# 1. Economic Overview

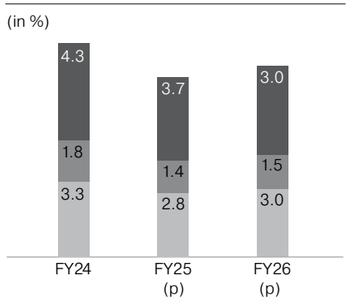
## 1.1. Global Economy

The global growth is expected to remain tepid around 2.8% in 2025 and 3.0% in 2026, closely matching the pace of 2024, with advanced economies growing at about 1.4% and emerging market and developing economies at 3.7% in 2025. Having peaked at 6.8% in 2023, global headline inflation eased to 5.8% in 2024 and further to 4.4% in 2025, though it remains above many central banks' targets.[1]

Merchandise trade volumes are expected to contract by 0.2% in 2025 after stagnating in 2024, underscoring persistent demand weaknesses.[2] Labour markets have held up, with the global unemployment rate stabilising at 4.9% in both 2024 and 2025.[3] Global foreign direct investment inflows slipped 2% to $1.3 trillion in 2023, and fell further by 11% in 2024, with the UN trade agency warning of further downside risks going into 2025.[4] Commodity prices, which have fuelled recent cost pressures, are now expected to modestly soften, slipping by about 3% in 2024 and a further 4% in 2025.[5]

Energy markets and climate policy are reshaping both investment and growth prospects. In 2024, renewables accounted for 585 GW of new power capacity—over 90% of total global additions—a record annual increase that underscores the accelerating clean-energy transition.[6] The IEA's Renewables 2024 report forecasts that the world will add 5,500 GW of new renewable capacity by 2030, nearly triple the expansion seen in 2017-2023, driven by falling costs and supportive policies.[7] At COP29 in Baku, Azerbaijan, nearly 200 nations agreed to raise climate finance to $300 billion annually for developing countries by 2035 and finalised rules under Article 6.4 of the Paris Agreement for international carbon credit trading, offering a new mechanism to channel private investment into emission reduction and carbon removal technologies.

### Global GDP Trend

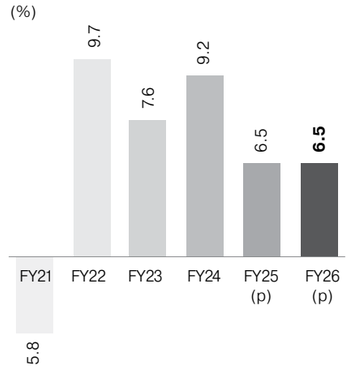



(p) - projected
Source: World Economic Outlook, April 2025

## 1.2 Indian Economy

India's economy expanded by 6.5% in FY 2024-25, underscoring a resilient rebound driven by strong private consumption, robust public infrastructure outlays and a buoyant services sector.[9] Retail inflation has moderated to 3.34% in March 2025, its lowest in over five years, and will likely average around 4% over the fiscal year, providing space for accommodative monetary policy. The government aims to narrow the fiscal deficit to 4.8% of GDP in FY 2024-25, down from 5.6% in the previous year, signalling continued fiscal prudence amid targeted capital expenditure and social spending.

### India's GDP Trend




(p) - projected
Source: Ministry of Statistics and Programme Implementation, RBI

### Outlook

India is projected to remain among the world's fastest-growing major economies, with real GDP growth forecast at 6.5% in FY 2025-26.[10] Continued public and private investment in infrastructure, the expansion of production-linked incentive schemes and the rapid digitalisation of the economy will be key growth drivers. Meanwhile, India's commitment to net zero emissions by 2070 is stimulating fresh capital inflows into solar, wind and green hydrogen projects, presenting both opportunities and imperatives for sustainable energy solution providers.

## 1.3 India's Climate Commitments

India's updated Nationally Determined Contribution (NDC) under the Paris Agreement commits to reducing the emissions intensity of GDP by 45% by 2030 (from 2005 levels), achieving 50% of cumulative power capacity from non-fossil sources, and creating an additional carbon sink of 2.5-3 billion tonnes of $CO_2$ equivalent through afforestation by 2030.[11]

At COP26 (Glasgow 2021), the "Panchamrit" package further pledged to build 500 GW of non-fossil energy capacity, meet 50% of energy needs from renewables, cut 1 billion tonnes of projected emissions by 2030, and target net-zero by 2070. To underpin these goals, India amended the Energy Conservation Act in 2022 to establish a Carbon Credit Trading Scheme (CCTS). In July 2024, the Bureau of Energy Efficiency released compliance-mechanism guidelines for nine industries, enabling obligated and non-obligated entities to trade certified carbon credits, with a voluntary offset mechanism set to be detailed by end-2024 and first trades from 2025.

Thermax is aligning closely with these national ambitions. In FY 2024-25, it has surpassed its 25% $CO_2$ reduction target, achieving a 37% cut versus its 2019 baseline.

[1] IMF World Economic Outlook, April 2025
[2] World Economic Forum
[3] International Labour Organisation
[4] UN Trade and Development (UNCTAD)
[5] World Bank
[6] International Renewable Energy Agency
[7] Institutional Investors Group on Climate Change
[8] World Resources Institute
[9] Reserve Bank of India
[10] United Nations Framework Convention on Climate Change

## 2. Industry Overview

### Clean Energy and Environment Sectoral Review

India's environmental technology sector is experiencing robust growth, driven by government initiatives, corporate investments, and a focus on sustainable development. According to the ITA (International Trade Administration), the market was valued at approximately $23 billion in 2023 and will likely grow at a compound annual growth rate (CAGR) of 7.5% from 2023 to 2028. Key subsectors contributing to this growth include water and wastewater management, air pollution control, and solid waste management. India ranks as the second-largest market globally in the air pollution control segment, with the market projected to reach $6 billion by 2029. In 2024, the Indian government allocated $1 billion towards environmental initiatives.

India has emerged as the world's third-largest generator of electricity from wind and solar energy in 2024, surpassing Germany. Wind and solar power together accounted for 10% of India's total electricity output. In the 2024 Global Energy Transition Index, India improved its position to 63rd out of 120 countries, up from 67th in 2023, reflecting advancements in energy equity, security, and sustainability. India ranks first among emerging markets in the Climate Scope 2024 power ranking, with a power score of 2.73, highlighting its leadership in clean energy investments and policy frameworks.

**$1 Billion**

Allocated by Government Towards Environmental Initiatives

## 3. Company Overview

The Thermax Group, a Rs. 10,389 crore engineering conglomerate continues to play a pivotal role in the global energy transition and environmental sustainability journey. With a strong portfolio of solutions in clean energy, clean air, clean water, and chemicals, the Company delivers innovative and integrated utility solutions to a wide spectrum of industries worldwide.

In line with the growing global momentum towards decarbonisation and resource conservation, Thermax has intensified its focus on green and clean technologies, reinforcing its long-standing commitment to conserving resources and preserving the future.

As a comprehensive energy and environment solutions provider, Thermax also offers end-to-end support, including operations and maintenance services across all business verticals. This is complemented by specialised offerings such as retrofitting, revamping, upgrades, and audits. Further enhancing its capabilities, the Company has expanded its digital portfolio to deliver AI/ML-driven asset lifecycle management solutions, aligning seamlessly with its strategic vision for long-term sustainable growth and technological advancement.

### 3.1 Thermax Order Booking by Industry

During the year, sectors such as metals, steel, food and beverages, power, and mining were among the key contributors to Thermax's order book across its energy, environment and chemicals portfolio.

| Industries | FY 2024-25 | FY 2023-24 |
|---|---|---|
| Metals/Steel | 12% | 18% |
| Power | 10% | 6% |
| Mining | 10% | - |
| Food and Beverages | 9% | 11% |
| Chemical | 9% | 6% |
| Sugar/Distillery | 8% | 8% |
| Engineering | 6% | 7% |
| Fertiliser and Agro | 6% | 5% |
| Paper and Pulp | 5% | 1% |
| Refinery and Petrochemicals | 4% | 8% |
| Cement | 4% | 7% |
| Drugs and Pharmaceuticals | 4% | 3% |
| Textiles | 2% | - |
| Bio-CNG | 1% | 7% |
| Others | 10% | 13% |

## 4. Business Segments

**Industrial Products**

**Industrial Infra**

**Green Solutions**

**Chemicals**

The Management Discussion and Analysis (MDA) includes key subsidiaries that have a material impact on segmental performance. For detailed information on each subsidiary, please refer to AOC-1 on page 320.

## 4.1 Industrial Products

Industries today are grappling with three critical challenges: addressing climate change, ensuring access to clean energy, and overcoming water scarcity. At Thermax, our innovative solutions for clean air, clean energy, and clean water, combined with our digital platform, Thermax EDGE Live®, empower industries to embrace environmentally responsible practices and move decisively towards a more sustainable and cleaner future.

### Clean Air Solutions

**Overview**

Thermax provides advanced air pollution control (APC) systems for particulate and gaseous emissions. We offer broad-based, single-source expertise and flange-to-flange solutions in all areas of environmental protection – from products and systems for air pollution control to retrofit and rebuild services. We undertake turnkey environmental projects from concept to commissioning through tie-ups with technology majors and diverse industry sectors.

**Highlights**

- This year marked a significant milestone with the launch of the hydrogen purification system under Thermax Ne0, a specialised initiative for gas enrichment technologies. Acknowledging the critical role of hydrogen purity in enhancing green hydrogen efficiency, Thermax developed systems capable of removing residual impurities such as oxygen ($O_2$) and water ($H_2O$) following electrolysis. Using high-performance catalysts and adsorbents, the system delivers hydrogen purity above 99.999% with outstanding recovery rates.

**Growth Drivers**

- **Policy Push:** Strong government support for energy transition technologies such as solar, waste-to-energy, and bio-CNG is accelerating market opportunities.
- **Infrastructure Boom:** The ongoing infrastructure development is driving increased demand for cement and steel, boosting domestic (India) project volumes.
- **International Demand:** Rising waste-to-energy investments in companies are creating new avenues for growth. Additionally, growing demand for ESPs from biomass and sugar industries in Brazil, Central America, and Thailand is expanding international traction.

**Focus Areas**

- **Service Business:** Strengthening lifecycle support and driving growth through aftermarket services and customer-centric solutions.
- **International Business:** Expanding global footprint with targeted growth in Southeast Asia, Latin America and other emerging markets.
- **Gaseous Scrubbing Solutions:** Scaling offerings for solar, semiconductor, and waste-to-energy applications to address evolving environmental compliance needs.
- **Thermax Ne0 – Gas Enrichment Solutions:** Advancing clean air offerings through innovative gas purification and upgradation technologies under the Thermax Ne0 portfolio.

**Risks**

- **Cost Volatility:** Business is highly sensitive to fluctuations in commodity prices (e.g. steel), freight costs, and currency exchange rates.
- **Market Competitiveness:** Low product differentiation and minimal entry barriers may lead to increased competition and pricing pressure

**Mitigation plan:** To mitigate cost volatility, the business closely monitors commodity and freight markets, leverages strategic procurement, and adopts dynamic pricing mechanisms to safeguard margins. In response to rising competition, efforts are focused on enhancing product value through quality, service reliability, and brand strength, while driving operational efficiencies and expanding the value-added product portfolio to differentiate offerings and sustain market share.

**Case study**

**Demonstrating the Viability of VSA Technology at One of India's Largest Biogas Facilities**

Vacuum Swing Adsorption (VSA) technology has long faced scepticism in India due to concerns around adsorbent degradation, methane loss, and scalability. Challenging these perceptions, Thermax Ne0 (the gas enrichment solutions business of Thermax) successfully implemented an in-house developed VSA-based biogas upgradation unit at one of the country's largest biogas projects. The 2 TPD unit processes feedstock including cow dung, press mud, and paddy straw through a biodigester to generate raw biogas, which is then purified and upgraded. The result has been remarkable. The system consistently delivers enriched methane with over 96% purity, keeps methane slippage below 3%, and produces biomethane suitable for automotive fuel, which is compressed and supplied to CNG stations. This milestone not only validates the scalability and efficiency of VSA technology but also reinforces Thermax's leadership in sustainable gas enrichment solutions.

### Clean Energy Solutions

**Overview**

This vertical delivers a wide range of heating solutions, including packaged boilers, fired heaters, and turnkey process heating solutions that are designed for a variety of heating media such as steam, thermic fluid, hot water, and hot air. Our solutions extend to biomass-fired equipment and heat recovery solutions for clean energy production. We also offer energy-efficient chillers, heat pumps and process cooling equipment for environment-friendly cooling and heating solutions in industrial and commercial settings. Furthermore, we offer comprehensive operation and maintenance services to ensure the continued optimal performance of our solutions.

**Highlights**

**Heating:** The Heating business at Thermax has expanded its portfolio with a range of innovative and sustainable solutions designed to meet the evolving needs of customers across industries.

