America
Highlights	<ul style="list-style-type: none"> • Received an order for MEG processing from a large petrochemical giant • Received an order for high-purity resins and mixed bed resins • Partnered with the US-based ChemPoint for distribution and sales & marketing of ion exchange resins in North America

* The figures mentioned within () are for FY 2021-22.

Success Story

Thermax Facilitates Maltodextrin Purification Using Tulsion® Resins

One of our customers in India from the food industry was using imported resins for maltodextrin purification but was looking for a domestic manufacturer as a substitute. The customer had unique challenges with various process parameters, such as colour impurities, natural salt or inorganic impurities, and protein content in starch. The customer wanted to ensure that the resin would perform well on colour, pH, conductivity, pressure drop, chemical consumption, and other parameters without compromising its life.

Thermax provided a solution by suggesting its carefully chosen ion exchange resins for maltodextrin purification, applicable specifically to the food production industry. These resins offered many advantages that met the customer's requirements. The maltodextrin syrup was purified using a cationic resin, which has high protein adsorption capacity due to its dual porosity and assists in the exchange of alkali & alkaline earth metals with hydrogen ions. This was followed by the usage of a premium grade resin which has higher adsorption of colour-causing impurities, also enabling the exchange of anionic (mineral acidic) ions.

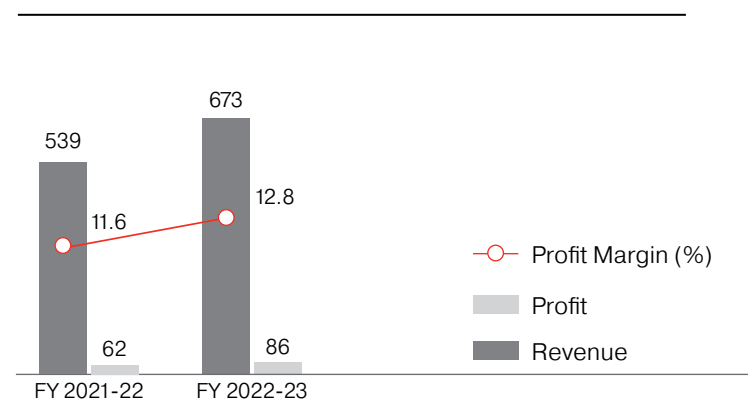
The performance of Tulsion resins with excellent outlet quality as per requirements was highly appreciated by the customer. Based on achieving the desired results, the customer was convinced to replicate the same solution in other vessels too.

Performance of Chemical Segment FY 2022-23

The segment accounted for 8.1% (8.5% in FY 2021-22) of the Group's gross operating revenues in FY 2022-23. The Chemical business posted an operating revenue of Rs. 673 crore (Rs. 539 crore in FY 2021-22). Segment profit for the year stood at Rs. 86 crore, compared to Rs. 62 crore in the previous year.

The revenue increase primarily stems from the export markets, while on the margin side, the stabilisation of commodity costs after September 2022 has led to improved profit margins.

Financial Highlights – Chemical Segment (Rs. crore)



6. Performance on Strategy

Quick Overview of Strategy

S01 Increase the share of green offerings

Definition

To provide solutions that lead to clean air, clean energy and clean water

Focus Areas

- Build-own-operate (BOO) model for utility delivery services
- New renewable energy solutions
- Waste to energy solutions
- Water recycling and zero liquid discharge (ZLD)
- Solutions for particulate and gaseous emissions
- Gasification (coal/biomass to chemical)
- Green hydrogen

S02 Grow products and services portfolio

Definition

To innovate and develop new products and services to reduce the cyclicity of large orders

Focus Areas

- Industrial products (heating, cooling, water and waste solutions and air pollution control)
- Chemical portfolio
- Services
- Digital solutions

S03 Focus on internationalisation

Definition

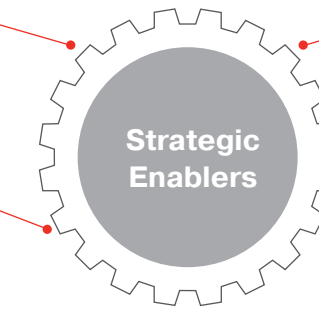
To increase the market share in select geographies outside India

Focus Areas

- International business
- Exports

Develop and retain talent

Build a smart and efficient Thermax through a structured digitalisation roadmap



Technology leadership through innovation

Operational excellence to deliver high-quality and competitively priced solutions to customers

S01: Increase the Share of Green Offerings

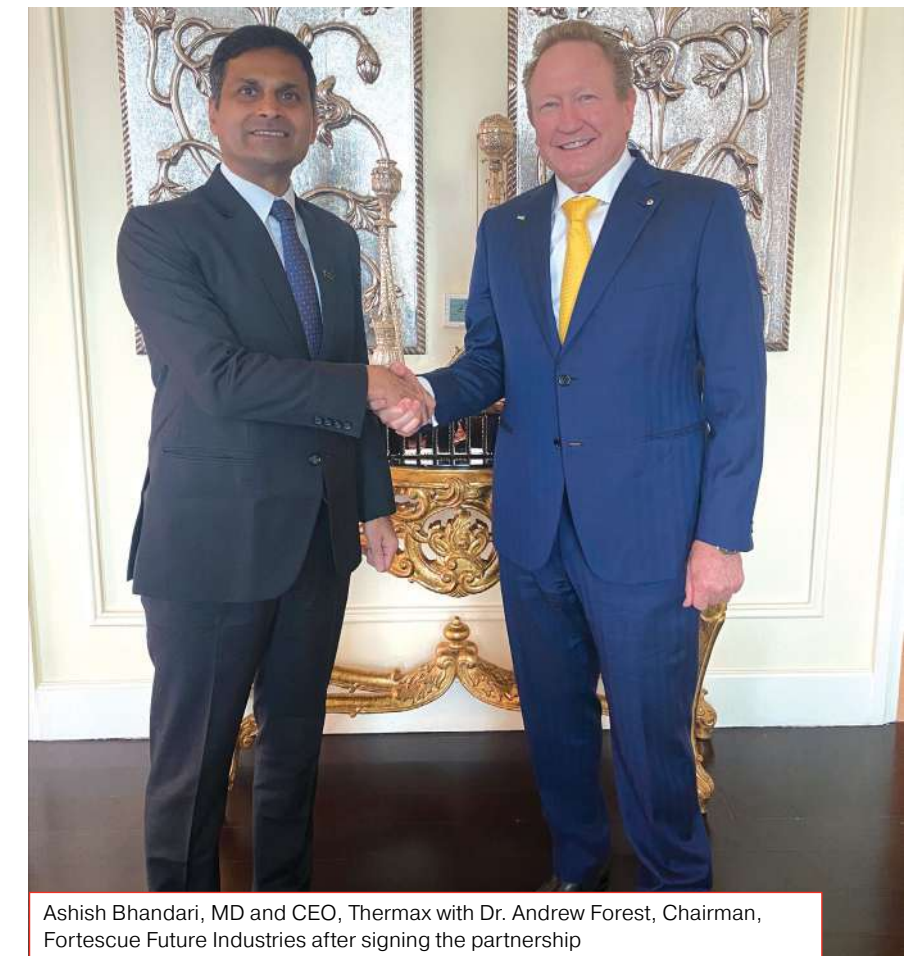
All non-fossil fuel-based operations or applications across the business segments are deemed 'green' by Thermax. Its commitment to sustainability and innovation positions it as a leader in the global shift towards a low-carbon and water positive future. The green offerings play a critical role in enabling a sustainable energy transition, while also addressing several environmental challenges. During the year, this portfolio accounted for 67% of total orders.

