



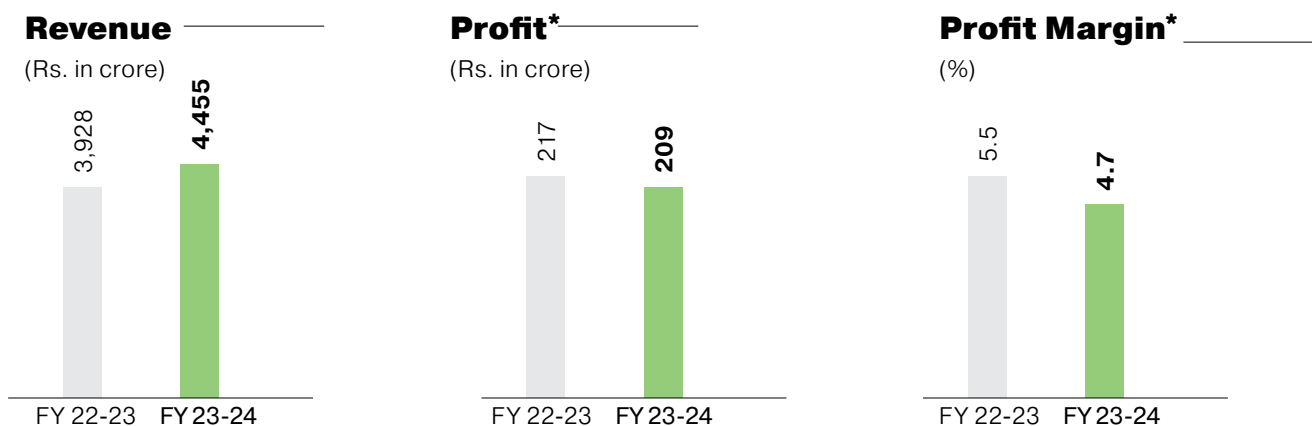
Performance of Industrial Infra Segment in FY 2024

In FY 2024, the Industrial Infra segment accounted for 46% (47.3% in FY 2023) of the Group's gross operating revenue. The operating revenue (net) stood at Rs. 4,455 crore (Rs. 3,928 crore), while segment profit was Rs. 209 crore (Rs. 217 crore) for the same period. The growth in revenue is attributable to carry-forward orders in the project business and new orders received by TBSPL. In FY 2024, order booking stood at Rs. 4,100 crore, growing from Rs. 3,779 crore in the previous year.



■ 3x80 TPH modularised plug-and-play boilers supplied to a major refinery in Iraq

Industrial Infra



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

4.3 Green Solutions Business

The Green Solutions segment includes Thermax Onsite Energy Solutions Limited (TOESL), and First Energy Private Limited (FEPL). Through these subsidiaries, the Company typically offers opex-based green utilities and renewable energy solutions through the build-own-operate model. Serving primarily industrial clients, the Company's engagements span 10 to 25 years, underscoring long-term commitment. Although capital-intensive initially, this business assures relatively secure cash flows.

MANAGEMENT DISCUSSION AND ANALYSIS

Our financing model involves installing energy generation equipment for customers under long term fixed price contracts. However, the funding procurement for the same is subject to interest rate variations, thus posing a risk to our long-term profitability. For FEPL, customer default is also a risk which we mitigate by alternative off takers at profitable electricity prices. A default by a TOESL customer could leave our equipment stranded at the customer's site. To minimise this risk, TOESL and FEPL are selective with the kind of customers they work with.

Green Solutions Subsidiaries

Thermax Onsite Energy Solutions Limited (TOESL), Pune, Maharashtra

Business Performance

In FY 2023-24, TOESL registered a satisfactory performance. Revenue grew by 31.5% (60.5% in FY 2022-23), and profits increased by 65.8% (13.8% in FY 2022-23). TOESL commissioned seven new sites during the year, contributing significantly to the topline. Although order booking was not as per our expectations, for the next year, many customers have signed up with repeat orders.

Sustainable Growth Plan

- » With 100% green solutions, TOESL aims to help customers reduce their carbon footprint by replacing fossil fuel consumption. To date, it has enabled customers to reduce more than 1 million tonnes of CO₂e
- » To strengthen its current portfolio through backward integration, digitalisation, and strategic business development
- » To tap new markets through selective internationalisation by capitalising on its present strengths
- » To diversify the portfolio with a focus on bio-CNG, biomass gasification and water and wastewater treatment solutions under the build-own-operate model

Key Industries

- » Chemicals
- » Food and Beverages
- » Pharmaceuticals
- » Textiles
- » Automotive

Key Solutions Provided

- » Supplies utilities such as steam, heat, treated water, and cogeneration power through the build-own-operate (BOO) business model
- » Invests in the capital, sets up and operates a utility plant for the entire lifecycle at the customer's premises
- » Undertakes comprehensive operations and maintenance, and also handles supply chain management of fuel, spares, and consumables
- » Helps customers focus more on core manufacturing processes rather than owning and running such utilities

Geographical Footprint

- » South Asia (India, Sri Lanka, and Bangladesh)
- » Southeast Asia (Indonesia, the Philippines, Thailand, and Malaysia)

Highlights

- » Successfully secured a new account and entered a new industry by winning the inaugural project for green steam supply to a lithium-ion cell manufacturing company in Karnataka
- » Executed a 30 tonnes per hour biomass boiler plant for a biopharma major in Karnataka
- » Secured repeat orders and executed green steam supply projects across various industries, including agrochemicals, a confectionery major, and a specialty chemical company in Gujarat, Tamil Nadu, and Maharashtra respectively
- » Commissioned biomass boiler plants for steam supply to a chemical major in Gujarat and a pharma company in Madhya Pradesh

**Case Study****TOESL Executes a 100% Biomass-Based Boiler Plant for a Large Pharma Company**

TOESL executed a 100% biomass fired 30 tonnes per hour boiler plant for one of India's biggest pharma giants that wanted to switch from natural gas to a green energy source for their plant in Karnataka, India. The challenge was to deliver the project on a build-own-operate basis for a long term in a plant with severe space constraints and in close vicinity to urban commercial spaces.