- Effitron is a compact, plug-and-play electric boiler, while GreenPac and GreenBloc offer low-density biomass-fired options for boilers and thermic fluid heaters. Thermeon-A is an upgraded solid fuel-fired steam boiler tailored for MSMEs. InstaHeat 2.0 delivers instant hot water using steam energy, ideal for quick-heating applications.
- To strengthen its customer engagement and bring greater focus to service delivery, Thermax introduced 'Thermax Serve'. It offers customer-centric solutions to improve the performance, reliability, and lifecycle of process heating systems.
- Thermax has launched the Biomass Centre of Excellence to deliver cutting-edge biomass-based heating solutions. Backed by deep fuel expertise, advanced combustion technologies, and continuous innovation, the centre is designed to accelerate our customers' energy transition journey with efficient and sustainable alternatives.
- Thermax's oldest manufacturing facility in Chinchwad, Pune, India, serving as the backbone for shell-type heating products since 1966, underwent an upgrade. The transformation introduces faster manufacturing cycles, increased automation, and improved safety standards.

**Cooling:**

- Thermax's Cooling business, under its dedicated growth unit SustainX, has expanded its portfolio with industrial heat pumps and industrial refrigeration packages, promoting them alongside its existing absorption cooling solutions. The launch of the hybrid CLCT (closed loop cooling tower) further strengthens its focus on energy and water efficient technologies for sustainable thermal applications.

**Growth Drivers**

- **Energy Transition and Fuel Shift:** Rising adoption of biomass and agro-based fuels, driven by global energy security concerns and decarbonisation goals.
- **Policy Support and Localisation:** Government incentives and initiatives under Make in India are boosting demand in key process industries.
- **Digital and AI Integration:** The growing adoption of AI and digital tools are creating opportunities for smarter, more efficient utility solutions.
- **Sectoral Manufacturing Growth:** Expansion in pharmaceuticals, F&B, chemicals, and textiles is fuelling demand for tailored process solutions.

**Focus Areas**

- **Geographic Expansion:** Enter new markets to diversify the portfolio and drive growth beyond existing geographies.
- **Segment-Specific Offerings:** Customised solutions for high-growth sectors like food, pharma, and chemicals to enhance relevance and impact.
- **Sustainability Leadership:** Strengthen leadership in biomass and electric heating, promote adoption through the Biomass Centre of Excellence, and focus on energy and water efficient solutions via SustainX.
- **Innovation and Service-Led Differentiation:** Continuous product innovation and strong after-sales support position the business as a long-term value partner.
- **Ecosystem Collaboration:** Build brand credibility and business pipeline through strategic partnerships with industry influencers, OEMs, consultants, and industry bodies.

**Risks**

- **Global and Local Competition:** Competitive pressure from well-established international players with advanced capabilities, as well as from emerging local manufacturers competing aggressively on price in cost-sensitive markets.
- **Fuel Price Fluctuations:** Impacting customer investment decisions in heating and energy solutions

**Mitigation Plan:** Our flexible, multi-fuel and renewable solutions help customers manage fuel costs, while constant innovation, digital capabilities, and strong service support help us address competitive pressures.

**Case study**

**Optimising Heating Systems for Particle Board Production with Thermax's High-Efficiency Energy Plant**

A leading player in the particle board manufacturing industry faced a complex challenge: the need for multiple heating media—thermic fluid, hot air/gas, and steam—across various stages of production, typically requiring separate boiler and thermic fluid systems. This conventional approach resulted in increased cost, higher energy consumption, and operational complexity.

To address this, Thermax implemented a 36 MW energy plant, a unique and integrated solution capable of delivering steam, thermal oil, hot water, and hot air from a single system with thermal efficiency exceeding 94%.

The solution streamlined operations by consolidating multiple heating systems, reducing equipment footprint, simplifying maintenance, and significantly improving cost-efficiency. The plant also lowered fuel consumption and operational redundancies, enhanced process reliability, and contributed to a more sustainable setup through reduced emissions and optimised heat recovery.

This project demonstrates Thermax's capability to deliver high-performance, energy-efficient heating solutions tailored for complex industrial needs.

94%

Thermal Efficiency Achieved

## Clean Water Solutions

**Overview**

The Company's Water and Waste Solutions (WWS) business assists industrial, commercial and residential establishments with products and services to purify, reuse and recycle water and treat sewage and effluents. We also provide seawater desalination solutions that reduce freshwater consumption and play a significant role in overcoming water scarcity. Additionally, we provide operation and maintenance services, ensuring the sustained efficiency of our solutions throughout their lifecycle. Our acquisition of TSA Process Equipments Pvt. Ltd. strengthened our portfolio in high-purity water systems, enabling us to deliver total water solutions.

**Highlights**

- The Water and Waste Solutions (WWS) division launched Biofilter Pro, a next-generation wastewater treatment system designed to address the growing challenges of sewage management in urban and industrial environments. With sewage treatment being critical to reducing pollution and conserving water, Biofilter Pro offers a sustainable, high-performance solution.

**Growth Drivers**

- **Modular Solutions:** Rising demand for plug-and-play water and wastewater treatment systems.
- **Water Reuse Mandates:** Government push for industrial water recycling and reuse.
- **Regulatory Pressure:** Stricter norms driving adoption of efficient wastewater treatment technologies.
- **Niche Growth Segments:** Increased demand in ethanol and high-purity water applications.

**Focus Areas**

- **Modular & Plug-and-Play Solutions:** Promoting compact, ready-to-deploy systems for pre and post water treatment needs.
- **Complex Effluent Treatment:** Delivering specialised solutions for challenging effluents, particularly from pharma and chemical sectors
- **Plant Upgrades:** Focusing on modernisation and retrofit projects to enhance plant efficiency and performance.
- **Digital Enablement:** Expanding digitalisation and remote monitoring capabilities for improved system control and service.
- **End-to-End Water Solutions:** Broadening the portfolio with new technologies to position as a comprehensive water management solutions provider.

**Risks**

- **Innovation & Competitive Dynamics:** Rapid technological innovation combined with increasing local competition may threaten market share.

**Mitigation Plan:** Continuous investment in R&D to innovate and upgrade our products, while strategically monitoring local market dynamics to adapt pricing and strengthen differentiation.

**Case study**

**Delivering an Integrated Desalination & Demineralisation Solution for a Pharmaceutical Manufacturer.**

A leading pharmaceutical company required a reliable water treatment solution to support its core processes, including drug manufacturing, boiler feed water, and utility applications.

To address this, a large-scale desalination plant with a capacity of 3 x 6.5 MLD (million litres per day) was commissioned to remove suspended solids, dissolved solids, and facilitate demineralisation. The treatment scheme comprised a stilling chamber, tube settler, gravity filter, ASCF, SWRO, BWRO and MB — all integrated into a PLC-based automated system. The phased installation and commissioning were completed seamlessly, ensuring the timely supply of desalinated and demineralised water essential for boiler commissioning. The plant also achieved lower power consumption through gravity filtration.

A successful performance guarantee test validated the system's efficiency, and the plant is currently operated by the Thermax's WWS O&M team, ensuring consistent performance and operational reliability.

## Industrial Products Overseas Subsidiaries

### Danstoker Group, Herning, Denmark

**Business Performance**

In FY 2024-25, the subsidiary registered a revenue growth of 5%, following a robust 38.9% growth in FY 2023-24. The order booking declined by 7%, compared to a modest increase of 2.1% in the previous year. Market dynamics have shifted notably over the past two years, largely due to the Ukraine conflict. With energy and gas prices stabilising, demand for biomass-fired plants has moderated. Additionally, a mild recession across Europe has led to restrained investment activity. Despite this, a strong order backlog at the beginning of the year has enabled revenue recognition and profit before tax (PBT) to remain at record highs.

**Key Solutions Provided**

- Solid fuel-fired (biomass and waste) boilers
- Electric boilers
- Waste heat recovery boilers
- Oil/gas-fired boilers

**Sustainable Growth Plan**

- Continued growth is likely in the electric boiler segment as wind energy becomes more integrated into the European grid.
- Ongoing emphasis on $CO_2$ emission reduction is driving demand.
- The biomass and waste biomass markets are also expected to see a resurgence despite stabilised gas prices.
- To capitalise on Europe's increasing demand for biomass and electric boilers.

**Geographical Footprint**

- Poland
- Nordic countries (Denmark, Norway, Sweden, Finland)
- Baltic countries
- Western Europe (France, Germany, the Netherlands, Belgium)

**Key Industries**

- Automotive
- Breweries
- Crematoriums
- Dairies
- District Heating
- Food and Beverages
- Pharmaceuticals
- Wood

**Order Highlights**

- Supplied three horizontal 1-pass exhaust gas steam boilers for a project in Yemen.
- Delivered 15 electric boilers across Finland, including three units of 5 MW each.
- Supplied a straw-fired plant for a project in Ukraine with a capacity of 20 TPH, 31 bar gauge pressure (barg), producing saturated steam.

### PT Thermax International, Indonesia (PT TII), Jakarta, Indonesia

**Business Performance**

In FY 2024-25, the subsidiary recorded a revenue increase of 21.6%, a strong recovery following a 29.3% decline in FY 2023-24. Order booking also grew by 14.8%, reversing the 41.7% drop in the previous year. This resurgence is attributed to a strategic emphasis on the services business, targeted market penetration across key sectors, and enhanced operational efficiencies.

**Key Solutions Provided**

- Process heating solutions including steam boilers, hot water and hot air generators, thermic fluid heaters, and steam accessories.
- Value-added services such as steam audits, retrofitting, and revamping of customer-owned equipment to enhance performance and extend asset life.

**Sustainable Growth Plan**

- Optimising local manufacturing operations to enhance capacity utilisation.
- Expanding market reach through competitively priced offerings and aggressive sales & marketing strategies.
- Strengthening the services portfolio by expanding offerings in retrofitting and revamping of boilers, heaters, and air pollution control systems.
- Maintaining a strong focus on customer service and retention.
- Building a robust network of channel partners and dealers to improve market visibility and accessibility.
- Establishing a chemical blending unit as part of expansion efforts.
- Reducing overall operational costs through strategic initiatives.
- Enhancing alignment and coordination with operations in India.

**Geographical Footprint**

- Indonesia
- Southeast Asia

**Key Industries**

- Agriculture and Allied
- Chemicals
- Food and Beverages
- Palm Oil
- Paper and Packaging
- Petrochemicals
- Pharmaceuticals
- Rubber
- Textiles
- Tobacco

**Order Highlights**

- Successfully executed a major order for a Korean edible oil company in Indonesia, which included the delivery of a 22 TPH biomass boiler and a first-of-its-kind 22 TPH oil & gas boiler with a floating furnace design, marking a significant technological milestone for PT Thermax.

MANAGEMENT DISCUSSION AND ANALYSIS

## Thermax Europe, Bletchley, United Kingdom

### Business Performance

The subsidiary's revenue declined by 31.7% in FY 2024-25, following a marginal growth of 1% in FY 2023-24. In contrast, order booking rose 14.1% during the year, reversing the previous year's 9% decline. The revenue dip was primarily due to ongoing disruptions in gas supply stemming from the Ukraine-Russia conflict, which severely affected the availability of natural gas for key projects. Furthermore, global LNG prices surged, driven by heightened exports from the USA and Qatar to meet European demand. Against this backdrop, absorption chillers utilising waste heat from on-site power generation have emerged as a viable and energy-efficient cooling solution.

### Key Solutions Provided

- Absorption chillers and heat pumps

### Sustainable Growth Plan

- In response to market volatility and rising energy costs in Europe, the strategic focus has shifted towards heat pumps and absorption refrigeration systems.
- Emphasis is being placed on harnessing waste heat recovery through hot water chillers.

### Geographical Footprint

- Eastern and Western Europe

### Key Industries

- District Heating
- Commercial Establishments

### Order Highlights

- Won a contract of significant value for a landmark infrastructure project in Belgrade. The project includes three turbines coupled with three high-capacity chillers of 8.5 MW each. These systems will provide chilled water for air conditioning across major facilities, including the airport, exhibition halls, office spaces, and data centres.

## Thermax Inc., Houston, USA

### Business Performance

In FY 2024-25, the subsidiary registered a revenue decline of 16.5%, compared to a sharper downturn of 31.6% in FY 2023-24. However, order booking improved, rising by 30.6%, a strong reversal from the 14.4% decline recorded in the previous year.

### Key Solutions Provided

- Sale and service of cooling and heating systems based on absorption technology.

### Sustainable Growth Plan

- Focused on advancing decarbonisation initiatives across the Americas (North, South, Central, and the Caribbean).
- Leveraging cutting-edge absorption technology integrated with on-site power generation, solar energy solutions, district heating and cooling networks.
- Emphasis on delivering energy-efficient solutions for both process-integrated and discrete industrial heating and cooling applications.

### Geographical Footprint

- Americas (North, South, Central, and the Caribbean)

### Key Industries

- Chemicals
- Commercial Establishments
- Data Centres and Information Technology
- Food and Beverages
- Hotels, Resorts and Hospitals
- Oil & Gas
- Pharmaceuticals
- Universities, Schools and Colleges

### Order Highlights

- Installed a steam-driven two-stage absorption chiller at a prominent aerospace and defence establishment.
- Delivered a specialised chiller providing 1.5°C cooling using steam from an HRSG (heat recovery steam generator) connected to a gas turbine, without antifreeze for a global dairy processing company.
- Commissioned a first-of-its-kind hot water-driven chiller in Puerto Rico that delivers 0°C glycol-water cooling for the production of critical medical products.