Engaging in Partnerships to Support our Strategy:

- In July 2022, Thermax executed a shareholders' agreement with EverEnviro Resource Management (EverEnviro) for incorporating Thermax Bioenergy Solutions Private Limited to execute technology, engineering, procurement & construction (TEPC) scope for a bio-CNG project. Energy generated through bio-waste will not only provide green energy, but also address challenges related to stubble burning. With this partnership, Thermax moved another step forward in providing sustainable energy solutions and fostering its vision to become a champion in energy transition.

- Thermax is exploring the green hydrogen market in partnership with the Australian company, Fortescue Future Industries (FFI), by signing a memorandum of understanding (MoU) for developing a green hydrogen ecosystem in India. As part of this collaboration, the two companies will jointly explore

opportunities to develop, build, and operate green hydrogen projects. The respective expertise and capabilities of the two companies will be leveraged to create an integrated value chain for the production, storage, and utilisation of green hydrogen.



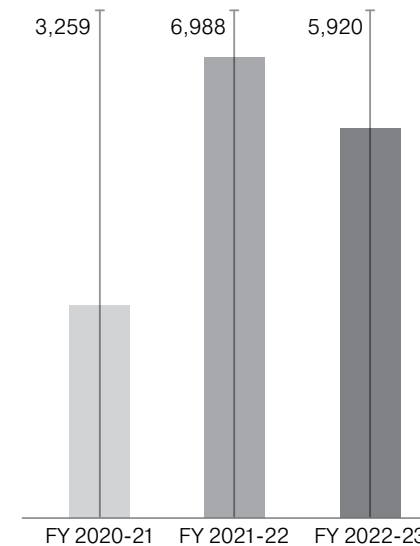
Ashish Bhandari, MD and CEO, Thermax with Dr. Andrew Forest, Chairman, Fortescue Future Industries after signing the partnership

Key Business Updates Supporting the Strategy

Business Segments	Major Orders Received in FY 2022-23
Industrial Products	<p>Process Heating</p> <ul style="list-style-type: none"> First-of-its-kind biomass fired energy plant with 36 MW capacity, with 100% flue gas recirculation for a new particle board plant, and flexibility to operate in nine load combinations Large capacity biomass-fired reciprocating grate thermal oil heater (8 Mn kCal/hr) for a major polyester film manufacturer Rice straw briquette-fired boiler (25 TPH) for an FMCG major Coffee waste-fired boiler (45 TPH) for a coffee manufacturer <p>Absorption Cooling and Heating</p> <ul style="list-style-type: none"> 4 x 1000 TR hot water absorption chillers commissioned for a synthetic textile manufacturer in western India, to be utilised for process air cooling. The hot water extracted from the continuous polymerisation process resulted in ~2 MW power saving for the customer <p>Air Pollution Control</p> <ul style="list-style-type: none"> Received highest-ever order for ESP upgradation Received largest cement APC package (integrated plant - 4 nos., grinding units - 7 nos., total 31 equipment) Increased order booking from agro-based industries and non-ferrous applications <p>Water and Waste Solutions</p> <ul style="list-style-type: none"> Offered complete water reuse and zero liquid discharge (ZLD) project to an F&B company with 50 KLD MEE, and a textile major with 113 KLD MEE, to help them meet their ESG goals Commissioned the first pre-fabricated MEE as part of the ETP-ZLD solutions for the F&B industry Initiated first ETP augmentation in leading petrochemicals, followed by recycling for an oil & gas major Revamped and enhanced the capacity of seawater reverse osmosis plant (SWRO) at a chemical giant, and installation of energy recovery device (ERD) achieving 60% power savings
Industrial Infra	<p>Projects and Energy Solutions</p> <ul style="list-style-type: none"> Received multiple orders for cogeneration plants from the distillery segment Received a major order for the mechanical balance of plant works for a gas-based power plant from an Indian conglomerate <p>Boiler & Heater (TBWES)</p> <p>For more details, refer to Subsidiaries of the Company on page 32</p> <p>Thermax Bio Energy Solutions (TBSPL)</p> <p>For more details, refer to Subsidiaries of the Company on page 34</p>

Business Segments	Major Orders Received in FY 2022-23
Green Solutions	<p>Renewable Energy Solutions (First Energy Private Limited)</p> <p>For more details, refer to Subsidiaries of the Company on page 37</p> <p>Build-Own-Operate Solutions (TOESL)</p> <ul style="list-style-type: none"> Successfully executed a large 33 TPH biomass cogeneration plant for an aluminium major in Karnataka Commissioned biomass boiler plants for steam supply to a pharmaceutical major, a zero liquid discharge plant for a steel major, and two solar PV plants for power supply to two chemical companies Developed a biomass fuel supply chain with a total capacity of 1,870 tonnes per day (TPD), of which 870 TPD was supplied to plant sites. The total fuel supplied was over 2.9 lakh tonnes.

Order Booking from Green Offerings (Rs. crore)



S02: Grow Products and Services Portfolio

In FY 2022-23, the Company's order bookings for products & services portfolio stood increased to Rs. 4,279 crore, up from Rs. 3,596 crore in the previous financial year of FY 2021-22. The growth in order value can be attributed to a consistent inflow of orders for our products, and also our stringent focus on offering comprehensive solutions for revamping and retrofitting, besides operations & maintenance services.

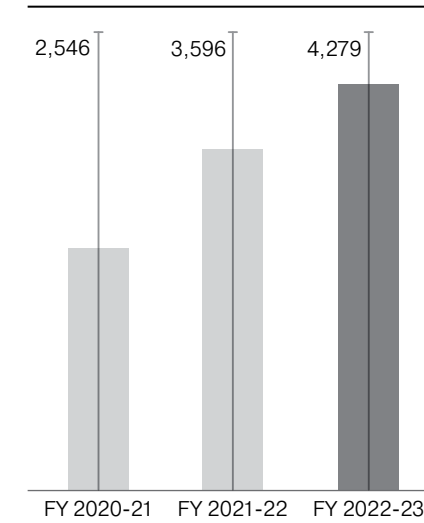
The recent roll-out of Edge Live, a digital solution powered by advanced capabilities of artificial intelligence, machine learning and Thermax-engineered algorithms also contributed to the success of this strategy.

Since its launch in June 2022, Edge Live has been adopted by over 70 customers across 10+ countries, monitoring 4,000+ assets at 140+ sites. The service is used by companies from over 15 different sectors, including small-scale

businesses and multinational corporations. The monitoring of assets is carried out by four dedicated operations centres located in India and staffed by a team of asset-class subject matter experts. These centres not only ensure high uptime, efficiency, and reliability of assets, but also collaborate extensively with customer stakeholders and facilitate knowledge management and expert guidance to enhance community learning.

