



Power

Sustainable Solutions in Energy & Environment

Thermax is an engineering company that helps business enterprises perform competitively and sustainably in global markets. In over 75 countries, clients make use of Thermax's products and solutions for energy efficient and eco-friendly operations: heating equipment and power plants that use a wide variety of fuels including solar energy; absorption chillers that use heat in place of electricity; waste heat recovery units; water & waste water management, air pollution control systems; performance improving chemicals.

The company provides its customers value added services – audits of energy and water, system modifications for optimal use of resources, annual maintenance contracts, energy rentals and O&M of power and water installations.

Thermax operations are supported by innovative R&D and partnerships with global technology majors. It has an international sales & service network spread over 24 countries and state-of-the art facilities (in India, Denmark and China) that manufacture to international standards.



Packaged Heating Systems

Thermax designs and manufactures steam boilers, thermal oil heaters, hot water generators, thermosyphons, waste heat recovery units and systems for incidental and cogeneration power requirements.

Large Boilers and Fired Heaters

Thermax provides equipment and steam generation solutions for process and power needs. It includes a range of options covering combustion of various solid, liquid and gaseous fuels, heat recovery from turbine/ engine exhaust and waste heat recovery from industrial processes.



Air pollution Control Systems

Thermax offers single source expertise and solutions in air pollution control and air purification, helping industries to recover pollutants, and to reduce their harmful impact on the environment.



Absorption Chillers

Thermax manufactures absorption chillers that use steam, hot water and waste gases in place of electricity, thus offering eco-friendly air conditioning and process cooling. They are essential equipment in green energy systems and operate with reduced carbon footprints.



Our end to end integration

In its journey of more than five decades, Thermax has mastered the technology of heat and mass transfer, and has been providing customized solutions to fulfill the industrial utility needs of its clients.

The company has garnered extensive experience in designing, engineering, constructing and operating various utilities including process heating, process cooling, waste & water, power and pollution control systems. Needless to say, Thermax today, enjoys a unique position that enables it to offer fully integrated customized solutions for your power requirement.

Waste and Waste Water Management

Thermax offers green solutions in the field of water and wastewater treatment and recycling to industrial, commercial, defense, hospitality and municipal sectors.



Operations & Maintenance, Specialized Services

The service teams of Thermax support clients with specialized services -- O&M of power plants and water and wastewater treatment plants; retrofits and upgrades of equipment, energy management including steam engineering in utilities through fully automated PLC based control systems.



Specialty Chemicals

Asia's largest manufacturer and exporter of ion exchange resins and a pioneer in chemicals for water and wastewater treatment, Thermax offers a wide array of chemicals to improve processes and product performance across a spectrum of industries.

Solar Energy

The Solar business handles projects in power generation, heating and cooling, using photovoltaic and hybrid solar-thermal applications. Thermax is a leading EPC player in solar PV projects across the country. We provide end to end solutions to our customers, from concept till commissioning, and O&M support thereafter.



Each of these verticals integrates seamlessly into the area of Power Generation, giving Thermax Power Division an edge few can match.

Your single window solution provider in power

Set up in 1995, Power division of Thermax has been the pioneer in bringing the concept of EPC (Engineering, Procurement and Construction) in industrial power generation across multiple sectors.

EPC (Engineering, Procurement and Construction) Fail safe option to investments in power solutions

Spanning over 100 varied projects, the division has contracted more than 3,000 MW of power plants on EPC / Turnkey basis entailing concept designing, detailed engineering, procurement, construction and commissioning of entire power plant.



With Thermax's legacy in heat transfer technology and environmental engineering, and with about 35% of components and machinery of a power plant already being manufactured inhouse, it was logical to integrate it into a distinct capability.

Our EPC offering thus frees the client of risks, by guaranteeing timely completion, fixed cost and desired performance.



Power plant EPC

Cogeneration plants Captive power plants Waste heat recovery plants

Solar power plants Solar PV plants Solar Thermal

Operation & Maintenance (O&M) of power plants Comprehensive O&M

Value added services

FEED (Front End Engineering & Design)

Gasification Biomass Coal

Industrial utility EPC

The above offerings are based on variety of fuel types



Our EPC capabilities work for you







Thermax's engineering expertise is embellished by 550 technically sound engineers who work on state of the art technology. We provide design solutions as well as detailed engineering so as to give an exhaustive range of services to a diverse clientele. STAAD, AUTOCAD 3D, REVIT, ETAP, RCDC, Steam-Pro, GT-Pro, TEKLA, etc are some of the tools with which the engineering is optimized. The engineering process is coupled with primavera for monitoring progress. With its world class engineering practices and expertise in all the leading engineering standards, Thermax is in the best position to provide the perfect solution.



We have the capability to execute 20 concurrent projects spread across domestic and international sites. Our experience of concreting 200,000 m3/ year along with 80,000 ton of mechanical erection and handling of more than 2000 workforce at site speaks volumes about our execution capability. ERP enabled construction progress monitoring along with front estimation tool provides seamless control on the ground. Technology enabled material handling ensures better material availability and traceability. A well-structured team led by site in charge, supported with area engineers, Site planner and site safety personnel help in completing the project on time with high standards of safety. Established and reliable international sourcing helps in procurement of quality components with the best cost. Stringent approval processes are applied to shortlist and finalize the most suitable domestic and overseas supplier. The procurement process is integrated with ERP as well as the primavera for efficient and fault free purchase process. Project progress monitoring, contracting and contract management capability along with best supplier management practices enables Thermax to maintain 100% on time performance.