## Domestic (Indian) Subsidiaries

## TSA Process Equipments, Mumbai, India

### Business Performance

In FY 2024-25, the focus was on integrating the newly acquired TSA Process Equipments into the Thermax ecosystem. Business momentum in the first half was relatively subdued due to capacity enhancement activities at TSA's manufacturing facility. Order inflow picked up in the second half of the year.

### Key Solutions Provided

- Pure water generation systems
- Pure steam generation systems
- Water for injection plants
- Multi column distillation units
- Custom process vessels
- Steam sterilisers
- Utility water storage and distribution systems

### Sustainable Growth Plan

- Explore opportunities in autoclave based sterilisation systems.
- Expand the channel network via Thermax Channel Associates (TCAs).
- Enhance global reach leveraging the Thermax International Business Group (IBG).
- Deepen collaboration with Industrial Products business of Thermax for integrated offerings.

### Geographical Footprint

- Global

### Key Industries

- Biotechnology
- FMCG
- Food & Beverages
- Semiconductors
- Pharmaceuticals

### Order Highlights

- Commissioned 25 international and 34 domestic (India) sites.

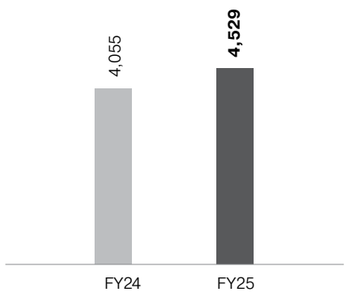
## Performance of the Industrial Products Segment in FY 2024-25

In FY 2024-25, the Industrial Products segment accounted for 42.3% of the Group's gross operating revenue, compared to 41.9% in FY 2023-24. The net operating revenue for FY 2024-25 stood at Rs. 4,529 crore, as against Rs. 4,055 crore in the previous year. The segment profit for the period was Rs. 529 crore, up from Rs. 397 crore in FY 2023-24. Order booking for FY 2024-25 stood at Rs. 5,077 crore, reflecting an increase from Rs. 4,329 crore recorded in the previous year. Revenue growth was driven by high-performing business portfolios such as water solutions, air pollution control, and heating solutions, further supported by cooling products and international subsidiaries like Danstoker.

### Industrial Products

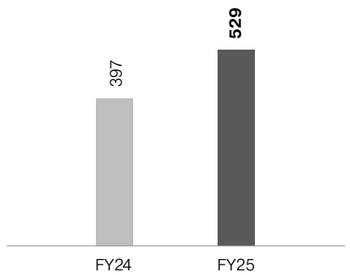
**Revenue**

(in Rs. crore)



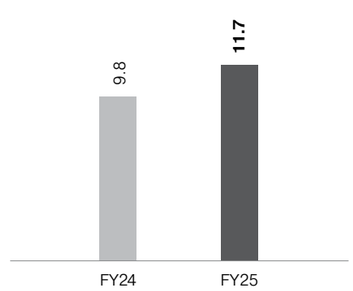

**Profit***

(in Rs. crore)




**Profit Margin***

(%)




* Segment PBIT before exceptional and unallocated overheads

## 4.2 Industrial Infra

Our Industrial Infra segment supports industries in meeting their energy needs and encompasses our Projects and Energy Solutions (P&ES), Thermax Bioenergy Solutions Private Limited (TBSPL), and Thermax Babcock & Wilcox Energy Solutions (TBWES) businesses.

### Clean Energy Solutions

### Projects and Energy Solutions (P&ES)

#### Overview

P&ES provides turnkey power solutions, including captive power plants, cogeneration systems, waste heat recovery plants, and independent power plants under EPC (engineering, procurement, and construction) model. These plants utilise a wide range of renewable fuels and energy sources. P&ES' offerings also include sulphur recovery block installation and flue gas desulphurisation (FGD) systems to capture SOx emissions from fossil fuel based power plants. Additionally, it provides solutions based on conventional fuels to cater to diverse energy needs and preferences.

The O&M (operations and maintenance) arm of P&ES provides services for power plants, process plants, utility equipment and FGD (flue gas desulphurisation) plants while delivering efficiency and reliability in a safe and compliant environment.

#### Highlights

- P&ES' small power plant business diversified into the waste-to-energy segment, providing turnkey EPC solutions.
- P&ES' O&M business forayed into the emerging distillery sector, expanding our footprint in managing complex energy systems for process industries.
- The medium power plant business debuted in the 1G ethanol production space, supporting India's energy transition and biofuel mission.

#### Growth Drivers

- **Expansion in Core Industries:** Capacity additions in refineries and steel are unlocking new project opportunities and infrastructure demand.
- **Policy Push for Sustainability:** Strong government focus on biofuels and net zero goals is accelerating the shift towards clean energy and green technologies.
- **Outsourcing Momentum:** Increasing reliance on outsourced expertise is creating demand for integrated, end-to-end solutions and service partnerships.
- **Digital Acceleration:** The rise of digitalisation is fuelling the need for smart, connected, and data-driven operations across industries.

#### Focus Areas

- **Global Expansion & Green Energy:** Expanding EPC offerings to international markets while exploring opportunities in unconventional fuels and renewable energy.
- **Investment in Digital Services:** Strengthening value-added service offerings through investments in IIoT solutions, remote assistance technologies, and automation to enhance customer experience and operational efficiency.
- **Project Management and Execution Excellence:** Driving execution excellence through robust project management, digital enablement, and seamless cross-functional coordination to ensure on-time delivery, superior customer experience, and successful execution of large-scale, complex projects.

#### Risks

- **Large Project Risk:** Execution complexity and risks increase with the scale and scope of large projects, impacting timelines and outcomes.

  **Mitigation Plan:** Please refer to the Risk Management section on page 30.

## Industrial Infra Domestic (Indian) Subsidiaries

### Thermax Babcock & Wilcox Energy Solutions Limited (TBWES), Pune, India

**Overview**

TBWES offers a comprehensive range of equipment and solutions for steam generation to meet both process and power needs. These solutions are powered by a wide variety of fuels, including solid, liquid, gaseous, agro-based waste, and municipal solid waste. TBWES also leverages waste heat recovery from industrial processes and turbine/engine exhaust to maximise energy efficiency.

In addition to boilers, TBWES provides specialised heaters for critical applications across the chemical, petrochemical, and refinery sectors.

The Services division of TBWES supports customers regardless of make or capacity with end-to-end solutions for plant performance improvement including capacity enhancement, fuel conversions, reliability upgrades and idle asset re-energising. It also offers spares, plant services, testing & reliability assessments including asset integrity, and digital tools such as Thermax EDGE Live® for real-time insights and performance optimisation of industrial assets.

**Highlights**

- Secured key clean energy orders across cement, steel, paper, waste management, sugar, distillery, and textile sectors, supporting carbon reduction goals.
- Expanded presence in Southeast Asia, Africa, Europe, and Latin America through high-impact project execution.
- Enhanced digital deployment to boost asset performance and improve efficiency and reliability.

**Growth Drivers**

**Leveraging Energy Transition:** The ongoing shift toward cleaner energy presents an opportunity for TBWES to apply its technology, capabilities, and expertise to create impactful solutions for customers.

- **Internationalisation:** Expanding global footprint by leveraging engineering strengths, forging strategic partnerships, and tapping into emerging markets with high industrial energy demand.
- **Sector-Led Domestic Growth:** India's strong growth in steel, cement, and utilities, including waste-to-energy, is driving demand for advanced energy offerings.
- **Focus on Sustainability:** An increasing emphasis on energy efficiency, conservation, and carbon reduction is creating space for high-impact, value-accretive solutions.

**Focus Areas**

- **Technology and Service Innovation:** Drive new developments across the technology group. and value-added services, with a strong focus on digital offerings.
- **Execution Excellence:** Prioritise superior execution and improve cost competitiveness to enhance overall delivery and customer satisfaction.

**Risks**

- **Large Project Risk:** Execution complexity and risks increase with the scale and scope of large projects, impacting timelines and outcomes.

**Mitigation Plan:** Please refer to the Risk Management section on page 30.

**Business Performance**

In FY 2024-25, TBWES recorded a modest revenue growth of 0.6%, following a 6.4% increase in FY 2023-24. Notably, order bookings surged by 55%, marking a strong recovery from the 10.6% decline in the previous year. This growth was driven by major export orders and robust performance across product groups, particularly in waste heat recovery and waste-to-energy solutions.

**Sustainable Growth Plan**

- Strengthening international presence by tapping into new markets and geographies.
- Advancing sustainable technologies in the waste-to-energy space, with a focus on biomass combustion solutions.
- Enriching the service portfolio with value-added offerings to support customers in their energy transition journey.
- Driving initiatives to improve cost competitiveness and operational efficiency.
- Scaling the deployment of Thermax EDGE Live® to enhance the performance of industrial assets through smart analytics and AI.

**Geographical Footprint**

- Asia
- Southeast Asia
- Middle East
- Africa
- Latin America
- Europe

**Key Industries**

- Cement
- Chemicals
- Distillery
- Fertilisers
- Non-Ferrous Metals
- Paper
- Petrochemicals
- Power
- Refinery
- Steel
- Sugar
- Textiles

**Order Highlights**

- Secured a landmark order for 3 x 80 TPH reciprocating grate boilers designed to fire 100% biomass (paddy straw), a first-of-its-kind installation for a textile major in the northern part of India.
- Won a breakthrough order for a 1 x 47 TPH sinter cooler waste heat recovery (WHR) boiler from a steel manufacturer in West India.
- Received an order for 2 x 60 TPH refuse-derived fuel (RDF) fired boilers from a leading waste-to-energy developer in North India.

**Case study**

**Waste-to-Energy Boiler for a Paper Products Manufacturer**

TBWES successfully commissioned a 15 TPH multi-fuel fired reciprocating grate waste-to-energy (WTE) boiler for a leading paper products manufacturer. The boiler is designed to fire non-recyclable solid waste (NRSW), biomass, and sludge to generate steam for the customer's process requirements.

The scope encompassed design, engineering, procurement, manufacturing, testing, transportation, and erection & commissioning.

To meet the customer's requirement of incinerating solid waste with varying characteristics, TBWES engineered a customised saturated Flexisource™ WTE boiler capable of handling fuels with gross calorific values ranging from 1,000 to 3,700 kcal/kg.

This first-of-its-kind solution in the paper industry featured an innovative enhancement—an additional tumbling action zone after the drying section of the grate. This modification improved fuel mixing, aeration, and combustion uniformity, while significantly reducing clinker formation on the grate and refractory walls, thus enhancing overall combustion efficiency.

The project execution strategy was optimised early on to anticipate and accommodate potential delays from both TBWES and the customer. This proactive approach enabled timely delivery and strong execution support, resulting in high customer satisfaction.

TBWES' WTE solutions are gaining increasing traction as sustainable and cost-effective alternatives in the paper industry, both in India and international markets.

## Thermax Bioenergy Solutions Private Limited (TBSPL), Pune, India

### Overview

TBSPL specialises in setting up and operating bio-CNG plants under the EPC model in partnership with global technology providers. It offers end-to-end solutions for producing bio-CNG from diverse waste sources, including biomass, agricultural waste, municipal solid waste, and food processing waste. With a vision to become a preferred partner in the industry, it is committed to making clean and sustainable energy more accessible while promoting a circular economy.

### Highlights

- TBSPL's bio-CNG plants collectively produced approximately 6,200 tonnes per day of compressed biogas during FY 2024-25.
- Secured business confirmation for an operations and maintenance (O&M) contract from a leading Indian conglomerate, strengthening service revenue streams.
- Achieved market leadership in its segment, based on per day bio-CNG production, for large capacity plants (>10 TPD).
- Produced approximately 1,500 tonnes of fermented organic manure (FOM) in Q4 FY 2025, contributing to sustainable agricultural practices.
- Built extensive operational experience with diverse feedstocks, including rice straw, press mud, cow dung, municipal solid waste, napier grass, and soya stalk.

### Growth Drivers

- **Mandatory Bio-CNG Blending Targets:** Regulatory mandates requiring oil marketing companies to blend 1% bio-CNG starting FY 2025-26, increasing to 5% by FY 2028-29, are expected to drive significant demand.
- **State-Level Policy Support:** Several states are promoting bio-CNG initiatives; for example, Andhra Pradesh (India) has introduced an Integrated Clean Energy Policy offering incentives and subsidies for setting up bio-CNG plants.

### Focus Areas

- **Strengthen O&M Capabilities:** Build expertise to ensure reliable and efficient plant operations.
- **Enable Remote Monitoring:** Use of digital tools for real-time performance tracking and optimisation.
- **Maximise Efficiency:** Enhance plant output by operating at peak capacity.

### Risks

- **Operational and Technology Challenges:** Bio-CNG production technology encountered reliability and performance issues during scale-up and continuous operations. Uncertainties around technology standardisation, system integration, and ecosystem readiness also delayed adoption and impacted project viability

  **Mitigation Plan:** To address operational and technology challenges, we are enhancing plant design, investing in advanced technologies, and leveraging operational insights to improve reliability and performance.