Business Segments	Launch of Products Supporting the Strategy	Key Highlights
Industrial Products	Process Heating <ul style="list-style-type: none"> Thermotron™, an innovative electric boiler that helps meet sustainability goals by accelerating industrial decarbonisation. Steam can be generated from electricity in this compact unit for industrial processes, resulting in 99% efficiency. Aquanexa E Series, an advanced heat pump that caters to the hot water needs of various commercial segments 	Process Heating <ul style="list-style-type: none"> Thermotron™ is generating a buzz across a wide range of industries, including breweries, food processing, pharmaceuticals, FMCG conglomerates, petrochemicals, dairy, edible oil, and hotels & hospitality. These industries are intrigued by the electric process heating technology, which simplifies operations and promotes sustainability in industry. Aquanexa is rapidly gaining popularity among hotels, hospitals, hostels, and commercial spaces. This is primarily attributed to its seamless installation process and the fact that its hot water generator produces zero local emissions, makes it an environmentally-friendly choice.
	Absorption Cooling and Heating <ul style="list-style-type: none"> Xtra Performance Series of VAM Developed a multi-effect low steam pressure chiller to cater to low-pressure steam, which can be extracted across a range of processes and used for chilling needs 	Absorption Cooling and Heating <ul style="list-style-type: none"> Xtra Performance Series of VAM is relatively more productive by 15% to 18% and reduces LiBr consumption by 14% Recorded 17% growth in value-added spares business
	Water and Waste Solutions <ul style="list-style-type: none"> A new modularised UF system E-Flow (Application: pre-treatment to RO or post-treatment to STP) 	Water and Waste Solutions <ul style="list-style-type: none"> Received an order for four units, which are currently under assembly
Industrial Infra	Projects and Energy Solutions <ul style="list-style-type: none"> Entered into a technology partnership with Covacsis 	Projects and Energy Solutions <ul style="list-style-type: none"> Partnered with Covacsis, engaged in providing products and solutions to Industrial IoT, Industry 4.0, smart manufacturing and digital manufacturing space
	Boiler & Heater (TBWES) <ul style="list-style-type: none"> Flexisource™, a solution that can combust several types of waste fuels, providing higher fuel flexibility to customers 	Boiler & Heater (TBWES) <ul style="list-style-type: none"> Booked several orders in FY 2022-23 ranging from steam generation of 20 TPH to 70 TPH at high-pressure temperature cycles
Green Solutions	Build-Own-Operate Solutions (TOESL) <ul style="list-style-type: none"> Portfolio diversification and backward integration 	Build-Own-Operate Solutions (TOESL) <ul style="list-style-type: none"> Focussed on bio-CNG and water & wastewater treatment solutions under the build-own-operate model

Order Booking from Products & Services (Rs. crore)



Synchronisation of 2 x 40 MW captive power plant for a Navratna public sector enterprise

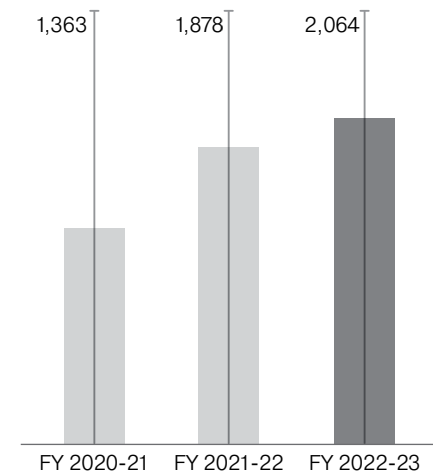
S03: Focus on Internationalisation

In FY 2022-23, Thermax's order booking in the international business segment was Rs. 2,064 crore, compared to Rs. 1,878 crore in FY 2021-22. The overseas segment accounted for 23.5% of the year's overall order booking. International business revenue for the Group stood at Rs. 2,041 crore, up from Rs. 1,621 crore in FY 2021-22.

Business Segments	Key Highlights
Industrial Products	Process Heating <ul style="list-style-type: none"> A 12 TPH oil & gas fired boiler was supplied for an FMCG giant in Bangladesh Order for 4 nos. oil & gas fired 25 TPH steam boilers from an oil & gas major in the Middle East Order for biomass-fired 34 TPH & 10 TPH steam boilers, and 8 Mn kCal/hr for edible oil major in Indonesia Order for a 22 TPH biomass-fired steam boiler for a food major for their plant in Sri Lanka Order for 25 TPH biomass-fired steam boiler for edible oil major in Nigeria
	Absorption Cooling and Heating <ul style="list-style-type: none"> Received major orders from the hospitality sectors in Puerto Rico and Caribbean nations; these are expected to grow the absorption chiller business Received an order for eight multi-energy chillers, which is expected to be commissioned in Q3 of FY 2023-24 Increased focus on new markets such as Korea, Taiwan and select African nations
	Air Pollution Control <ul style="list-style-type: none"> Facilitated strategic penetration in the cement market in Thailand Received a maiden order for a submerged arc furnace in Oman Received an FGD order from a French process engineering company for a leading oil refinery in Kuwait Established a strong presence in APC business, with several references in South East Asia, given its expertise in project execution and increased enforcement of air pollution norms Received orders from new markets in Turkey, Germany, Greece, Brazil and the United States

Business Segments	Key Highlights
	Water and Waste Solutions <ul style="list-style-type: none"> Received a maiden EPC order in East Africa for the largest edible oil refinery Received an order for the first pharma-grade plant in South East Asia for a Philippines-based pharmaceutical company, with pre-treatment and three units of RO-CDI
Industrial Infra	Projects and Energy Solutions <ul style="list-style-type: none"> The contracted base of the EPC power plant reached 3,560 MW, of which 443 MW are overseas Received an order for plant performance evaluation from a Thailand-based customer Boiler & Heater (TBWES) <p>➔ For more details, refer to Subsidiaries of the Company on page 32</p>
Green Solutions	Build-Own-Operate Solutions (TOESL) <ul style="list-style-type: none"> Ensured targeted efforts in select SEA and African countries to offer utilities under the build-own-operate model
Chemicals	Partnered with ChemPoint to expand Thermax's ion exchange resin business in North America

International Order Booking (Rs. crore)



A state-of-the-art flue gas desulphurisation (FGD) system delivered to a prominent sugar refinery in Saudi Arabia

7. Financial Performance

During FY 2022-23, the Group recorded an operating revenue of Rs. 8,090 crore as compared to Rs. 6,128 crore in the previous year. The basic and diluted earnings per share for the year were Rs. 39.98 per share as compared to Rs. 27.73 per share in the previous year. The analysis of major items of the financial statements is given below:

a. Revenue from the Operation

(Rs. crore)

	FY 2022-23	FY 2021-22	Change (%)
Revenue from projects and products	7,072	5,384	31
Revenue from services	962	680	42
Other operating revenue	56	64	(13)
Total operating revenue	8,090	6,128	32

The total operating revenue increased primarily due to a strong 31% growth in revenue from projects and products to Rs. 7,072 crore as the Company ramped up execution of prior period orders. Growth was broad-based across all segments, with Industrial Products growing by 30%, Industrial Infra by 31%, Green Solutions by 67% and Chemical by 25%. Revenue from services grew by 42% to Rs. 962 crore, primarily led by domestic business. Other operating revenue decreased due to exchange loss.

b. Cost of Material Consumed

(Rs. crore)

	FY 2022-23	FY 2021-22	Change (%)
Cost of material consumed	4,625	3,485	33
% of total revenue	57.17%	56.80%	0.6

The cost of materials grew 33% to Rs. 4,625 crore in FY 2022-23 due to an increase in commodity prices during the first half of the year and a change in the business mix.

c. Employee Benefit Expenses

(Rs. crore)

	FY 2022-23	FY 2021-22	Change (%)
Employee benefit expenses	954	813	17

The employee benefit expenses increased 17% to Rs. 954 crore in FY 2022-23, primarily driven by higher employee wages, expansion in both services and project execution teams and incentives provided to employees.

d. Other Expenses

(Rs. crore)

