*400 MW Bibiyana South Combined Cycle Power Plant, Bangladesh*

# POWER BUSINESS

## Overview

L&T has established itself as one of the leading EPC players in offering turnkey solutions for both Coal and Gas based power plants encompassing every aspect of design, engineering, manufacture, construction, and project management. In addition to undertaking turnkey projects, it also offers equipment and other services for power plants.

The business has developed its own capabilities for executing large and complex power projects, which include engineering, state-of-the-art manufacturing facilities, competent manpower and decades of experience earned in executing large and complex projects within and outside India. The business has a proven track record of delivering complete power plant solutions with scale and sophistication to meet India's growing energy needs.

The business executes combined cycle and cogeneration gas-based power projects on turnkey basis. It has an excellent track-record in implementing projects in India and overseas. It is the first company to execute a project with 'F-technology' gas turbine of 250 MW class.

The business has built on its core competencies and capabilities and has emerged as a major player in new emissions control technologies such as Flue Gas Desulphurization (FGD) in the Indian thermal power plant industry. It now has a sizeable presence in the FGD business.

The business has an integrated manufacturing facility at Hazira, Gujarat. It is one of the world's most advanced facilities having a manufacturing capacity of 5,000 MW per annum.

The facility manufactures ultra-supercritical / supercritical boilers, turbines and generators, pulverisers, axial fans and air preheaters, components of FGD and electrostatic precipitators. The business has project management offices at Vadodara, Faridabad, Dhaka, and various other project sites.

The business has the following JVs within its fold:

**L&T-MHI Power Boilers Private Limited,** a joint venture with Mitsubishi Heavy Industries (MHI), Japan – The world's leading power equipment maker, for the engineering, designing, manufacturing, erecting and commissioning of ultra-supercritical / supercritical boilers up to a single unit of 1,000 MW.

**L&T-MHI Power Turbine Generators Private Limited**, a joint venture with Mitsubishi Heavy Industries (MHI), Japan and Mitsubishi Electric Corp. (MELCO), for manufacture of Steam Turbine Generator (STG) equipment of capacity ranging from 660 MW to 1,000 MW. The Company is engaged in the engineering, design, manufacture, erection and commissioning of ultra-supercritical / supercritical turbines and generators.

**L&T Howden Private Limited,** a joint venture with Howden Holdings B.V. L&T Howden, is in the business of regenerative air-preheaters and variable pitch axial fans (equipment, after-market spares and services) for power plants.

**L&T - Sargent & Lundy Private Limited,** a joint venture with Sargent & Lundy LLC, USA, which is engaged in the business of providing design, engineering, and project management services for the power sector.


*Turbine manufacturing facility at Hazira, Gujarat*

## Business Environment

The Indian power sector is undergoing a significant change and that has redefined the industry outlook. Sustained economic growth continues to drive electricity demand in India. The Government of India's focus on attaining 'Power for All' has accelerated capacity addition in the country. At the same time, it is conscious of its goal for substantive reductions in emissions from the power sector.

The growth of the thermal power sector remained tepid in view of the Government's increasing focus on decarbonisation of the country's power generation mix and hampered economic activities owing to the COVID-19 pandemic.

A panel constituted by the Ministry of Power, to update the National Electricity Policy has suggested in its recommendations that new coal-based units can be constructed to replace older units of similar capacities, only after it is convincingly established that it is not viable to meet the projected demand from alternate non-fossil sources.

Tenders for FGD Units were delayed and retendered due to increase in input costs resulting in budget constraints for Power producers. Even during this phase of subdued tendering, the business won a FGD order of 1,000 MW from a prestigious Central Utility.

Though the import and pipeline infrastructure for LNG in India has been improving, domestic as well as imported natural gas continue to be economically unviable for power generation projects and hence near to mid-term opportunities remain lackluster. While the Government has set up a committee last year, to make natural gas available to power plants at a 'reasonably stable price', most of the 24 GW of installed / commissioned gas-based projects in India remain underutilised.

Though there are challenges in the international markets such as greater focus on renewables, geo-political dynamics and uncertainty hovering around COVID-19, these markets still offer specific opportunities, and the business is pursuing certain targeted projects with reputed clients and OEMs.

## Major Achievements

Some of the major achievements by the business during the year include:

- Achieved Completion of Facilities of 2nd Unit of a Central Utility Project in Uttar Pradesh where the Supercritical boilers were supplied by the Boiler JV
- Received Operational Acceptance for Cooling Tower package of 2nd Unit of a Central Utility Project in Uttar Pradesh
- Final Acceptance Certificate received from Client for 225 MW CCPP project in Bangladesh
- Provisional Acceptance Certificate received from Client for 400 MW CCPP project in Bangladesh. This project has been conferred the Award of Merit by the prestigious US-based publication - Engineering News-Record (ENR)
- Supply of pressure parts by Boiler JV for its maiden order from the Ministry of Economy, Trade and Industry (METI) of Japan to a power project in Japan

*2x660 MW Khargone Thermal Power Plant, Madhya Pradesh (India's first ultra-supercritical power plant)*

## Significant Initiatives

While the business is targeting the prospects in Coal based power plants and FGDs, it is exploring into various adjacencies such as Life-cycle Management of STG, efficiency improvement of existing plants, manufacturing of quenchers and absorbers, co-firing of Biomass, waste to energy etc. to contribute towards a cleaner environment.