### Business Performance

TBSPL recorded a revenue growth of 115% in FY 2024-25, following a high growth base of 451% in the previous year. However, order bookings saw a significant decline of 89%, largely due to delays in order finalisation by key customers. The Company remains cautiously optimistic about a recovery in Q1 of FY 2025-26, with a healthy pipeline currently under evaluation.

### Sustainable Growth Plan

- Strengthen presence across key Indian markets by expanding manufacturing and operational footprint.
- Forge alliances to offer integrated bio-CNG solutions and promote sustainability and circularity.
- Create employment opportunities for local communities through on-ground projects.
- Invest in technology development and research to improve plant efficiency and scalability.
- Build O&M capabilities, including asset and lifecycle management services to ensure long-term reliability and performance of bio-CNG facilities.

### Geographical Footprint

- India (Punjab, Uttar Pradesh, Gujarat, Delhi-NCR, Madhya Pradesh and Maharashtra).

### Key Industries

- Oil & Gas
- Transportation (bio-CNG as a mobility fuel)

### Order Highlights

- Secured a bio-CNG project order in Prayagraj, Uttar Pradesh, India, based on municipal solid waste (MSW) feedstock. The project will contribute to sustainable energy generation and effective waste management.

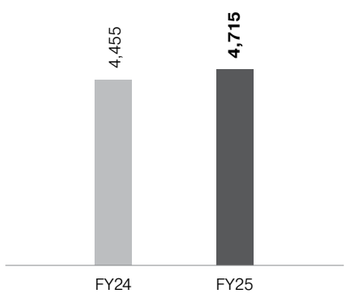
## Performance of the Industrial Infra Segment in FY 2024-25

In FY 2024-25, the Industrial Infra segment contributed 44.1% to the Group's gross operating revenue, compared to 46% in FY 2023-24. The segment reported a net operating revenue of Rs. 4,715 crore, up from Rs. 4,455 crore in the previous year, while the segment profit stood at Rs. 110 crore, down from Rs. 209 crore. The revenue growth was driven by carry-forward orders in the project businesses of TBSPL and P&ES. Order bookings for the year were Rs. 4,247 crore, an increase from Rs. 4,100 crore in FY 2023-24. Profitability was impacted due to the recognition of higher technology intervention costs in bio-CNG projects.

### Industrial Infra

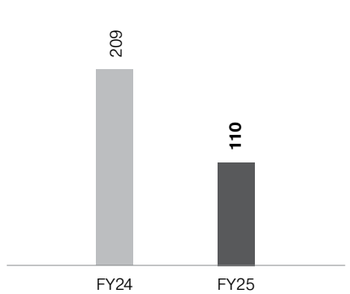
**Revenue**

(in Rs. crore)



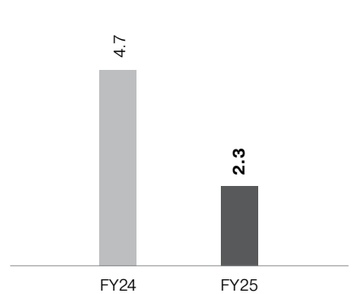

**Profit***

(in Rs. crore)




**Profit Margin***

(%)




* Segment PBIT before exceptional and unallocated overheads

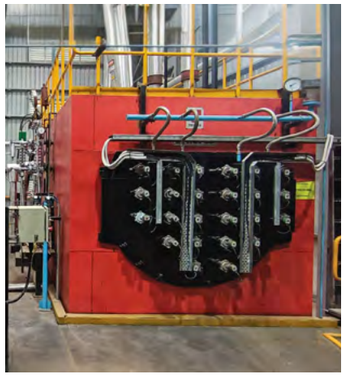
## 4.3 Green Solutions

The Green Solutions segment comprises subsidiaries, including Thermax Onsite Energy Solutions Limited (TOESL) and First Energy Private Limited (FEPL), which deliver opex-based green utilities and renewable energy solutions through a build-own-operate model. While capital-intensive at the outset for Thermax, these long-term (10-25 years) industrial engagements offer stable cash flows over time.

Thermax sets up projects for customers under long-term, fixed-price contracts. However, interest rate fluctuations affect funding costs, which can impact profitability. In FEPL's case, customer default risk is mitigated by tapping alternate off-takers at competitive prices. For TOESL, customer default could result in stranded assets. Therefore, careful customer selection is critical to de-risking operations for both these entities.

## Green Solutions Domestic (Indian) Subsidiaries

### Thermax Onsite Energy Solutions Limited (TOESL), Pune, India



**Overview**

Thermax Onsite Energy Solutions Limited (TOESL), a wholly-owned subsidiary of Thermax Limited, provides outsourced utility solutions, including steam, heat, chilled water, treated water, power, and solar energy through the build-own-operate (BOO) business model.

**Highlights**

- In FY 2024-25, TOESL sourced 4.59 lakh metric tonnes (MT) of biomass across 43 operational sites in India and Sri Lanka—equivalent to 1,354 MT per day. This biomass was purchased from an estimated 6.74 lakh acres of agricultural land, positively impacting the livelihoods of over 11 lakh farmers.

**Growth Drivers**

- **Sustainability Push:** EU's proposed carbon tax on exports and pressure from global buyers are driving demand for green energy.
- **Innovation:** Developing new technologies, applications and markets organically.
- **Global Foray:** Strategic international expansion.
- **Fuel Security:** Backward integration by developing alternative fuels, farm-level linkages, and dedicated fuel infrastructure.

**Focus Areas**

- **Sustaining Domestic Growth:** Continue building momentum in biomass-based steam and heat segments to strengthen domestic market presence.
- **Expanding the Green Solutions Portfolio:** Diversify into emerging sustainable avenues such as treated water, biomass gasification, bio-CNG, and RDF-based solutions.

**Risks**

- **Macroeconomic Uncertainty:** Economic slowdowns may impact industrial capital expenditure and delay investments in sustainability initiatives.
- **Commodity Price Volatility:** Fluctuations in commodity prices can affect capital equipment costs, impacting project viability and margins.
- **Biomass Dependency:** High reliance on biomass poses risks related to feedstock availability, quality, and price fluctuations.
- **Competitive Fossil Fuel Pricing:** Lower prices of fossil fuels like coal and natural gas can reduce the cost advantage of renewable energy solutions.

**Mitigation Plan:** We stay agile to macroeconomic shifts by aligning with customer investment cycles. Strategic sourcing and flexible pricing help manage commodity volatility. To reduce biomass dependency risks, we diversify feedstock, strengthen supplier partnerships and establish dedicated briquetting facility.

### Business Performance

In FY 2024-25, TOESL recorded a 23% revenue growth, lower than the 31% achieved in FY 2023-24. Order bookings rose by 26%, marking a strong recovery from the 50% decline in the previous year. The commissioning of eight new sites significantly contributed to topline growth, reflecting robust operational execution and rising demand for green utilities.

### Key Solutions Provided

- Supplies green utilities such as steam, heat, treated water, and cogeneration power via a build-own-operate (BOO) model.
- Invests in infrastructure, commissions, and manages utility plants throughout their lifecycle at the customer's premises.
- Offers end-to-end O&M services, along with fuel and consumables supply chain management.
- Enables customers to focus on core manufacturing by outsourcing utility management.

### Sustainable Growth Plan

- To help customers achieve ESG targets by reducing fossil fuel dependency and freshwater usage, having already enabled a reduction of over 1.6 million tonnes of $CO_2e$.
- To strengthen its portfolio through backward integration, digitalisation, and strategic partnerships.
- Explore selective international expansion, building on core capabilities.
- Diversify offerings to include bio-CNG, biomass gasification, and water and wastewater solutions under the BOO model.

### Geographical Footprint

- South Asia (India, Sri Lanka, Bangladesh).
- Southeast Asia (Indonesia, Philippines, Thailand, Malaysia).

### Key Industries

- Automotive
- Chemicals
- Food & Beverages
- Pharmaceuticals
- Textiles

### Order Highlights

- Executed its first green steam project in Sri Lanka: 20 TPH biomass boiler for a global food major.
- Commissioned two major 22 TPH biomass boiler projects, one each in Karnataka and Punjab, for a global food major.
- Delivered green steam projects for a repeat confectionery customer in Uttarakhand.
- Commissioned a biomass boiler for a pharmaceutical major in Gujarat.

**Case study**

**Green Steam Supply to a Global Food MNC with Five Projects under Build-Own-Operate by TOESL**

A global food major partnered with TOESL to transition from natural gas to 100% agro-waste biomass-fired boilers at its plant in Gujarat — the customer's first global facility on the build-own-operate (BOO) model.

Commissioned in September 2021 with two biomass boilers, the facility added a third in November 2024. Impressed by the model's performance, the customer extended the partnership to four more sites, totalling to eight boilers.

The Gujarat plant features high-efficiency, multi-fuel reciprocating grate boilers with advanced systems like Danblast for uptime and regulatory-compliant pollution controls. For the plant in Karnataka commissioned in July 2024, in addition to biomass boilers, TOESL also offered integrated steam based heat pump for boiler feed water heating by using cooling water waste heat. The Punjab project, commissioned in October 2024, replaced coal with rice stubble briquettes, aiding renewable energy goals and air pollution reduction. TOESL also set up a paddy straw pelleting unit sourcing from over 18,000 acres.

In Sri Lanka, despite regulatory and labour hurdles, TOESL successfully commissioned the plant in October 2024 with Sri Lanka Standards Institution (SLSI) certified vendors and a customised wood chipping unit.

Across the four sites, this BOO model enables annual savings of Rs. 45+ crore and over 1.37 lakh tonnes of $CO_2e$ emissions reduction, while ensuring long-term biomass fuel security.

## First Energy Private Limited (FEPL), Pune, India

### Overview

First Energy Private Limited (FEPL), a Thermax Group company, is at the forefront of enabling customers' transition to renewable energy. FEPL provides sustainable power solutions across solar, wind, wind-solar hybrid, and battery storage technologies for the commercial and industrial (C&I) sectors. Backed by an extensive EPC experience, it offers multiple engagement models for power delivery, including capex and inter and intra-state open access on an opex basis, alongside operations and maintenance services across Asia, Southeast Asia, and Africa.

### Highlights

- Cumulative C&I acquisition of 292 MWp equivalent as on March 31, 2025.
- Secured ISTS (inter-state transmission system) connectivity for 300 MW across Andhra Pradesh, Tamil Nadu, and Rajasthan, comprising 200 MW of solar and 100 MW of wind capacity, facilitating the development of central transmission utility (CTU) connected ISTS projects.
- Orders from diverse sectors, including chemicals and toys, indicating a broadening customer base.
- Orders span across key industrial clusters in Maharashtra, Gujarat, Tamil Nadu, Andhra Pradesh, and Rajasthan, reflecting the company's expanding geographical footprint.

### Growth Drivers

- **Integrated Offerings:** End-to-end energy solutions with long-term engagements.
- **Renewable Mix:** A balanced portfolio of solar, wind, hybrid, and storage solutions caters to diverse energy needs across sectors.
- **Strategic Footprint:** Presence in key states like Maharashtra, Gujarat, Tamil Nadu, Andhra Pradesh, and Rajasthan ensures proximity to major industrial clusters.
- **Robust Backing:** Strong financial and technical support enables efficient execution of large-scale, capital-intensive projects.

### Focus Areas

- **Renewable Energy Projects:** Continued development of renewable captive power plants, including solar, wind, hybrid, high capacity utilisation factor (CUF) wind-hybrid and round-the-clock storage solutions, to meet the growing energy demands of industries.
- **CTU Connectivity:** Exploring opportunities to connect large power projects with the CTU to enhance grid integration and energy distribution.
- **Project Execution:** Driving timely and cost-efficient project execution with a focus on quality, safety, and customer satisfaction.
- **Sustainable Practices:** Commitment to reducing India's carbon footprint through the implementation of sustainable energy solutions.

### Risks

- **Project Execution Delays:** Delays in project commissioning due to site constraints, approvals, or supply chain disruptions can impact revenue timelines and customer confidence.
- **Force Majeure:** Natural disasters, extreme weather conditions, or unforeseen events can disrupt operations and impact asset performance and real-time monitoring.
- **High Competition:** Intense market competition and limited differentiation can pressure pricing and margins.

**Mitigation Plan:** We focus on early project development, enforce credit checks for EPC partners, and strengthen project, procurement, and contract management. Force majeure impacts are minimised through resilient infrastructure design and continuous site monitoring.

### Business Performance

In FY 2024-25, FEPL recorded a revenue growth of 64%, following a significant 2,609% surge in FY 2023-24. However, order booking declined by 21% this year, in contrast to a strong 193% growth in the previous year.

### Key Solutions Provided

FEPL delivers tailored renewable energy solutions that align with diverse industry requirements, applications, and energy goals. The company manages the entire energy value chain—from behind-the-meter generation to beyond-the-meter distribution—ensuring customers receive reliable and uninterrupted green power 24/7 throughout the year.

### Sustainable Growth Plan

FEPL aims to expand its footprint by establishing captive renewable energy plants, including solar, wind, hybrid, and battery storage systems, to meet industrial energy demands while contributing to national decarbonisation goals. Future plans include exploring central transmission utility (CTU) connectivity for larger projects, partnering with credible entities, tapping into carbon markets, and adopting new technologies to drive process automation and efficiency.