	FY 2022-23	FY 2021-22	Change (%)
Consumption of stores and spare parts	101.17	103.04	(2)
Power and fuel	61.96	52.31	18
Freight and forwarding charges (net)	207.22	176.09	18
Site expenses and contract labour charges	936.48	652.9	43
Drawing, design and technical service charges	68.29	24.65	177
Sales commission	28.66	25.34	13
Advertisement and sales promotion	23.23	10.48	122
Rent	23.05	19.19	20
Rates and taxes	19.88	20.09	(1)
Insurance	16.1	11.88	36

	FY 2022-23	FY 2021-22	Change (%)
Repairs and maintenance	91.82	68.18	35
Travelling and conveyance	93.49	60.14	55
Legal and professional fees (includes payment to auditors)	125.95	103.52	22
Director sitting fees	1.13	1	13
Bad debts / advances written off	40.68	(4.4)	(1,025)
Warranty expenses (net)	14.59	35.39	(59)
(Gain) / loss on sale/ discard of assets (net)	3.79	(7.64)	(150)
CSR expenses	6.86	7.54	(9)
Miscellaneous expenses (includes printing, communication, security expense, etc.)	50.36	49.41	2
Total	1,914.71	1,409.11	36
Less: Capitalised during the year	(1.31)	(0.12)	992
Net total	1,913.40	1,408.99	36

Other expenses increased 36% to Rs. 1,913.40 crore in FY 2022-23. This was primarily due to increase in direct expenses like site expenses and contract labour charges, drawing and design charges etc., aligned to the increase in the level of activities during the year. These expenses are more pronounced during certain phases of project, and resulted in higher incidence during the current year. The advertisement and sales promotion and travelling expenses also rose due to increase in business volume and implementation of various new initiatives. Bad debts / advances written off and warranty expenses decreased as the previous years' numbers were higher due to reclassification, which was not applicable in the current year.

e. Property, Plant and Equipment

(Rs. crore)

	FY 2022-23	FY 2021-22	Change (%)
Property, plant and equipment	1,039.89	990.95	5
Capital work-in-progress	433.77	44.32	879
Right-of-use assets	176.06	163.24	8
Goodwill	3.03	3.03	0
Other intangible assets	29.19	37.52	(22)
Total	1,681.94	1,239.06	36

Property, plant and equipment cost increased 36% to Rs. 1,681.94 crore as on March 31, 2023. The rise was mainly due to an increase in capital work-in-progress associated with the under construction solar assets of First Energy Pvt. Ltd.

f. Investment

(Rs. crore)

	FY 2022-23	FY 2021-22	Change (%)
Non-current investment	216.84	703.36	(69)
Current investment	1,392.87	766.54	82
Total	1,609.71	1,469.90	10

Investment predominantly represents holdings in the debt mutual fund and fixed deposits with banks. The change in current and non current investments is mainly due to shifting of corporate bonds to liquid funds.

g. Trade Receivable

(Rs. crore)

	FY 2022-23	FY 2021-22	Change (%)
Non-current trade receivable	114.50	173.52	(34)
Current trade receivable	1,762.06	1,423.72	24
Total	1,876.56	1,597.24	17

The trade receivables increased 17% to Rs. 1,876.56 crore as on March 31, 2023, in line with the increase in business volume.

h. Cash Flow

(Rs. crore)

	FY 2022-23	FY 2021-22	Change (%)
Cash flows from operating activities	459.56	324.71	42
Cash flows from / (used in) investing activities	(679.68)	(421.58)	61
Cash flows (used in) financing activities	348.54	(20.58)	(1,794)
Total	128.42	(117.45)	(209)

The cash flow has changed from Rs. (117.45) crore in the last financial year to Rs. 128.42 crore in FY 22-23. This was primarily on account of higher outflows for investing activities related to under construction solar assets and purchase of plant, property, and equipment for First Energy Pvt. Ltd. (FEPL). The cash flow from operating activities increased due to better collection, improvement in inventory consumption and better working capital management. The cash flow from financing activities increased due to proceeds from borrowings for execution of projects in FEPL under BOO model.

i. Cash and Cash Equivalents and Bank Balance

(Rs. crore)

	FY 2022-23	FY 2021-22	Change (%)
Cash and cash equivalents	452.82	310.78	46
Bank balance	678.76	642.72	6
Total	1,131.58	953.50	19

Cash and cash equivalents and bank balance increased 19% to Rs. 1,131.58 crore due to better collections and shifting of investment portfolio.

j. Borrowings

(Rs. crore)

	FY 2022-23	FY 2021-22	Change (%)
Non current borrowings	422.52	61.42	588
Current borrowings	388.02	294.00	32
Total	810.54	355.42	128

Borrowings increased 128% to Rs. 810.54 crore due to loans taken for execution of solar projects under First Energy Pvt. Ltd. under BOO model.

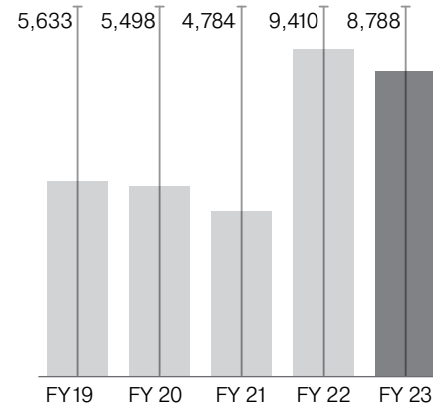
Key Financial Ratios

Particulars	Thermax Limited		Thermax Group	
	2023	2022	2023	2022
Debtors turnover ratio	4.18	3.88	4.63	4.13
Inventory turnover ratio	7.83	7.80	6.24	6.16
Interest coverage ratio	22.67	21.26	17.04	17.29
Current ratio	1.36	1.17	1.38	1.26
Return on capital employed	13.8%	9.4%	14.9%	12.2%
Return on net worth (RONW)	10.2%	6.7%	11.7%	8.9%

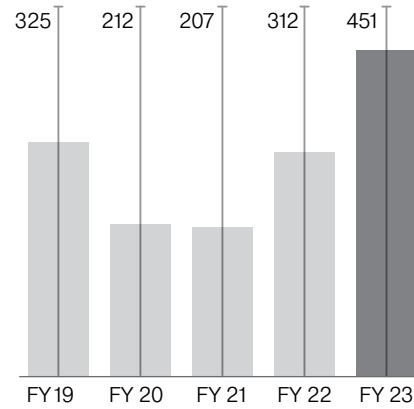
The return on capital employed and return on net worth have increased both at standalone and group levels due to an increase in profitability.