The business aims actively towards 'Execution par Excellence' to improve competitiveness by continuing the journey of cost-saving and on-time project completion. The focus to achieve QEHS excellence remains of prime importance. It has also accelerated usage of digital levers to increase efficiency and productivity of operations.

To expand its international footprint, the business is laying emphasis on business development activities in select international geographies like GCC, Southeast Asia and CIS. It has taken steps to strengthen its presence in such geographies to capitalise on the opportunities available in this sector.

## Outlook

An expanding economy, population, urbanisation, and industrialisation means that India sees the largest increase in energy demand compared to any other country. With the emphasis on clean energy and zero emission targets the business continues to face temporary headwinds in the prospects for thermal power. However, the business is expecting to witness an increase in new thermal projects to be tendered out with an aim to support the smooth transition towards clean energy, while maintaining the country's energy security amid rising demand. Several projects are expected to be finalised in the imminent future.

Considering the CEA's projections of 267 GW thermal power capacity by FY 2029-30 and in view of retirals of old, inefficient, and polluting power plants, addition of new thermal power capacity is envisaged to continue in the near future, positively impacting the business prospects.

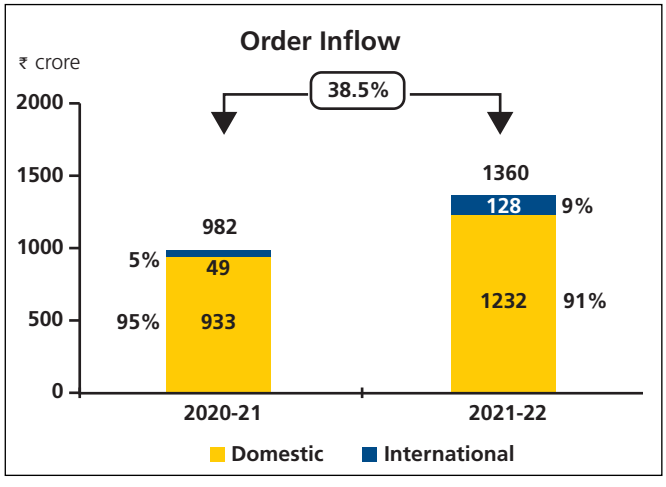
It is estimated that the total installed capacity of power plants for which FGDs are to be installed is around 167 GW, involving 440 FGD units. About 80 GW of FGDs have been ordered till date. Tendering of balance units is expected to gain momentum in FY 2022-23 if the current deadlines stipulated by MoEFCC are to be adhered.

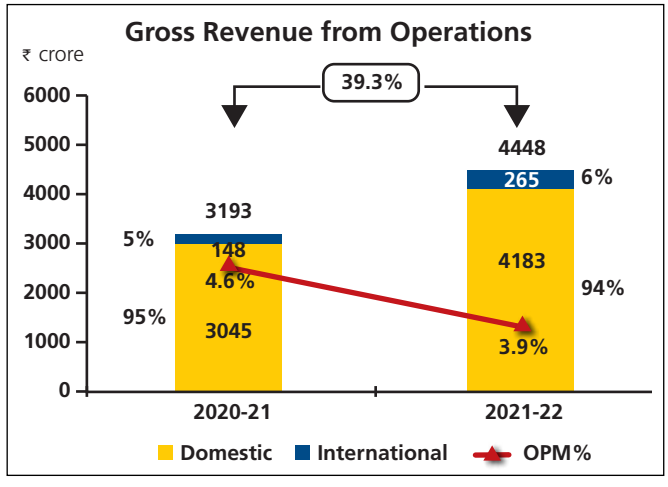
The business is also focusing on international markets for opportunities. The inherent advantages of gas-based power projects like fuel flexibility and fast ramp up and ramp down capabilities, make it most suitable for grid balancing along with renewable energy projects.

L&T-MHI Power Boiler JV and L&T-MHI Power Turbine Generator JV are also looking forward to leveraging upcoming spares and service opportunities in the domestic market and will continue to explore business opportunities in the international market for export orders.

*Boiler manufacturing facility at Hazira, Gujarat*

## Financial Performance of the Segment




The Power segment recorded an Order Inflow of ₹ 1,360 crore for the year ending March 31, 2022, registering growth of 38.5% as compared to the previous year with the receipt of an FGD order. Ordering activity has remained subdued during the year largely due to deferral of limited thermal power project opportunities and delay in tendering of FGD orders.

The segment's revenue improved y-o-y by 39.3% to ₹ 4,448 crore, with a higher execution momentum of opening Order Book.

The operating margin decreased to 3.9% from 4.6%, mainly due to the mix of jobs under execution.

The funds employed by the segment at ₹ 2,281 crore as at March 31, 2022 registered an increase of 12.8% over the previous year, mainly due to the delay in collection of retention moneys, coupled with the build-up in contract assets on account of pick-up in execution momentum.