### Geographical Footprint

FEPL operates across key industrial states in India, including Maharashtra, Gujarat, Tamil Nadu, Andhra Pradesh, and Rajasthan.

### Key Industries

The Company serves a wide range of industrial clusters.

### Order Highlights

- Commissioned a total of 213.5 MWp under open access projects till date. In FY 2024-25, the capacity stands at:
  - 24 MW of wind
  - 19.5 MWp of solar
- 2.8 MWp of solar capacity commissioned under capex EPC during FY 2024-25.

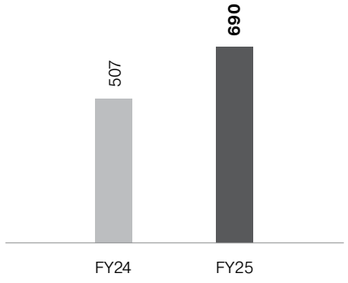
## Performance of the Green Solutions Segment in FY 2024-25

In FY 2024-25, the Green Solutions segment contributed 6.4% to the Group's gross operating revenue, up from 5.2% in FY 2023-24. The segment's net operating revenue rose to Rs. 690 crore, compared to Rs. 507 crore in the previous year. The segment's loss reduced to Rs. 1 crore from Rs. 7 crore in the previous year. Order bookings declined to Rs. 225 crore from Rs. 241 crore. This performance was primarily driven by revenue from newly commissioned operational sites under TOESL and FEPL.

**Green Solutions**

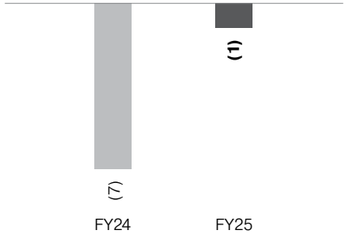
**Revenue**

(in Rs. crore)



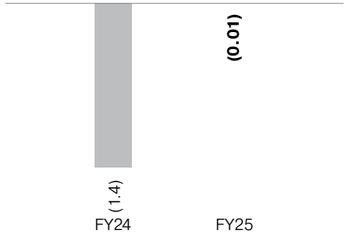

**Profit***

(in Rs. crore)




**Profit Margin***

(%)




Profit* and Profit Margin* – Segment PBIT before exceptional and unallocated overheads

## 4.4 Chemicals

Thermax's Chemicals business delivers performance-engineered solutions that enhance industrial processes and optimise product performance across a wide range of sectors. Recognised as a leading manufacturer and exporter of Tulsion® ion exchange resins, the business also provides advanced solutions in fuel and water treatment, oilfield chemicals, and a comprehensive range of construction chemicals, including concrete admixtures, industrial flooring, sealants, and adhesives. With over five decades of expertise, a strong dealer network, and state-of-the-art manufacturing facilities, the Chemicals business serves customers across India, the USA, Europe, and Southeast Asia. Backed by robust R&D and a deep commitment to innovation, Thermax's chemical solutions empower customers to achieve greater efficiency, reliability, and environmental performance, building a better tomorrow.

### Highlights

- **New Subsidiary:** Incorporated Thermax Chemical Solutions Private Limited (TCSPL) to accelerate focused growth in the chemicals sector.
- **Strategic Partnership with Vebro Polymers:** Established Thermax Vebro Polymers India Pvt. Ltd. to tap into the industrial and commercial flooring market (TCSPL: 50.1%, Vebro: 49.9%).
- **Overseas Expansion:** Initiated construction of a new manufacturing facility in Cilegon, Indonesia, for water treatment chemicals.
- **Buildtech Acquisition:** Signed an agreement to acquire Buildtech Products India Pvt. Ltd. (~ Rs. 72 crore), expanding the construction chemicals portfolio.
- **Global Partnership with OCQ:** Partnered with Oswaldo Cruz Química (OCQ) from Brazil (Thermax: 51%, OCQ: 49%) to produce advanced resins and polymers.
- **European Market Entry:** Formed Thermax Chemical Europe A/S to strengthen presence in the European region.

### Growth Drivers

- **Make in India Push:** Government initiatives promoting domestic manufacturing of specialty chemicals.
- **Infrastructure Boom:** Urbanisation and mega infrastructure projects are increasing the demand for construction chemicals such as admixtures, grouts, and flooring solutions.
- **Rising Investments:** Public and private sector investment in roads, railways, ports, and industrial projects is fuelling demand for performance chemicals across sectors.

### Focus Areas

- **Strengthening the Core Portfolio:** Boost capabilities and reach in water treatment, specialty chemicals, and construction solutions.
- **Expansion into New Segments:** Grow via adjacent markets, partnerships, and green chemistry innovation.
- **Go Global:** Enter new geographies to diversify and scale growth beyond existing geographies.

### Risks

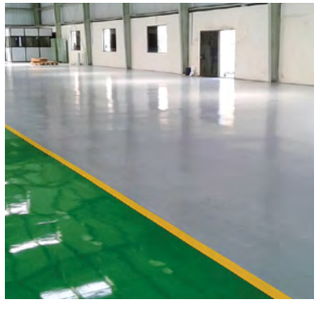
- **Market Disruptions:** Geopolitical uncertainty and raw material volatility may disrupt supply chains, increase input costs, and affect production schedules and margins.

  **Mitigation Plan:** Risks are be mitigated by diversifying suppliers, managing inventory strategically, and using long-term contracts to stabilise costs and ensure supply continuity.

### Case study

**Enhancing OT Safety and Hygiene with ESD Resin Flooring**

Thermax Vebro Polymers partnered with Perfect Engitech & Healthcare Solutions Pvt. Ltd. to pilot the installation of Vebrostatic ESD SL resin flooring in a leading Indian hospital's operating theatres. Replacing traditional Kota stone, the new system features a 2.0 mm epoxy primer topped with a 1.0 mm conductive Vebro EP ESD SL finish, creating a seamless, joint-free surface 3.0 mm thick. This flooring rapidly dissipates electrostatic charges to safeguard sensitive medical equipment while providing a hygienic, easy-to-disinfect surface ideal for surgical environments. The successful pilot exceeded performance and cleanliness benchmarks, earning the local health authority's approval for a full hospital-wide rollout.



## Chemicals Overseas Subsidiary

### Thermax Inc., Houston, USA


### Business Performance

In FY 2024-25, Thermax Inc.'s revenue grew by 0.3%, compared to a 16.8% decline in FY 2023-24.
The order booking increased by 1.8%, following a 1.1% drop in the previous year. While there was an uptick in the numbers, the performance was not as per expectation, primarily due to delays in municipal projects during the U.S. election year, further compounded by recessionary pressures in the American market. Additionally, the Red Sea crisis has disrupted global logistics, significantly extending shipping times from India to U.S. ports since November 2024.

### Key Solutions Provided

- Sales and distribution of ion exchange resins, supporting water and process treatment applications.

### Sustainable Growth Plan

- Expand market presence in Brazil and Mexico through distributor networks, with a focus on mixed bed applications.
- Form strategic alliances to broaden the product portfolio.
- Target specialty and industrial deionisation opportunities in North America, especially in the pulp & paper sector, including UPS and mixed bed-resin applications.

### Geographical Footprint

- North, South, and Central America

### Key Industries

- Chemicals
- Commercial
- Electronics
- Food & Beverages
- Oil & Gas
- Paper & Pulp
- Petrochemicals
- Sugar
- Urban/Municipal

### Order Highlights

Thermax Inc. successfully supplied adsorbent resins for two key customers in the food and beverage sector. The resins proved highly effective in fruit juice de-bittering, paving the way for significant opportunities in the South American market.

## Chemicals Domestic (India) Subsidiaries

### Buildtech Products India Private Limited, Delhi, India

**Business Performance**

Following the acquisition on December 17, 2024, Buildtech Products has smoothly transitioned into Thermax's fold. Within four months, the team successfully took over business operations, secured source approvals for four new projects, and initiated the approval process at the sleepers' plant, aiming to expand market share.

**Key Solutions Provided**

- Admixtures
- Waterproofing Solutions
- Resin Capsules
- Grouts and Sealants
- Synthetic Fibres
- Powder Accelerators
- Curing Compounds

**Sustainable Growth Plan**

Encouraged by the strong market response and successful execution of multiple projects in both highway and metro rail segments, we have set an ambitious growth target of over 50% in sales compared to the base year FY 2025-26.

**Geographical Footprint**

- India

**Order Highlights**

- Source approvals obtained for Srinagar-Baramulla-Uri road project and Pathankot-Mandi road project.

**Key Industries**

- Underground Infrastructure
- Railway Sleeper Manufacturing

### Thermax Vebro Polymers India Private Limited, Chennai, India

**Business Performance**

The shareholders' agreement with UK-based Vebro Polymers was officially announced in the Indian market in July 2024, marking its entry with promising traction across key sectors.

**Key Solutions Provided**

The collaboration delivers customised resinous polymer flooring solutions engineered to meet industrial and commercial floor performance requirements and lifecycle costs.

**Sustainable Growth Plan**

Encouraged by the positive market response, the company has set an ambitious growth target of 3x growth in Q1 FY 2025-26 compared to Q4 FY 2024-25.

**Geographical Footprint**

- India (Andhra Pradesh, Karnataka, Gujarat, and Meghalaya)

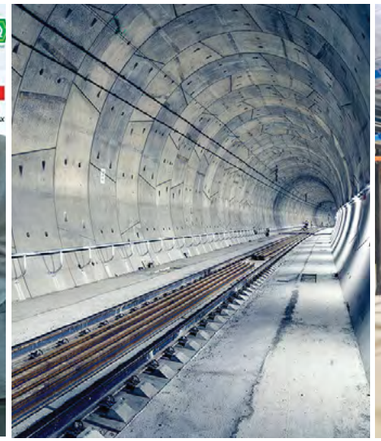
**Key Industries**

- Food & Beverages
- Pharmaceuticals
- Textiles
- Automotive
- General Manufacturing
- Stadia & Airports
- Commercial Complexes (Malls, Institutions)
- Healthcare and Education (Hospitals, Clinics, Schools, College Labs)

**Order Highlights**

- Secured an order from a leading beverage manufacturer in Meghalaya for the supply and installation of a polyurethane flooring system.

## Performance of the Chemicals Segment in FY 2024-25

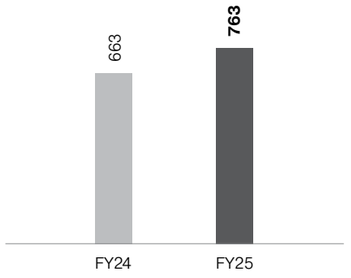


The Chemicals segment contributed 7.1% to the Group's gross operating revenue in FY 2024-25, up from 6.9% in FY 2023-24. The operating revenue stood at Rs. 763 crore, compared to Rs. 663 crore in FY 2023-24, while the segment reported a profit of Rs. 122 crore, down from Rs. 124 crore in the previous year. The decline in profit and overall profitability was due to higher input costs and product mix impact.

**Chemical segment**

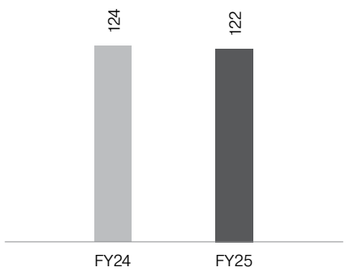
**Revenue**

(in Rs. crore)



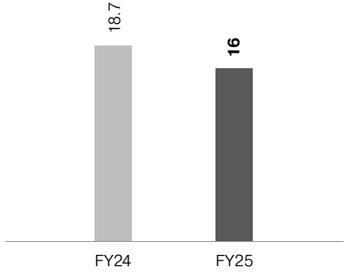

**Profit***

(in Rs. crore)




**Profit Margin***

(%)




Profit* and Profit Margin* – Segment PBIT before exceptional and unallocated overheads

## 5. Performance on Strategy

### SO1

#### Innovate for Energy Transition

**Definition**

Introduce products and technologies to help industries bridge the gap between energy availability and energy sustainability

| Focus Areas | Highlights |
|---|---|
| Develop Cutting-Edge Energy Transition Products | • Introduced a range of innovative products designed to support decarbonisation and promote clean energy adoption:<br>  • **Effitron™** – a zero-emission, high-efficiency electric boiler ideal for small scale applications.<br>  • **GreenPac™** and **GreenBloc™** – low density biomass-fired systems that convert agricultural waste such as rice straw into clean energy, advancing circular economy goals and reducing air pollution.<br>  • **Compact Pressurised Condensate Recovery System (CPCRS)** – a compact, high-temperature condensate recovery system that saves energy and floor space.<br>  • **Instaheat 2.0** – a high-efficiency hot water generator offering precise temperature control using steam.<br>  • **A2Zflo-S** – a high-accuracy steam flow meter suitable for both saturated and superheated steam. |
| Foster Technology Partnerships | • **Partnership for Green Hydrogen:** Thermax and Ceres have signed a non-exclusive global licensing agreement for Thermax to manufacture, sell, and service stack array modules (SAM) based on Ceres' advanced SOEC technology. Thermax will also develop and commercialise SAM balance of modules (SBM) and multi-megawatt SOEC electrolyser systems. This partnership aims to accelerate the global adoption of cost-effective green hydrogen solutions, with a strong focus on deployment in India.<br>• **Thermax–BTRA India Collaboration:** Thermax has partnered with BTRA India, marking a significant step in strengthening its capabilities in textile technology. This collaboration with one of India's leading textile research institutions aims to deliver innovative, efficient, and sustainable solutions aligned with the evolving needs of the textile industry. |
| Invest in R&D | • The Research, Technology and Innovation Centre (RTIC) has initiated three new verticals to lead the energy transition:<br>  • **Carbon Capture and Upcycling Solutions:** India urgently requires cost-effective indigenous solutions for carbon capture. RTIC has successfully executed projects to transform coal into liquid low-carbon fuels. RTIC will now focus on novel carbon capture and utilization technologies through upcycling carbon dioxide and derivatives.<br>  • **Green Hydrogen and Electrochemical Technologies:** Building complete value chains for green hydrogen—production, storage, compression, and delivery—leveraging renewable power and waste heat.<br>  • **Biofuels and Bioprocessing Technologies:** Advancing the conversion of biomass and urban/rural waste into biofuels. Also developing microbial solutions and biological foundries for next-gen sustainable processes. |