TOESL deployed one of the largest saturated, hybrid water and smoke

tube boilers with a reciprocating grate to cater to the steam load of the customer. The company designed a first-of-a-kind plant configuration with 'Ground + 1' scheme. The boiler house was designed to have the boiler on the first floor of the plant, at an elevation of +7m height, with space for fuel storage on the ground floor. This ensured sufficient availability of biomass fuel for boiler operations. Four field electrostatic precipitators (ESP) have been deployed to meet the emission limit of 30 mg/Nm³

of suspended particulate matter, making it one of the largest ESPs supplied for a saturated boiler by Thermax.

Rs. 15 crore
Annual Savings

30,000 tonnes
Annual CO₂ Reduction

First Energy Private Limited (FEPL), Pune, Maharashtra**Business Performance**

Achieved a healthy order booking during FY 2023-24, exceeding the annual target by 40%. FEPL's cumulative operational capacity increased from 27.5 MW peak of solar to ~170 MW peak, including solar, wind and hybrid captive renewable power projects in India by the end of March 31, 2024. Additionally, ~59 MW peak of wind and solar capacity projects are nearing commissioning. FEPL is also constructing a ~60 MW of wind renewable power project scheduled to be commissioned in the last quarter of FY 2024-25.

During the year, our solar site in Tamil Nadu was affected owing to unprecedented heavy rains but the plant was adequately insured and is currently under restoration and stabilisation.

Key Solutions Provided

- » Understands the unique energy matrix and designs custom-made solutions for different industries, applications, and energy management goals
- » Manages the entire energy corridor – from behind to beyond the meter – assuring dependable and reliable round-the-clock (24/7x365) green power to customers

Key Industries

- » All industrial clusters

Sustainable Growth Plan

- » To set up renewable captive power plants (solar, wind, hybrid, and storage) to tackle renewable power requirements, providing a sustainable solution for industries and reducing India's carbon footprint
- » To explore the option of connecting large power projects with the CTU (central transmission utility) in the future
- » To collaborate with credible partners
- » To explore additional revenue sources such as carbon market exchanges
- » To adopt new technologies and automate business processes

Geographical Footprint

- » India (Maharashtra, Gujarat, Tamil Nadu, Andhra Pradesh, Rajasthan)

Highlights

- » Single order of 75 MW wind captive project received from Tamil Nadu
- » First international order received from the Philippines
- » Concluded an industrial customer acquisition for solar and wind captive projects of 207 MW peak
- » Commissioned a 45.80 MW wind-solar captive hybrid plant in Gujarat for industrial consumers

MANAGEMENT DISCUSSION AND ANALYSIS

Performance of Green Solutions Segment in FY 2024

The Green Solutions segment accounted for 5.2% (4.4% in FY 2023) of the Group's gross operating revenue. The operating revenue (net) stood at Rs. 507 crore (Rs. 363 crore), while the segment's profit was Rs. 45 crore (Rs. 15 crore) for the same period. In FY 2024, the order booking was Rs. 241 crore, growing from Rs. 195 crore in the previous year. The increase in revenue was mainly due to the income generated by new sites under TOESL and FEPL.

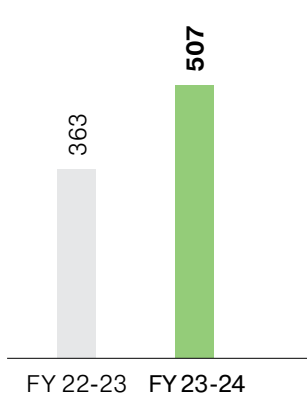


TOESL partnered with a leading specialty chemicals company, marking their third collaboration for green steam supply under the build-one-operate (BOO) model

Green Solutions

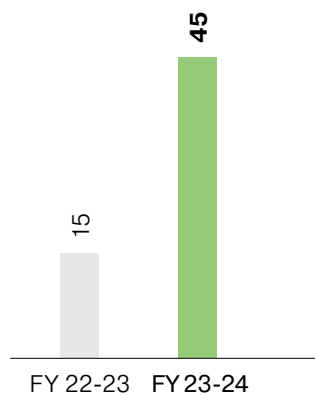
Revenue

(Rs. in crore)



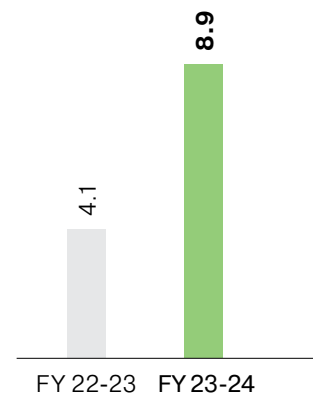
Profit*

(Rs. in crore)



Profit Margin*

(%)



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