Key Financial Indices

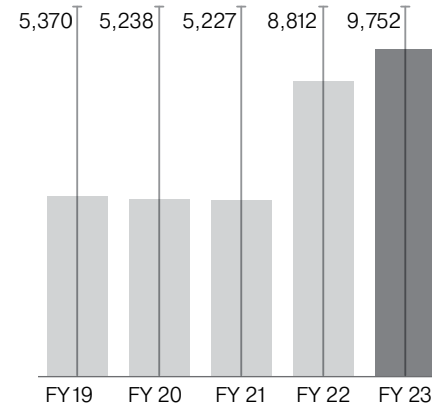
Order Booking (Rs. crore)



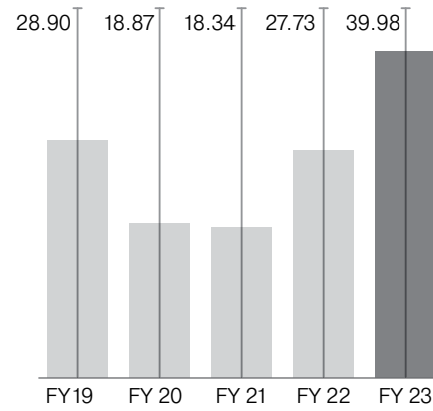
Profit After Tax (PAT) (Rs. crore)



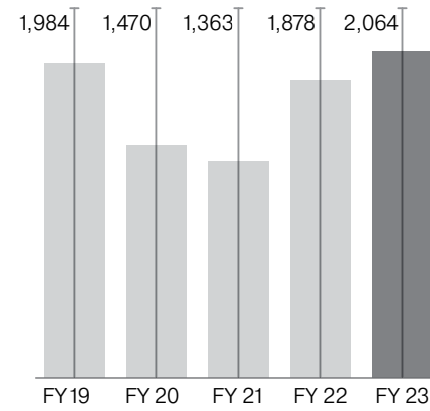
Order Balance (Rs. crore)



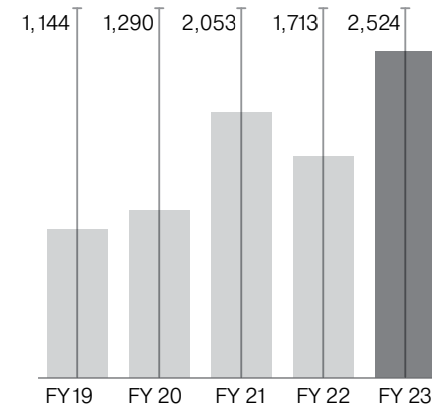
Earnings Per Share (EPS) (Rs.)



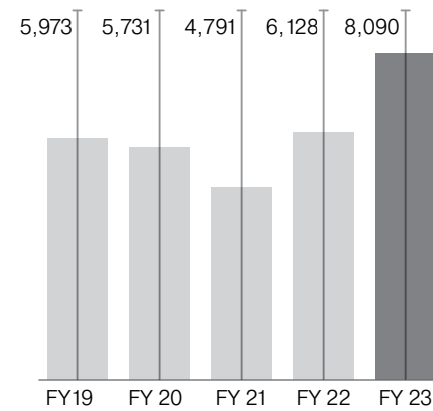
International Order Booking (Rs. crore)



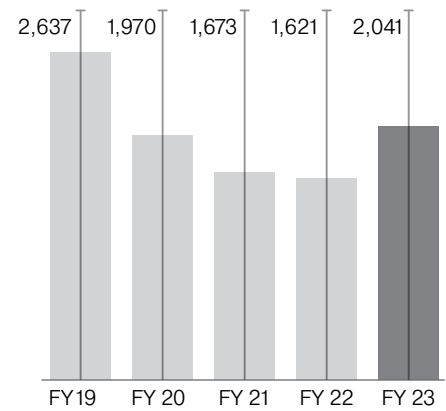
Cash and Cash Equivalent (incl. Current Investments) (Rs. crore)



Revenue from Operations (Rs. crore)



International Revenue (Rs. crore)



Financials at a Glance - Thermax Group

Particulars	2022-23	2021-22	2020-21	2019-20	2018-19	2017-18	2016-17	2015-16*	2014-15	2013-14
Domestic sales (excluding excise duty)	5,992	4,443	3,037	3,685	3,249	2,668	2,813	3,210	3,618	3,199
International sales/business	2,042	1,621	1,673	1,970	2,637	1,703	1,573	1,859	1,624	1,758
% to total sales	25%	27%	36%	35%	45%	39%	36%	37%	31%	35%
Total sales	8,034	6,064	4,710	5,655	5,886	4,371	4,386	5,069	5,242	4,957
Growth	32%	29%	(17%)	(4%)	35%	0%	(13%)	(3%)	6%	(8%)
Other operating income	56	64	81	76	87	94	97	76	62	72
Revenue from operation	8,090	6,128	4,791	5,731	5,973	4,465	4,483	5,145	5,304	5,028
Other income	160	127	108	100	150	116	114	122	123	72
Total income	8,250	6,255	4,899	5,831	6,123	4,581	4,597	5,267	5,427	5,100
Total expenses	7,492	5,707	4,435	5,324	5,516	4,064	4,049	4,716	4,843	4,592
Profit before depreciation, interest, extraordinary items and tax	758	548	464	507	607	517	548	551	584	508
(% to total income)	9%	9%	9%	9%	10%	11%	12%	10%	11%	10%
Depreciation	117	113	115	117	92	82	82	72	134	92
Interest	38	25	21	15	14	13	10	12	82	27
Exceptional items of expenses	-	-	53	-	90	0	18	0	49	0
Profit before tax	603	410	275	375	411	422	438	467	319	389
(% to total income)	7%	7%	6%	6%	7%	9%	10%	9%	6%	8%
Tax	152	98	69	162	85	166	156	144	171	169
Profit after tax before non controlling interest and share in loss of associate and joint venture	451	312	206	212	326	256	282	323	148	220
Share in joint venture / associates loss	0	0	0	0	(1)	(25)	(66)	(41)	NA	NA
Minority interest	-	-	NA	NA	NA	NA	NA	NA	(62)	(26)
Profit after tax after minority and share in an associate's loss	451	312	206	212	325	231	216	282	210	246
Other comprehensive income	0	8	17	(9)	(22)	27	(19)	22	NA	NA
Total comprehensive income attributable to:										
Equity holders of the parent	450	312	223	204	304	259	204	304	NA	NA
Non controlling interest	0	-	-	-	-	(1)	(7)	-	NA	NA
Gross block	2,903	2,396	2,352	2,255	2,236	1,741	1,515	1,438	2,051	2,044
Net block	1,682	1,239	1,266	1,339	1,352	1,076	952	887	1,474	1,580
Investments	1,610	1,470	234	875	829	1,472	1,083	1,050	822	708
Current assets	6,072	4,738	4,466	3,977	4,737	4,102	3,297	3,610	4,185	4,125
Current liabilities	4,409	3,758	3,071	2,787	3,654	3,079	2,365	2,615	3,274	2,999
Net current assets	1,663	980	1,395	1,190	1,083	1,023	932	995	911	1,126
Capital employed	4,291	3,553	3,273	3,061	3,050	2,768	2,585	2,450	2,719	2,695
Equity share capital	23	23	23	23	23	23	23	23	24	24
Reserves and surplus	3,846	3,469	3,228	3,005	2,992	2,692	2,515	2,393	2,123	2,014
Networth	3,868	3,492	3,251	3,028	3,015	2,715	2,538	2,416	2,147	2,038
Minority interest	2	-	-	-	-	-	1	-	78	140
Loan funds (long term)	423	61	22	33	35	53	46	34	494	517
Fixed asset turnover ratio	4.78	4.89	3.72	4.23	4.35	4.06	4.61	5.71	3.56	3.14
Working capital turnover ratio	4.83	6.19	3.38	4.75	5.43	4.28	4.71	5.10	5.75	4.40
Current ratio	1.38	1.26	1.45	1.43	1.30	1.33	1.39	1.38	1.28	1.38
Return on capital employed	15%	12%	11%	13%	14%	15%	15%	18%	15%	15%
Return on net worth	12%	9%	6%	7%	11%	9%	9%	12%	10%	12%
Cash earnings per share (Rs.)	50.36	37.74	28.50	29.30	37.06	27.93	27.08	31.48	28.86	28.38
Earnings per share (Rs.)	39.98	27.73	18.34	18.87	28.90	20.61	19.80	25.07	17.61	20.64
Dividend	500%	450%	350%	350%*	350%	300%	300%	300%	350%	300%
Book value per share (Rs.)	343	310	289	269	268	241	225	215	180	171

* Figures have been reclassified as per Indian Accounting Standards ("IND AS") as prescribed by Ministry of Corporate Affairs

* It is interim dividend paid to shareholders

8. Key Opportunities and Threats

Globally, climate change and sustainability are priorities, leading to governments and industries taking actions to reduce carbon footprint and promote a planet positive future. In India too, the government has committed to reducing carbon intensity to less than 45% by 2030 and achieving net-zero carbon emissions by 2070 at COP26 and COP27 summits.