### SO2

#### Strengthen Solutions Businesses

**Definition**

Enhance our capabilities to provide long-term utility services

| Focus Areas | Highlights |
|---|---|
| Implement Build-Own-Operate (BOO) Model for Utility Delivery Services | • TOESL commissioned eight BOO projects in FY 2024-25, adding 146 TPH of biomass-fired boiler capacity and a 750 KLD ZLD (zero liquid discharge) plant, enhancing sustainable utility infrastructure.<br>• Read more on page 81 |
| Provide Renewable Energy Solutions | • **Green Steam Projects**<br>Read more on page 82<br>• **Bio-CNG Production:** TBSPL utilised a diverse range of feedstocks—rice straw, press mud, cow dung, municipal solid waste (MSW), napier grass, and soya stalk to generate nearly 6,200 tonnes per day of bio-CNG. The projects demonstrated both scalability and flexibility in renewable gas production.<br>• **Wind-Solar Hybrid Projects**<br>Read more on page 83 |
| Offer End-to-End Energy Management for Utilities | • Thermax commissioned two energy-saving projects—one involving motor replacements and another installing a closed loop cooling tower (CLCT) in series with a 300 TR chiller, reducing chiller runtime by over 50% and delivering substantial savings. Both projects were executed on an ESCO (Energy Service Company) basis, with shared savings for the customers.<br>• Additionally, two more projects were executed. One was related to the modification of in-bed tubes in two 20 TPH boilers, improving operational reliability for a competitor's boilers, and the second one was the installation of an advanced air preheater (APH) designed to serve two 20 TPH boilers. A high-temperature heat pump (110°C) was also supplied to boost feed water temperature, enhancing overall efficiency. |

SO3

## Scale Up Businesses Relating to Sustainability and Urbanisation

**Definition**

Grow our air pollution control, water, cooling and chemicals businesses to offer comprehensive solutions beyond energy transition

| Focus Areas | Highlights |
|---|---|
| Form Strategic Partnerships and Diversify Product Portfolio | • Strategic alliances were made to diversify our portfolio and to ensure that we stay at the forefront of innovation. For more details on the collaboration, refer to the Industrial Products and Chemicals business segments.<br>Read more on page 66, 86 |
| Establish New Growth Units | • The Zero Liquid Discharge (ZLD) growth unit, established last year, secured orders for 11 new ZLD plants across diverse industries and locations in FY 2024-25.<br>• Under Cooling, the newly formed growth unit - SustainX booked orders for 15 heat pump units across key sectors such as pharmaceuticals, textiles, petrochemicals, and automobiles. A notable international breakthrough was achieved with a heat pump order from Vietnam, marking progress in our export strategy.<br>• In FY 2024-25, Thermax has launched 'Urthh', a brand under Thermax Water and Waste Solutions business that addresses urban water management challenges with advanced, digitally-enabled operations and maintenance solutions. It offers end-to-end services, including technical audits, plant upgrades, IoT-enabled monitoring, and water recycling systems. |
| Expand Manufacturing Capabilities and Capacities | • Undertook a major expansion and modernisation programme at one of the oldest manufacturing factories in Pune anchored on five core pillars — enhancing operational efficiency, scaling up capacity, reinforcing safety standards, promoting sustainability, and advancing automation.<br>• Established a new manufacturing unit for water treatment chemicals at the existing Cilegon facility in Indonesia to meet the growing regional demand. |

SO4

## Drive Digital Transformation

**Definition**

Leverage digitalisation to improve efficiency both internally and externally

| Focus Areas | Highlights |
|---|---|
| Increase Digital Interventions Across Processes | • In 2024-25, Thermax accelerated its digital transformation to enhance operational efficiency, improve data visibility, and enable smarter decision-making. Key processes digitised this year include: e-auction, vendor onboarding, sustainability accounting & reporting, lead generation, payroll, project management, and document control.<br>• Additionally, a statutory audit trail for financial applications and digitised processes for new M&A entities was enabled. A total of 66 out of 147 digital projects across various value streams went live, leveraging the project management office (PMO) framework. |
| Proliferate Customer-Centric Digital Platforms | • Thermax's digital portal, EDGE, enhanced customer experience with new features like access to asset drawings and order status tracking through backend integrations.<br>• The AI/ML-powered IIoT platform - Thermax EDGE Live® gained momentum, winning the Gold Award at CII IQ and the AI Gamechanger Award by NASSCOM in the Energy and Utilities sector. It now powers 4,800+ assets across 195+ customers, improving efficiency, reducing downtime, and supporting decarbonisation.<br>• Key solutions launched include Water Balance, Maintenance Manager, Chemical Manager, Urban Water Integration and Digital Logbook. A scalable AI framework has been set up, enabling the deployment of 3,000 predictive models across customer sites. |
| Strengthen Cybersecurity Measures | • The EDGE Live product ecosystem is now ISO 27001 certified.<br>• A 24x7 Global Cyber Defense Centre has been launched to monitor and respond to cyberattacks, with enhanced incident response capabilities.<br>• New capabilities such as dark web monitoring, rogue app takedown, threat intelligence, and digital forensics have been set up.<br>• Preventive security measures, including Web Application Firewall (WAF), Endpoint Detection and Response (EDR), API security, and PKI certificates with TLS 1.2 encryption are in place.<br>• A secure by design approach has been adopted for digital products, covering Vulnerability Assessment and Penetration Testing (VAPT), Software Bill of Materials (SBOM), vulnerability scans, secure code reviews, and secure architecture standards for OT/IT convergence. |

## SO5

### Build an Agile, Market Responsive Organisation Structure

**Definition**

Assess evolving market demands and align the organisation with them to optimise business performance and resource management

| Focus Areas | Highlights |
|---|---|
| Solution-Selling Approach | • Piloted an enterprise sales function to manage large accounts with a sharper cross-selling focus<br>• Prioritised key account management and implemented account-based marketing strategies to deepen customer relationships.<br>• Strengthened our portfolio through strategic partnerships and acquisitions, including collaborations with TSA Equipments, Oswaldo Cruz Química (OCQ), Vebro Polymers to name a few. |
| Accelerate Market Penetration with Unified, Cross-Business Energy Transition Offerings | • Organised Roadshows and Intouch events across India and also in Indonesia to showcase a wide portfolio of energy transition offerings and enhance customer engagement. |
| Drive Internal Changes to Mobilise, Manage, and Retain Talent | • Initiated resource mobilisation based on employee skill sets to boost performance.<br>• Rolled out structured talent management programmes across employee levels o nurture future-ready leaders.<br>Read more on page 40 |
| Foster a Performance-Driven Culture | • Sharpened appraisal discussions with a focus on meaningful, actionable feedback.<br>• Continued capability-building through year-round training programmes for managerial and technical excellence.<br>• Recognised high-performing individuals and teams through structured rewards and recognition aligned with Thermax's core behaviours.<br>Read more on page 40 |

## SO6

### Energise the Core

**Definition**

Continue to build on our existing strategic priorities

| Focus Areas | Highlights |
|---|---|
| Increase the Share of Green Offerings | Key orders in FY 2024-25 advancing clean air, clean energy, and clean water:<br>**Industrial Products**<br>• **Heating**<br>– Installed a 26 TPH straw-fired boiler (distillery)<br>– Commissioned a 22 TPH biomass boiler (dairy)<br>– Supplied a 600 kg/hr electric boiler (power)<br>– Delivered a 5 million kcal/hr hot water generator (laminate plant)<br>• **Cooling**<br>– The business maintained strong momentum with another 75+ units booked, including closed loop cooling towers, adiabatic cooling towers, air-cooled heat exchangers and evaporative condensers.<br>• **Air Pollution Control**<br>– Commissioned the largest stock house dust extraction system (<5 mg/Nm³).<br>– Secured a significant MSW-based biogas purification order.<br>– Installed the first bag house on a Sinter WHRB (<10 mg/Nm³, 11m bag height).<br>– Supplied a cartridge filter system (solar wafer segment).<br>• **Water and Waste Solutions**<br>– Secured the first green ammonia desalination order. – a strategic entry in this segment.<br>**Industrial Infra**<br>• **Projects and Energy Solutions (P&ES)**<br>Read more on page 75<br>• **Thermax Babcock & Wilcox Energy Solutions Limited (TBWES)**<br>Read more on page 76<br>• **Thermax Bioenergy Solutions Private Limited (TBSPL)**<br>Read more on page 78<br>**Green Solutions**<br>• **Thermax Onsite Energy Solutions Limited (TOESL)**<br>Read more on page 81<br>• **First Energy Private Limited (FEPL)**<br>Read more on page 83 |

| Focus Areas | Highlights |
|---|---|
| Grow Services Portfolio | Thermax expanded its O&M, upgrades, and plant modernisation offerings across segments:<br>**Industrial Products**<br>• **Heating**<br>– Launch of brand Thermax Serve – a comprehensive set of service and spares solutions for process heating equipment.<br>– Order received for comprehensive services and retrofitting for a polyester major in the western region of India.<br>– Thermax's Steam System Service Programme helps customers cut energy loss and boost steam efficiency to meet sustainability goals.<br>• **Cooling**<br>– EDGE Live gained strong momentum in FY 2024-25, with 250+ AI/ML models and 90+ fault analysis templates deployed. Prediction accuracy improved from 40% to 70% with auto-training models. Root cause-based incident reviews boosted transparency and drove a 100% contract renewal rate.<br>– New value-added tiers–Expert Shield and Expert Shield Plus-bundled EDGE Live with AMC for smarter service delivery.<br>• **Air Pollution Control**<br>– Biggest utility ESP spares and service order<br>– First bag filter order from Myanmar<br>– Spares order for 250 MW boiler ESP<br>– First order from Turkmenistan for competitor ESP spares<br>• **Water and Waste Solutions**<br>– Water business manages approximately 337 operations and maintenance sites, with a renewal rate of 95% for the fiscal year 2024-25.<br>– Highest ever order booking in FY 2024-25 for O&M.<br>– 94 safety appreciation letters received from customers.<br>**Industrial Infra**<br>• **Projects and Energy Solutions (P&ES)**<br>Read more on page 75<br>• **Thermax Babcock & Wilcox Energy Solutions Limited (TBWES)**<br>– Secured an order from a leading petrochemical company for the revival of 2 x 120 TPH oil and gas-fired boilers and fuel conversion of a 1 x 100 TPH CFBC boiler from solid fuel to oil and gas firing. |
| Internationalisation | Major FY 2024-25 export orders and global subsidiary wins:<br>**Industrial Products**<br>• **Air Pollution Control**<br>– Dry FGD & $NO_x$ system (Thailand – carbon black)<br>– First filter bag order (Myanmar – cement)<br>– Air pollution solutions (Thailand – sugar)<br>– Dedusting system (Southeast Asia)<br>– ESP spares (Turkmenistan – cement)<br>• **Heating**<br>– FOAK 40 MW multi-utility plant (Thailand – medical gloves)<br>– 25 TPH biomass boiler (Thailand – food)<br>– 1 TPH electric boiler (Southeast Asia – FMCG)<br>• **Cooling**<br>– 7,251 TR exhaust fired absorption chillers (Europe – power)<br>– 1,600 TR hot water driven absorption chillers (Southeast Asia – oil & gas)<br>– 5.2 MW air cooled heat exchanger (Southeast Asia – beverages)<br>– 137 KW electrical heat pump (Southeast Asia – textiles)<br>• **Water and Waste Solutions**<br>– Large order from global energy leader (Turkey – power)<br>**Industrial Infra**<br>• **Projects and Energy Solutions (P&ES)**<br>– 4.9 MW cogeneration (Thailand – healthcare)<br>• **Thermax Babcock & Wilcox Energy Solutions Limited (TBWES)**<br>– 4 x 550 TPH CFBC boilers (Botswana - mining)<br>– 2 x 250 TPH modular gas-fired boilers (Abu Dhabi – refinery & petrochemical)<br>– 2 x 68 TPH HRSGs (Western Africa – power)<br>**Green Solutions**<br>• **Thermax Onsite Energy Solutions Limited (TOESL)**<br>Read more on page 81<br>• **First Energy Private Limited (FEPL)**<br>Read more on page 83<br>**Chemicals**<br>• **Thermax Inc.**<br>Read more on page 87 |

## 6. Financial Performance

During FY 2024-25, the Group recorded an operating revenue of Rs. 10,389 crore, compared to Rs. 9,323 crore in the previous year. The basic earnings per share for the year were at Rs. 56.33 per share (previous year: Rs. 57.30 per share) and diluted earnings per share was Rs. 56.31 (previous year: Rs. 57.28). The analysis of major items of the financial statements is given below.

### A. Revenue from Operations

(in Rs. crore)

| | FY 2024-25 | FY 2023-24 | Change (%) |
|---|---|---|---|
| Revenue from projects and products | 9,204 | 8,175 | 13% |
| Revenue from services | 1,052 | 1,062 | (1%) |
| Other operating revenue | 133 | 86 | 54% |
| **Total operating revenue** | **10,389** | **9,323** | **11%** |

The increase is primarily due to the execution of orders received in the prior period. Industrial Products, Industrial Infra, Green Solutions and Chemicals segments have grown by 12%, 6%, 36% and 15%, respectively. Other operating revenue increased due to a government grant of Rs. 65.63 crore as set off against an exchange loss of Rs. 17.79 crore against last year's gain of Rs. 9.40 crore.

### B. Cost of Material Consumed

(in Rs. crore)

| | FY 2024-25 | FY 2023-24 | Change (%) |
|---|---|---|---|
| Cost of material consumed | 5,814 | 5,220 | 11% |
| % of total revenue | 56% | 56% | |

Commodity costs remained stable during the period.

### C. Employee Benefit Expenses

(in Rs. crore)

| | FY 2024-25 | FY 2023-24 | Change (%) |
|---|---|---|---|
| Employee benefit expenses | 1,269 | 1,148 | 11% |

The rise in employee benefit expenses was primarily driven by the annual increment cycle, increased headcount in services for project execution, and performance-based incentives.

### D. Other Expenses

(in Rs. crore)

| | FY 2024-25 | FY 2023-24 | Change (%) |
|---|---|---|---|
| Consumption of stores and spare parts | 116 | 113 | 3% |
| Power and fuel | 57 | 57 | 0% |
| Freight and forwarding charges (net) | 215 | 187 | 15% |
| Site expenses and contract labour charges | 1,211 | 1,090 | 11% |
| Drawing, design and technical service charges | 58 | 59 | (2%) |
| Sales commission | 36 | 29 | 24% |
| Advertisement and sales promotion | 31 | 24 | 29% |
| Rent | 30 | 26 | 15% |
| Rates and taxes | 16 | 17 | (6%) |
| Insurance | 21 | 19 | 11% |
| Repairs and maintenance | 121 | 103 | 17% |
| Travelling and conveyance | 114 | 110 | 4% |
| Legal and professional fees (including payment to auditors) | 163 | 155 | 5% |

(in Rs. crore)

| | FY 2024-25 | FY 2023-24 | Change (%) |
|---|---|---|---|
| Provision for advance (net) | 7 | (2) | (450%) |
| Provision for impairment allowance of financial assets (net) | 81 | 59 | 37% |
| Warranty expenses (net) | 45 | 50 | (10%) |
| Loss on sale/discard of assets (net) | 3 | 1 | 200% |
| Expenditure on Corporate Social Responsibility | 11 | 8 | 38% |
| Miscellaneous expenses (includes printing, communication, security expenses, etc.) | 69 | 55 | 25% |
| **Total** | **2,405** | **2,160** | **11%** |
| Less: Capitalised during the year | (7) | (2) | 321% |
| **Net total** | **2,398** | **2,158** | **11%** |

Other expenses were higher than the previous financial year, primarily due to increased direct costs such as site expenses, contract labour charges, insurance, and consumption of stores and spare parts, driven by higher operational activity and revenue. Additionally, sales commission expenses increased in line with sales. There was also an increase in legal and professional fees and travel expenses, attributable to business growth and various new initiatives undertaken during the year. Furthermore, the bad debts/advance written off increased due to expected credit loss provisioning.

## E. Exceptional Item

(in Rs. crore)

| | FY 2024-25 | FY 2023-24 | Change (%) |
|---|---|---|---|
| Exceptional item | - | 75 | (100%) |

The decrease was due to an exceptional gain of Rs. 126 crore, which resulted from the sale of a vacant plot of land, and a loss of Rs. 51 crore on a provision related to litigation last year, resulting in a net gain of Rs. 75 crore.

## F. Property, Plant and Equipment

(in Rs. crore)

| | FY 2024-25 | FY 2023-24 | Change (%) |
|---|---|---|---|
| Property, plant and equipment | 2,442 | 1,701 | 43% |
| Capital work-in-progress | 561 | 519 | 8% |
| Right-of-use assets | 174 | 173 | 0% |
| Goodwill | 80 | 3 | 2,547% |
| Other intangible assets | 111 | 29 | 286% |
| Intangible assets under development | 2 | 5 | (68%) |
| **Total** | **3,370** | **2,430** | **39%** |

The movement in the property plan, equipment and capital work-in-progress is mainly due to the Jhagadia resin plant expansion in the Chemicals business and solar/wind assets under construction at First Energy Private Limited. Intangible assets under development are software implementation under new initiatives and recognition on account of new business acquisition.

## G. Investment

(in Rs. crore)

| | FY 2024-25 | FY 2023-24 | Change (%) |
|---|---|---|---|
| Non-current investment | 121 | 383 | (68%) |
| Current investment | 1,568 | 1,363 | 15% |
| **Total** | **1,689** | **1,746** | **(3%)** |

Investments predominantly represent investments in debt mutual funds and bank fixed deposits. The decrease in investments is mainly due to the redemption of corporate fixed deposits.

## H. Trade Receivables

(in Rs. crore)

| | FY 2024-25 | FY 2023-24 | Change (%) |
|---|---|---|---|
| Non-current trade receivables | 148 | 151 | (2%) |
| Current trade receivables | 2,418 | 2,116 | 14% |
| **Total** | **2,566** | **2,267** | **13%** |

The increase in trade receivables was consistent with the growth in business volumes.

## I. Cash Flow

(in Rs. crore)

| | FY 2024-25 | FY 2023-24 | Change (%) |
|---|---|---|---|
| Cash flows from operating activities | 1,043 | 247 | 322% |
| Cash flows from/(used in) investing activities | (1,241) | (509) | 144% |
| Cash flows (used in) financing activities | 124 | 285 | (57%) |
| **Net increase in cash and cash equivalents** | **(74)** | **23** | **(422%)** |

The increase in operating cash flow was driven by improved customer collections and advances received during the year. The rise in investing activities was primarily due to higher capital expenditure for expansion projects and new acquisitions.

## J. Cash and Cash Equivalent and Bank Balances

(in Rs. crore)

| | FY 2024-25 | FY 2023-24 | Change (%) |
|---|---|---|---|
| Cash and cash equivalents | 418 | 487 | -14% |
| Bank balance | 737 | 489 | 51% |
| **Total cash and cash equivalents and bank balances** | **1,155** | **976** | **18%** |

The increase was mainly due to the rise in fixed deposit investments.

## K. Non-Current Other Liabilities

(in Rs. crore)

| | FY 2024-25 | FY 2023-24 | Change (%) |
|---|---|---|---|
| Other liabilities | 37 | 28 | 32% |

The rise was due to unearned revenues, primarily resulting from provisions made for project execution.

## L. Borrowings

(in Rs. crore)

| | FY 2024-25 | FY 2023-24 | Change (%) |
|---|---|---|---|
| Non-current borrowings | 1,162 | 789 | 47% |
| Current trade borrowings | 532 | 466 | 14% |
| **Total borrowings** | **1,694** | **1,255** | **35%** |

The increase in borrowing was primarily used to fund capex for solar and wind projects.

## Thermax Financials at a Glance (10-Year Data)

All amounts are in Rupees Crore, except per share data and unless stated otherwise.

| Particulars | 2024-25 | 2023-24 | 2022-23 | 2021-22 | 2020-21 | 2019-20 | 2018-19 | 2017-18 | 2016-17 | 2015-16# |
|---|---|---|---|---|---|---|---|---|---|---|
| Domestic Sales (Excluding Excise Duty) | 7,932 | 7,189 | 5,992 | 4,443 | 3,037 | 3,685 | 3,249 | 2,668 | 2,813 | 3,210 |
| International Sales/Business | 2,324 | 2,048 | 2,042 | 1,621 | 1,673 | 1,970 | 2,637 | 1,703 | 1,573 | 1,859 |
| % to Total Sales | 23% | 22% | 25% | 27% | 36% | 35% | 45% | 39% | 36% | 37% |
| Total Sales | 10,256 | 9,237 | 8,034 | 6,064 | 4,710 | 5,655 | 5,886 | 4,371 | 4,386 | 5,069 |
| Growth | 11% | 15% | 32% | 29% | (17%) | (4%) | 35% | 0% | (13%) | (3%) |
| Other Operating Income | 133 | 86 | 56 | 64 | 81 | 76 | 87 | 94 | 97 | 76 |
| Revenue from Operation | 10,389 | 9,323 | 8,090 | 6,128 | 4,791 | 5,731 | 5,973 | 4,465 | 4,483 | 5,145 |
| Other Income | 252 | 233 | 160 | 127 | 108 | 100 | 150 | 116 | 114 | 122 |
| Total Income | 10,641 | 9,556 | 8,250 | 6,255 | 4,899 | 5,831 | 6,123 | 4,581 | 4,597 | 5,267 |
| Total Expenses | 9,480 | 8,526 | 7,492 | 5,707 | 4,435 | 5,324 | 5,516 | 4,064 | 4,049 | 4,716 |
| Profit before Depreciation, Interest, Extraordinary Items and Tax | 1,161 | 1,030 | 758 | 548 | 464 | 507 | 607 | 517 | 548 | 551 |
| (% to Total Income) | 11% | 11% | 9% | 9% | 9% | 9% | 10% | 11% | 12% | 10% |
| Depreciation | 159 | 148 | 117 | 113 | 115 | 117 | 92 | 82 | 82 | 72 |
| Interest | 117 | 88 | 38 | 25 | 21 | 15 | 14 | 13 | 10 | 12 |
| Exceptional Items of Expenses / (Income) | - | (75) | - | - | 53 | - | 90 | - | 18 | - |
| Profit Before Tax | 885 | 869 | 603 | 410 | 275 | 375 | 411 | 422 | 438 | 467 |
| (% to Total Income) | 8% | 9% | 7% | 7% | 6% | 6% | 7% | 9% | 10% | 9% |
| Tax | 258 | 226 | 152 | 98 | 69 | 162 | 85 | 166 | 156 | 144 |
| Profit After Tax Before Non Controlling Interest and Share in Loss of Associate and Joint Venture | 627 | 643 | 451 | 312 | 206 | 213 | 326 | 256 | 282 | 323 |
| Share in Joint Venture/Associates Loss | - | (1) | - | - | - | - | (1) | (25) | (66) | (41) |
| Minority Interest | (8) | - | - | - | NA | NA | NA | NA | NA | NA |
| Profit After Tax After Minority and Share in an Associate's Loss | 635 | 642 | 451 | 312 | 206 | 213 | 325 | 231 | 216 | 282 |
| Other Comprehensive Income | (2) | (9) | - | 8.00 | 17 | (9) | (22) | 27 | (19) | 22 |
| **Total Comprehensive Income Attributable to:** | 625 | 633 | 451 | 320 | 223 | 204 | 303 | 258 | 197 | 304 |
| Equity Holders of the Parent | 635 | 645 | 450 | 312 | 223 | 204 | 304 | 259 | 204 | 304 |
| Non Controlling Interest | (8) | (2) | - | - | - | - | - | (1) | (7) | - |
| Gross Block | 4,831 | 3,753 | 2,903 | 2,396 | 2,352 | 2,255 | 2,236 | 1,741 | 1,515 | 1,438 |
| Net Block | 3,368 | 2,431 | 1,682 | 1,239 | 1,266 | 1,339 | 1,352 | 1,076 | 952 | 887 |
| Investments | 1,689 | 1,746 | 1,610 | 1,470 | 234 | 875 | 829 | 1,472 | 1,083 | 1,050 |
| Current Assets | 7,313 | 6,448 | 6,072 | 4,738 | 4,466 | 3,977 | 4,737 | 4,102 | 3,297 | 3,610 |
| Current Liabilities | 5,635 | 4,725 | 4,409 | 3,758 | 3,071 | 2,787 | 3,654 | 3,079 | 2,365 | 2,615 |
| Net Current Assets | 1,678 | 1,723 | 1,663 | 980 | 1,395 | 1,190 | 1,083 | 1,023 | 932 | 995 |
| Capital Employed | 6,099 | 5,229 | 4,292 | 3,553 | 3,273 | 3,061 | 3,050 | 2,768 | 2,585 | 2,450 |
| Equity Share Capital | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 | 23 |
| Reserves and Surplus | 4,914 | 4,417 | 3,846 | 3,469 | 3,228 | 3,005 | 2,992 | 2,692 | 2,515 | 2,393 |
| Networth | 4,937 | 4,440 | 3,869 | 3,492 | 3,251 | 3,028 | 3,015 | 2,715 | 2,538 | 2,416 |
| Minority Interest | 6 | - | 2 | - | - | - | - | - | 1 | - |
| Loan Funds (Long-Term) | 1,162 | 789 | 423 | 61 | 22 | 33 | 35 | 53 | 46 | 34 |
| Fixed Asset Turnover Ratio | 3.05 | 3.80 | 4.78 | 4.89 | 3.72 | 4.22 | 4.35 | 4.06 | 4.61 | 5.71 |
| Working Capital Turnover Ratio | 6.11 | 5.36 | 4.83 | 6.19 | 3.38 | 4.75 | 5.43 | 4.27 | 4.71 | 5.09 |
| Current Ratio | 1.30 | 1.36 | 1.38 | 1.26 | 1.45 | 1.43 | 1.30 | 1.33 | 1.39 | 1.38 |
| Return on Capital Employed | 16% | 17% | 15% | 12% | 11% | 13% | 14% | 15% | 15% | 18% |
| Return on Net Worth | 13% | 14% | 12% | 9% | 6% | 7% | 11% | 9% | 9% | 12% |
| Cash Earnings Per Share (Rs.) | 71.20 | 70.45 | 50.36 | 37.74 | 28.50 | 29.30 | 37.06 | 27.93 | 27.08 | 31.48 |
| Earnings Per Share (Rs.) | 56.33 | 57.30 | 39.98 | 27.73 | 18.34 | 18.87 | 28.90 | 20.61 | 19.80 | 25.07 |
| Dividend | 700% | 600% | 500% | 450% | 350% | 350%* | 350% | 300% | 300% | 300% |
| Book Value Per Share (Rs.) | 438 | 394 | 343 | 310 | 289 | 269 | 268 | 241 | 225 | 215 |