The focus on sustainability is driving efforts to reduce fossil fuels, switch to renewable energy solutions and adopt efficient technology solutions for resource consumption and waste management. In India, the renewable energy sector has also been incentivised with favourable policies such as the waiver of inter-state transmission system (ISTS) charges and the Green Open Access policy, fostering industry consolidation, acquisitions, and strategic partnerships. Further, the avenues like the carbon market, Green Day Ahead Market (GDAM), and Green Term Ahead Market (GTAM) have augmented prospects for growth and innovation.

Thermax being an expert in providing superior technology-enabled solutions in the renewable sector, is poised to address the challenge and capitalise on the opportunity.

Opportunities

Some of the key areas of opportunities for Thermax are as follows:

- Increased investments by industries towards improving their sustainability performance. They are focussed on minimising carbon and water footprints and optimising resources consumption with efficiency improvement solutions, renovation and modernisation projects and adopting energy-efficient technologies. Thermax with its heating, cooling, power, and diverse environmental solutions is well-positioned to address this need.

- Emphasis by the Finance Minister on leveraging the nation's abundant coal reserves to encourage gasification for a smooth energy transition, especially amidst high oil and gas prices. Thermax with its expertise in coal gasification and other related fields is positioned to capitalise on these opportunities.
- Proposal by the Indian Government to establish 5,000 bio-CNG plants within five years, creating a potential market worth Rs. 25,000 crore. Moreover, the Ministry of New and Renewable Energy (MNRE) has also introduced supportive Sustainable Alternative Towards Affordable Transportation (SATAT) policy, which guarantees market-linked pricing and financial assistance. This presents promising opportunity with favourable environment to Thermax.
- Amidst geopolitical tensions, climate crises and availability of resources, the global fuel scenario remains dynamic, necessitating effective mitigation strategies. Thermax, with its range of solutions like biomass-fired boilers and heaters, municipal solid waste (MSW) boilers, multi-fuel-fired boilers and electric boilers, is well positioned to address the need. It is also presented with the opportunity to develop products capable of handling new fuels and capturing emerging opportunities.
- Technologies are increasingly penetrating the sustainability landscape. These include Internet of Things (IoT) for improving efficiency, uptime and maintenance predictability and advanced air pollution control equipment like FGDs for sulphur dioxide (SOx) capture and related services. This presents Thermax with a promising opportunity for expanding its digital service portfolio as well as leveraging its technical know-how.
- With a shift from a capex to an opex model, outsourcing is poised to set the pace for growth in Thermax's businesses across the globe.

Threats

- The Russia-Ukraine conflict has disrupted the global supply chain, leading to volatility in commodity prices and higher logistics costs. Such fluctuations in key raw material prices impacts order profitability and may slowdown large project investments. Besides, owing to the ongoing scenario, there is also a high dependency on government policies. A pushback in regulatory policies will impact offering demand in the energy and environment segment.
- The entry of established international competition in the Indian market and stiff local competition in specific geographies can be a possible threat. This includes competition from local players having a robust biomass sourcing network and database offering BOO solutions, as several multinational corporations transition from fossil fuels to biomass.
- Start-ups are a threat since many look at valuation rather than a focus on profitability.
- Cheaper power tariffs from alternative renewable sources and reduced viability of operating captive power plants compared to grid tariffs pose a key threat to the global EPC business. Moreover, higher live energy costs are impacting the feasibility of VAM and high gas prices are reducing the feasibility of cogen in Europe.
- Continuous availability, storage, and pricing of bio-CNG feedstock, unclear mandates for selling digested material as bio-manure, and absence of gas pipeline infrastructure without a take-or-pay policy pose threat to the bio-CNG ecosystem.
- Reliance on single-source vendors for critical products and the potential of some vendors becoming competitors for a specific product range can pose threat.

9. Risk Management

Our Enterprise Risk Management Framework periodically evaluates and monitors key risks and business processes, thereby suggesting suitable mitigation plans across different locations to maintain the robustness of our systems.

Identification of Major Risks	Detailing of the Risks	Mitigation Plan	Strategies Impacted
<p>Project execution risk</p>	<p>Loss of reputation/market share/margin erosion due to inadequate process framework and monitoring of risks during the project lifecycle.</p>	<ul style="list-style-type: none"> • Deployment of robust project management structures across business divisions to monitor and control project execution risks during the project lifecycle • Multiple controls from proposal to execution stage enable the Company to take timely measures and mitigate potential risks • Monitoring of credit ratings and credit locks for defaulting customers are implemented 	SO1, SO2, SO3
<p>Data governance and cyber security risk</p>	<p>Inability to identify, classify, document, digitise and archive business-critical knowledge/information to ensure complete, consistent, reliable, and secure corporate data.</p> <p>Adverse impact on the Company's operations due to cyberattacks and lack of firewalls, encryption, and remote access controls, leading to compromise of confidential data and intellectual property.</p> <p>Inability to continue/recover business operations during any crisis, and/or disaster, with minimal disruption or loss of business.</p>	<ul style="list-style-type: none"> • Security awareness is created through training on a regular basis. Archiving and purging of unused information is carried out as per the timeframe mentioned in the Data Retention Policy • Auto-classification of data is being implemented to ensure that every data is classified and treated accordingly, and the same is completed • Identify and access management tools with multi-factor authentication, advanced end-to-end protection, dark-web monitoring, and network DDoS protection implemented • Network isolation/segmentation and air-gap backup of data is underway • Servers and databases of all hosted applications are being upgraded, with high availability. Disaster recovery for critical applications is tested. Software compliances with software OEMs are underway. Replacement of unsupported softwares to be completed by the next financial year 	SO1, SO2, SO3

Identification of Major Risks	Detailing of the Risks	Mitigation Plan	Strategies Impacted
Rise in commodity price – impact on business 	Impact on the entity's financial performance/profitability due to fluctuations in the prices of commodities, arising due to various reasons such as geopolitical tensions.	<ul style="list-style-type: none"> Negotiation with customers for passing the impact of rising commodity prices by increase in price and change in contract terms is under process Input material is being ordered immediately upon finalising the contracts with customers Strategic investment in the ordering of raw materials in anticipation of price rise Expanding services and digital portfolio Implementation of cost optimisation project – Agile (applicable for first half of the financial year) 	SO1, SO2, SO3
Risk of climate change 	Impact on business dynamics due to restrictions and increase in compliance on conventional energy.	<ul style="list-style-type: none"> In order to mitigate the effects of climate change in the short, medium, and long-term, we are developing products based on renewable energy, acquiring new technologies, and complying with statutory standards 	SO1, SO2, SO3
People risk including skills and competencies 	Inability to attract talent and plan succession of people for key positions.	<ul style="list-style-type: none"> Leadership programmes for various positions are being implemented Introduced ESOP for senior executives Successors for critical roles have been identified, and a flexible ownership-based work environment is created Talent development journey programme for top talents is underway Salary corrections for high performers and bringing them up to the market average are being considered 	SO1, SO2, SO3

10. Internal Controls

For details, refer to the Directors' Report on page 61.