# Figures have been reclassified as per Indian Accounting Standards("IND AS") as prescribed by the Ministry of Corporate Affairs
* It is interim dividend paid to shareholders

## 7. Key Opportunities and Threats


**Amidst evolving market dynamics, Thermax strategically harnesses opportunities while mitigating risks, driving innovation and operational excellence. This balanced approach fosters sustainable growth and strengthens the Company's competitive edge, benefitting all stakeholders.**

### Key Opportunities

**Accelerated Energy Transition:** With increased government emphasis on renewable energy and sustainable practices, Thermax can capitalise on new incentives and expand market demand for clean, energy-efficient solutions.

**Digital Transformation and Smart Manufacturing:** Investment in digital technologies and Industry 4.0 will enhance operational efficiency, cost savings, and improved product quality, strengthening its competitive edge.

**Robust Infrastructure Development:** As India's focus on infrastructural expansion continues, opportunities will arise to supply integrated solutions for sustainable energy security, water management, and environmental compliance.

**Global Expansion Prospects:** Emerging international markets with a growing focus on sustainability present avenues for expanding the Company's footprint and driving revenue growth beyond domestic boundaries.

**R&D and Technological Innovation:** Continued emphasis on research and development can lead to breakthrough products and sustainable technologies, upholding Thermax's leadership position in the energy and environment sectors.

### Key Threats

**Intensifying Competition:** Domestic and international players are vying for market share in the energy and environment sectors, potentially leading to pricing pressures and margin compression.

**Regulatory and Policy Risks:** Changes in environmental and energy policies or stricter regulatory norms could increase compliance costs or operational disruptions.

**Economic and Market Uncertainty:** Global economic volatility and domestic market fluctuations may impact capital expenditure and reduce the demand for large-scale industrial projects.

**Supply Chain Vulnerabilities:** Disruptions caused by geopolitical tensions, raw material price volatility, or logistical challenges can affect production schedules and cost structures.

**Technological Obsolescence:** Rapid technological advancements may render current processes or solutions less competitive if Thermax does not continuously innovate and adapt to emerging trends.

## 8. Others

### 8.1 Risk Management

The Company's enterprise risk management (ERM) framework regularly assesses key risks and business processes to ensure system resilience across all its locations. It identifies potential exposures and recommends appropriate mitigation measures to safeguard operations.

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### 8.2 Internal Controls

The Company maintains a robust system of internal controls, supported by its Internal Audit function, to assess the effectiveness and compliance of financial and operational processes. Both management and the internal audit team routinely evaluate these controls to ensure alignment with regulatory standards and business objectives.

Operating managers are regularly informed about relevant legal and regulatory changes that impact their areas of responsibility. Monthly compliance checks are conducted to uphold adherence to these requirements.

To mitigate the risk of unethical conduct, the Company has fostered a strong ethical culture supported by a clear Code of Conduct and a well-defined Whistleblower Policy. In addition, using the enterprise resource planning (ERP) software across operations ensures built-in controls and enables detailed analysis of variances between actual performance and planned targets.

This integrated approach to internal controls and organisational ethics significantly reduces the likelihood of misconduct and strengthens governance.

### 8.3 Health, Safety and Environment (HSE)

At Thermax, the health, safety, and well-being of our employees, stakeholders, and the environment are at the heart of our values. We have embedded comprehensive HSE programmes across all operations and manufacturing facilities to ensure a safe and secure workplace.

Our leadership team actively champions HSE initiatives with strategic direction from the Board. Performance reviews are regularly conducted across all business units and locations, with business heads driving continuous improvement. These reviews also foster stakeholder participation by offering guidance and necessary resources.

We strongly emphasise collaboration with contractors, partners, and supply chain stakeholders through capacity-building initiatives and site-level engagement to strengthen holistic HSE practices.

Our commitment is captured in our Occupational Health, Safety and Environment Policy and brought to life through a series of focused initiatives.

#### Thermax Life: Building a Culture of Safety

**a) Culture Building**

Behaviour-Based Safety (BBS):

Implemented organisation-wide, BBS encourages all employees, workers and contractors to practise and promote safe behaviour. Observations, feedback, and behavioural trend analysis are used to guide tailored training and continuous improvement.

'One Day Safety Officer' Initiative:

Line managers step into the role of a safety officer for a day, conducting toolbox talks, safety inspections, and incident investigations. This fosters accountability and ownership. In FY 2024-25, over 3,433 line managers participated across project sites.

Life-Saving Rules & 'Stop Work' Authority:

All individuals working for or on behalf of Thermax must adhere to our Life-Saving Rules. We enforce a zero-tolerance policy for violations. Additionally, every stakeholder is empowered to stop work in case of any potential risk.

E-Learning Programme:

An interactive course on Life-Saving Rules covers PPE use, safe practices, emergency response, and hazard identification. The course empowers individuals to prioritise safety and make informed decisions in emergencies.

**3,433+**

Line Managers Worked as 'One Day Safety Officers' at Project Sites

**b) Standardisation of HSE Processes**

To unify and improve safety practices, we continue to drive standardisation efforts across the organisation. Reviewed and implemented procedures include:

- Use of personal protective equipment (PPE)
- Monitoring, measurement, analysis and evaluation
- Contractor management
- Communication, consultation and participation
- Occupational health and hygiene

This 'One HSE Process' approach streamlines operations and supports our digitisation goals.

**c) Digitalisation with 'Thermax LIFE' Application**

Our integrated HSE application—Thermax LIFE, has been deployed across all businesses, engaging employees, workers, and contractors.

- Enables active participation in safety observations and reporting of unsafe conditions
- Supports incident, inspection, and audit management
- Provides real-time analytics for leadership to make timely and informed decisions
- Tracks closure of HSE issues via automated workflows

Training sessions were conducted for users, superusers, admins, and senior leaders to maximise the platform's benefits.

Note: Despite taking utmost care, an unfortunate incident at a customer site led to the loss of three of our workers, even after timely medical intervention. We have extended full support to their families, and following a thorough investigation, are implementing key corrective measures to enhance safety—focusing on improved risk assessment in brownfield projects, upgraded protective equipment, and strengthened emergency response protocols.

#### Campaigns and Celebrations

**Quarterly Safety Campaigns**

Focused campaigns conducted on:

- Machine guarding
- Work at height
- Monsoon and electrical safety
- Fire prevention and emergency preparedness
- Material handling and road safety

**Special Day Observances**

National Safety Week (March 4-10, 2025):

Under the theme 'Safety and Well-Being Crucial for Viksit Bharat', over 15,000 participants—including employees, workmen, third-party staff, and contractual workforce engaged in various activities. The senior leadership led the flag-hoisting ceremonies across locations.

Road Safety Month (January 2025):

Activities included online quizzes, drawing contests, mobile vehicle safety training, awareness rallies, PUC checks, and transport inspections across offices and customer sites.

**15,000+**

Participants in Activities During National Safety Week

**Emergency Preparedness**

All Thermax locations have emergency preparedness plans in place. Training on fire prevention and mock evacuation drills have been conducted across manufacturing, project, and office locations in India.

**Recognitions and Achievements**

QCFI Golden Award:

Thermax's Chinchwad Factory won the Gold Award at the 2025 Kaizen Competition for its continuous HSE improvement initiatives.

BBS Excellence Award:

Thermax received a national Behaviour-Based Safety (BBS) Award from BESAFE at the 9th Annual BBS Conference co-hosted by IIM-Mumbai.

Customer Appreciation:

Received 219 appreciation letters from customers for exemplary safety performance this year.

**Training and Capacity Building**

Regular HSE training is conducted for employees, contractors, vendors, and suppliers. All new hires are introduced to HSE practices, and contract workers undergo mandatory training before starting work.

**Key programmes in FY 2024-25 include**

Institution of Occupational Safety and Health (IOSH) Awareness Sessions:

Training programmes were conducted for site and service engineers/ managers from the Industrial Products busines (39 participants).

ISO 45001:2018 Lead Auditor Training:

Focused on strengthening internal audit capabilities (10 participants).

**Update on Certifications and Audits of Manufacturing Plants and Projects (Sites in India)**

**Cooling Manufacturing Plant (Sri City):**

1st surveillance audit for ISO 14001:2015 & ISO 45001:2018 conducted by LRQA

**TBWES Project Sites & Manufacturing Plants (Savli, Mundra, Chinchwad, Shirwal):**

Recertification audit for ISO 14001:2015 & ISO 45001:2018 conducted by Bureau Veritas

**Heating Manufacturing Plants (Chinchwad, Savli):**

1st surveillance audit for ISO 14001:2015 & ISO 45001:2018 conducted by TÜV SÜD

**TOESL Project Sites:**

2nd surveillance audit for ISO 14001:2015 & ISO 45001:2018 conducted by DNV

**Chemical Manufacturing Plants (Paudh, Jhagadia, Dahej):**

3rd surveillance audit for ISO 14001:2015 & ISO 45001:2018 conducted by Bureau Veritas

**P&ES and Heating Project Sites:**

2nd surveillance audit for ISO 45001:2018 conducted by TÜV SÜD and DNV

**WWS Manufacturing Plant and Project Sites:**

Recertification IMS audit for ISO 9001 & ISO 45001 conducted by TÜV NORD

**Air Pollution Control (Enviro) Manufacturing Plant and Project Sites:**

2nd surveillance audit for ISO 14001:2015 & ISO 45001:2018 conducted by TÜV SÜD

At Thermax, our collective efforts help build a safer, healthier, and more sustainable future year after year.

## 9. Human Resources

As an organisation recognised for its strong governance and ethical foundations, Thermax is deeply committed to investing in skill development, employee engagement, and overall well-being. We focus on fostering a safe, healthy, and inclusive work environment that empowers our people and enhances performance.

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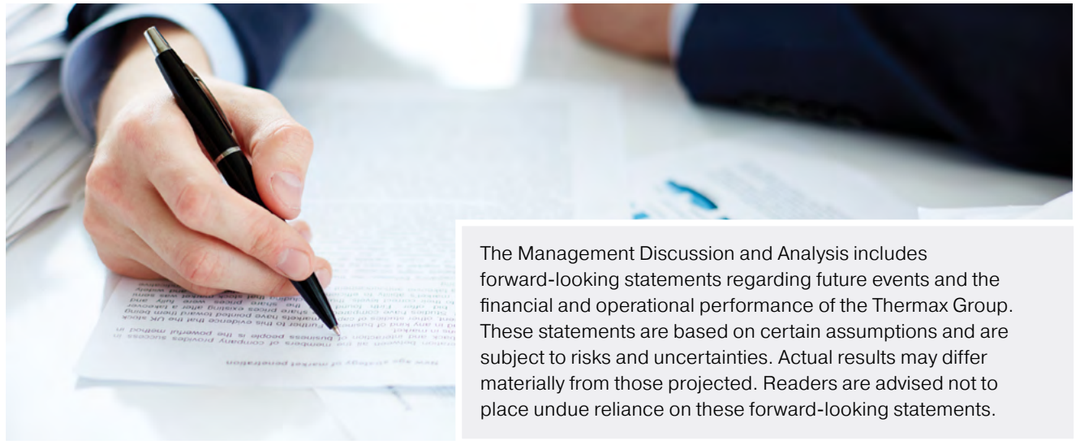
## 10. Cautionary Statement



The Management Discussion and Analysis includes forward-looking statements regarding future events and the financial and operational performance of the Thermax Group. These statements are based on certain assumptions and are subject to risks and uncertainties. Actual results may differ materially from those projected. Readers are advised not to place undue reliance on these forward-looking statements.