11. Health, Safety and Environment

At Thermax, we believe Health, Safety, and Environment (HSE) is crucial for the well-being of our employees, stakeholders, and the environment. We prioritise HSE across our operations and manufacturing

facilities and are committed to creating a safe work environment for our stakeholders. We achieve this by implementing robust systems and processes and making business decisions that emphasise HSE in all the activities we undertake.

Additionally, we engage with our supply chain partners and promote HSE culture through capacity building and onsite feedbacks.

Our occupational HSE policy serves as a commitment to a safer and greener workplace. The HSE performance is regularly reviewed by the Board members and the senior leadership.

HSE-related Trainings

- An emergency management plan is available at all Thermax locations, and the trainings and mock drills are conducted as per the plan.

- Regular HSE trainings are conducted for employees, contractors, vendors and suppliers.
- All new employees and workmen undergo HSE induction and medical fitness assessments before being engaged.

190
Employees and **26**

Spouses participated in CPR training

1,500+
Employees participated in Road Safety e-Learning Awareness Programme

51

Recordable incidents and 2 fatalities (contractual employees) reported in FY 2022-23

HSE Initiatives

- Thermax Life Saving Rules** – These are mandatory rules for every individual working for or on behalf of Thermax. These outcomes are derived from lessons learned from past incidents and are specific to our operations. Compliance with these measures is rigorously enforced, and a capacity building drive on the same is underway.

- Digitalisation Drive** – Thermax is implementing improvised HSE digital solutions to drive cultural change. This enables all workers and employees to report at-risk behaviours and other observations and also supports monitoring of such actions in a timebound manner. Digitalisation will strengthen comprehensive HSE reporting and analysis on a real-time basis and assist decision makers to implement effective safety improvement programmes and monitor progress.

- Standardisation** – The incident management system has been reviewed and revised to accommodate changes in the way we investigate and implement lessons learnt across the organisation. The HSE reward and reprimand system is strengthened, while audit and inspection procedures and templates are updated and standardised across the organisation.

Certifications and Audits – An Update

Location	Type of Audit	Certification	Conducted by
Cooling plant at Sri City	2 nd surveillance audit	ISO 14001:2015 and ISO 45001:2018	Lloyds
TBWES project sites and manufacturing plants at Savli, Mundra, Chinchwad and Shirwal	2 nd surveillance audit	ISO 14001:2015 and ISO 45001:2018	Bureau Veritas
Heating manufacturing units at Chinchwad and Savli	2 nd surveillance audit	ISO 14001:2015 and ISO 45001:2018	TUV:SUD
WWS business	1 st surveillance audit	ISO 45001:2018	Bureau Veritas
TOESL subsidiary	Recertification audit	ISO 14001:2015 and ISO 45001:2018	DNV
Chemical manufacturing facilities at Paudh, Jhagadia and Dahej	Recertification audit	ISO 14001:2015 and ISO 45001:2018	Bureau Veritas
P&ES business and Process Heating project sites	Recertification audit	ISO 45001:2018	TUV:SUD and DNV
Enviro business	Certification audit	ISO 14001:2015 & ISO 45001:2018	TUV:SUD

Audits Carried Out in FY 2022-23

1,407
Internal Inspections and Audits

9
External Safety Audits

Behaviour Based Safety: Strengthening the Safety Culture

We firmly believe that any injury is preventable. To further the safety initiative, Thermax embarked on the implementation of Behaviour Based Safety (BBS). Led by the senior management, there is active involvement in the initiative, and reviews are conducted at each location. The programme started by identifying BBS champions in every business to lead the initiative and further train colleagues, to equip them with the required stewardship skills.

The BBS training is designed to influence employee actions towards safer outcomes, ideally by preventing an accident or injury from occurring. It encourages everyone to care for others by identifying 'at-risk behaviours' and doing spot correction, whenever possible. This helps to change unsafe behaviours in the workplace and will be instrumental in improving the company's overall safety culture.

12. Human Resources

As an organisation known for governance and ethics, we invest in skill building, employee engagement and welfare to maximise outcomes and provide a safe and healthy work environment to our employees.

A notable aspect of the Thermax culture is the way we treat our employees and engage with them.

Our employees are fundamental to our long-term success. We understand and reiterate the essential role played by our motivated employees in helping us achieve our goals of producing top-notch products, and delivering bespoke solutions & efficient service to our customers.

Our goal is to cultivate an environment where every team member feels valued, respected, and equipped to reach their full potential. With this goal in mind, we are actively working towards nurturing a work environment that is inclusive, supportive, and empowering. We strive to foster a culture that promotes a healthy organisation, encourages ongoing learning and development, and prioritises a safe workplace for all employees.



The Industrial Products segment wins the Best Business Unit Award at Thermax Annual Awards

Thermax Performance Management System

At Thermax, we understand the need to stay agile by reinventing ourselves on a continuous basis. We made our performance management system more dynamic and meaningful – right from goal-setting to performance-related conversations to incentives and rewards. Our performance evaluation is intertwined with behaviours. As continuous listening forms the core of our organisation, we introduced an assessment of Customer, Lead, Own, Create and Collaborate (CLOCC) behaviours for our employees. Through these CLOCC behaviours, our aim is to nurture a human organisation built on human values.

In the last two years, we have seen these CLOCC behaviours being deeply ingrained and becoming an integral part of our value system. The employees exemplifying these behaviours are well recognised in

respective businesses and award forums. In addition, we also introduced a new incentive framework, which builds transparency in how we incentivise our employees and also creates a stronger pay-for-performance culture.

Diversity, Equity & Inclusion

Thermax has a multi-tiered organisation culture, which drives our code of conduct, mission, vision and values at the core. The organisation's culture is fostered through the philosophy of diversity, equity and inclusion (DEI), where 'diversity' encompasses a spectrum of demographic human differences, 'equity' ensures fairness and equal opportunities for all, while 'inclusion' denotes the magnitude to which our employees feel accepted, respected, cared for, and motivated.

We are relentlessly building a culture of inclusivity by imbibing DEI – from strategy planning and policy framework to project execution. We also understand the importance of diversity in driving innovation and success and remain committed to building a culture that embraces and celebrates differences.

In 2022, we launched our DEI strategy with four key pillars to ensure that all our employees feel valued, supported, and empowered to do their best work.

Key Pillars of our DEI Strategy:

- Enhancing diversity representation across levels
- Developing and sponsoring talent
- Enabling mindset change
- Promoting openness and inclusivity in the workplace

As part of the DEI goals, Thermax introduced a segmented hiring



Women welders attend the grinding safety training at Shirwal

approach to enhance the representation of women leaders at mid and senior management levels to build a supportive workplace culture. We are also working on developing and sponsoring high-potential women talent through talent intervention initiatives which include skill development, networking, visibility, and exposure to cross-functional projects.

Leveraging the potential of dialogues, we used the occasion of International Women's Day as a platform to encourage conversations around inclusion and equity, with a special focus on the challenges of the LGBTQ community in the workplace. Change workshops that focus on awareness of microaggression, unconscious biases and allyship form a significant part of our Leadership Development Programmes. We remain committed to continuing our efforts to build a diverse and inclusive workplace.

Talent Management

We, at Thermax, have a strong history in talent management and development, which has evolved over time to reflect our commitment to nurturing its people. The focus, now, is on a role-based talent development model, where Thermax aims to develop world-class future leaders through different programmes for new talent development. This is being facilitated through a robust career progression plan and leadership development programmes for our young, senior, and executive leaders.

Our Development Programmes

- The **Executive Leadership Development Programme (ELDP)** is designed to empower our executive leaders with broader business knowledge, global perspectives, and leadership insights, through an immersive

programme at top international universities.

- For our senior leaders, who have been identified as our critical talent, we launched the **Senior Leadership Development Programme (SLDP)**. This 12-month-long programme aims to improve business perspective, management expertise and leadership skills, to enable them to lead through complex business problems and drive innovation and organisational change.

The **Young Leadership Development Programme (YLDP)** is designed for emerging and young talents to provide them with opportunities to develop and enhance their leadership capabilities. The programme focusses on guiding participants in leading themselves, teams, businesses, and navigating change.

- The **Advent Programme** is an intense three-year career progression plan for young hires

from top engineering and business schools nationwide. Thermax's goal is to develop a robust young leadership talent pipeline by offering business exposure, rigorous rotations and live project opportunities.

New Initiatives

- **Darwinbox – Human Resource Management System (HRMS)**
A digitalised HRMS platform is introduced to manage the employees' lifecycle. This digital capability moves HR's focus from data management to data-based decision-making.
- **Employee Engagement Survey Pulse**, an employee engagement survey, is designed in a framework that conducts three short surveys within a year. This helps understand the pulse of employees in different departments on a regular basis and work with them on relevant action plans. The survey also helps in ongoing manager-employee discussions and creates an environment of continuous listening and open communication.

New Policies

Site Policy

To create a standard employee experience for site employees, we launched guidelines on allowances and facilities at project sites for respective businesses. This benefits the employees who are stationed at sites and also required to travel to different locations.

Thermax Cares

'Thermax Cares for Health' is an initiative for employee health and well-being. It focusses on employees' physical health, mental health, nutrition, as well as smoking and alcohol cessation. We have conducted several relevant programmes under Thermax Cares.

Key Programmes on Thermax Cares:

- Physical wellness initiative (medical check-up camps)
- Free membership of online health classes for women employees (offered for Women's Day this year)
- Subsidised annual gymnasium membership package for all employees in India
- Sporting activities such as marathons, cricket and badminton tournaments
- Mental health counselling in partnership with Santulan, for employees and their family members

Attrition

Despite efforts to address the Great Resignation, attrition numbers in FY 2022-23 remained high with an overall attrition rate of 19.70% and regrettable attrition at 12%. To control attrition, we implemented measures such as career development, learning opportunities, and salary

corrections. Additional actions are planned throughout the year. Employee engagement surveys were also initiated to gather employee feedback and develop action plans accordingly.

13. Awards and Recognitions

1. University of Vermont Family Business Award

Thermax was recognised at the 11th award ceremony held at the University of Vermont Grossman School of Business, United States. The award acknowledges and celebrates family-owned enterprises which have demonstrated a commitment to responsible business practices through effective leadership, innovation, and strong family and community stewardship.

2. ET honours Thermax with the Factory of the Future Award

Thermax was conferred with the 'Factory of the Future' award at The Economic Times Promising Plants 2022, which recognises excellence in manufacturing.

3. Thermax achieves Annual Export Excellence Awards

Thermax was recently awarded for its outstanding contribution to exports by the Federation of Indian Export Organisations (FIEO) - Western region.

4. Thermax receives the Top 50 Innovative Company Award

Thermax was awarded the 'Top 50 Innovative Company' award by the Confederation of Indian Industry (CII).

5. Thermax bags 'Excellence in Procurement' Award

Thermax's Chemical Business Unit received the 'Excellence in

Procurement' award at the 5th Procurement India Leadership Forum and Awards 2023, organised by ISCM Forums.

6. 5S Platinum Certificate for Thermax Sri City Plant

The Quality Circle Forum of India (QCFI) awarded Thermax's Sri City plant with the 5S Platinum Certification for the year 2022-23. The plant had earlier received the 5S Gold Certification from QCFI.

7. Award from IIE for Manufacturing Excellence

Our manufacturing team received the first prize under the category of 'Manufacturing Excellence'; and also won a gold trophy at the 64th National Convention at Pune hosted by the Indian Institute of Industrial Engineers, Pune Chapter.

8. Best Boiler Supplier Award

Thermax received the 'Best Boiler Supplier' award from one of India's biggest distilleries in southern India.

9. Zero LTI Award and HSE Committee Award

PT Thermax International, Indonesia received the Zero LTI award and HSE Committee award (gold achievement) from the Governor of Banten Province.

14. Future of Thermax

In December 2021, the Board of Thermax and the Executive Committee chalked out a path for 'Thermax in 2030'. As part of our planning process towards this goal, we built a more detailed strategy framework in FY 2022-23, with a granular pathway for the period 2023-26, tying into the overarching strategic priorities for 2030.

Considering the significant trends that have a direct impact on Thermax, including climate change, geopolitical shifts, rapidly accelerating urbanisation, technological breakthroughs in sustainability and digital transformation, we have chalked out a plan to create a nimble organisation that can efficiently navigate a changing environment.

Our capital allocation strategy is designed to strengthen us with the right technologies, assets and capabilities to support our ambition to become a leader in energy transition in India and globally. Responsible growth, with an undeterred focus on profitability across all our businesses, remains at the epicentre of this strategy.

We are confident that our strategic plan for 2023-26 will enable us to build on our past successes and achieve our long-term objectives, and look forward to sharing this progress with you in the years ahead.

15. Cautionary Statement

The Management Discussion and Analysis contains statements about future events, as well as the financial and operating results of the Thermax Group, which are forward-looking. By their nature, forward-looking statements require the Company to make assumptions and are subject to change based on risks and uncertainties. Several factors could potentially cause these assumptions to differ from actual future results and events expressed in the forward-looking statements. Therefore, readers are cautioned not to place undue reliance on forward-looking statements.



The first batch of the Senior Leadership Development Programme

Additional Disclosure

Additional disclosure made to Stock Exchanges on June 6, 2023 regarding outcome of Arbitration matter. The said matter is also disclosed as contingent liability in standalone and consolidated financial statements vide note no. 31 A (c) and 31 (A) (d) respectively.

Stock Exchange Intimation under Regulation 30 read with Schedule III of SEBI (LODR) Regulations, 2015:

“In pursuant to the requirements of the aforesaid regulation(s), we hereby wish to inform you that in the matter of Arbitration between M/s. Thermax Limited (“the Company”) and a Customer (“Claimant”) regarding recovery of damages, losses, etc. for breakdown of two (2) Gas Turbo Generator (GTGs), an award has been passed by an Arbitral Tribunal consisting of Sole Arbitrator on June 5, 2023.

The Arbitrator has directed the Company to repair and reinstate both the GTGs at Customer’s plant at the Company’s own cost and expenses under the defect liability clause (the Company has since taken action to repair and reinstate the GTGs). The Arbitrator also allowed the Customer’s claim on additional expenditure on power and directed the Company to pay Rs. 173.72 crore with interest along with a sum of Rs. 95 lakh as arbitration cost to the Customer.

The Arbitrator dismissed other claims and counter claims made in the matter. Thus, the award would have an estimated total financial impact of approximately Rs. 250 crore on the Company.

The Company has been advised that the order is not based on proper appreciation of facts and is in the process of challenging the award before the appropriate appellate authority. Further, we will update the Stock Exchanges in the event of any material developments in this matter.”