Our detailed project management integrated planning and the use of online dash boards enhances the quality and efficiency of delivery. Our QPMP/IPMA qualified project managers ensure the deliverables with respect to time, performance, quality & cost are met through professional project control tools and dashboards. We have a unique IT system that integrates our core planning platform with ERP and functional trackers. This ensures availability of real time progress tracking across E, P & C functions

Your Reliable O&M partner

Thermax Power Division continues to partner with clients post execution of power plants as well. Our comprehensive operation and maintenance services for plants and equipment are delivered by an experienced & trained team who deploy proprietary processes.

For power plants our expertise stems from a demonstrated and successful operation & maintenance of a wide array of plants across different sizes and configurations, fuel and technology. Moreover, we have the ability to provide reliable round the clock power in a highly fluctuating demand condition. We keep our customers' investments productive by continuously optimising operations with an aim to enhance availability, output and efficiency of plants while driving down the life cycle costs through continuous innovation.





Offerings

- Comprehensive O&M for Power Plants
- Utility Block O&M for Industries
- Plant Improvement Program
- O&M Management

- Spares
- Performance Guarantee Test
- Training Services
- Plant Commissioning Services

The global outlook

We have a network of 33 international offices and 13 manufacturing facilities – 7 of which are in India and 6 overseas. Our presence spans 75 countries across Asia Pacific, Africa, Middle East, Europe, USA and South America. The group also has 20 wholly owned overseas subsidiaries.





Solar

Solar PV

With proven expertise in Engineering, Procurement and Construction, Thermax Solar Solutions is a leading EPC player. Focusing on quality and timely execution, Thermax delivers customised solar PV solutions at optimal cost within stipulated timelines



Rooftop

- Off-grid and grid connected solutions
- Industrial and commercial buildings, institutes and public sector undertakings
- On a variety of roofs inclined and curved roofs, elevated structures, car parks, etc.



Ground mounted

- Utility scale ground mounted solar projects on EPC basis
- Turnkey balance of system solutions for large ground mounted projects



M&O

Thermax has a dedicated Solar O&M team, helping customers keep their assets productive.

- Operate and maintain over 4 MW worth of rooftop solar projects
- Offer flexible annual maintenance contracts



GAIL India Ltd.

Installed Area	:	70,000 m ²
Area type	:	Roof Mounted
Rated Capacity	:	5760 kWp
Annual Generation	:	79,20,000 kWh/year

Daimler

Installed Area	:	5000 m ²
Area type	:	Ground Mounted
Rated Capacity	:	500kWp
Annual Generation	:	7,50,000 kWh/year



Asahi Glass India Ltd.

Installed Area	:	10,000 m ²
Area type	:	Dome Shaped Roof
Rated Capacity	:	1000 kWp
Annual Generation	:	15,00,000 kWp/year



Tata Communications

Installed Area	: 3500 m ²
Area type	: Flat RCC Roof
Rated Capacity	: 306 kWp
Annual Generation	: 4,59,000 kwh/year

The Thermax Advantage



Over 3000 MWe spread across 115 power projects contracted on EPC basis.

> More than 10 million safe man hours of project execution with OHSAS certification for all sites



In excess of 50,000 GWh generated by power plants erected and commissioned by Thermax.

> In house O&M capability ensuring guaranteed plant performance



In house manufacturing of boilers, ESP, Bag filters, ACC, water treatment systems and speciality chemicals

> End to end solutions from Concept to Ash Management



World class execution offering on time delivery, high performance and least lifetime cost



Established global EPC player with installations across multiple countries

We have had our proud moments

Thermax Power Division is immensely happy to have delivered to the best quality standards each time. Some of our notable achievements

> Highest number of repeat orders from customers in mid size power projects

> > Consistent in winning safety award with high number of safe working hours at each site

Gold prize for best biomass cogeneration plant of the year by Asian Power Award 2012

> Most number of bonuses earned for timely completion of projects

Manufacturing plant accredited with ISO 9001:2000, ISO 14001:2004, OHSAS 18001:2007, ASME S & U Stamps and MLSE, China certificates

> Awarded first of a kind integrated hybrid solar thermal power plant in India

Commissioned India's largest roof top solar PV project on a single roof

Projects designed to meet international standards like ISO, ASME, DIN, IBR, TEMA, ASTM, AWS, BS, HEI, etc

Varied fuels and project configurations at work

Arvind Mills Limited

Gas Tri-generation

- Consultant : Black & Veatch
- Fuel : Natural Gas/ Naptha
- Size : 55 MW
- Configuration : 4 HRSG+2ST+4GT+BOP



ONGC Mangalore Petrochemical Refinery Ltd

Gas Co-generation

- Consultant : Toyo Engineering
 - : Natural Gas / HSD/ LSHS
- Size : 72 MW

• Fuel

• Configuration : 2*140 TPH utility Boiler+2HRSG+1ST+2GT+BOP

North East Electric Power Corporation

Open to Combined Cycle

- Fuel : Natural Gas
- Size : 46MW
- Configuration : 4*45TPH Bottoming Cycle Boiler (HRSG)+1ST+BOP





Rashtriya Chemicals & Fertilizers Ltd., Thal, Maharashtra

- Size : 2 x 25 MW
- Fuel : Natural gas
- Configuration : 2nos of 100 TPH HRSG boilers, 105 kg/cm², 510 0C



JK Cement Works Nimbahera

Waste Heat in Cement Plant

- First project in India to be registered with UNFCCC for utilising low temp. cement waste flue gas
- Size : 13 MW
- Fuel : Waste heat from PH & AQC
- Configuration : 5WHRB+BOP

Tata Sponge Iron

Waste Heat in Steel

- Size : 18.5MW
- Fuel : Waste Heat from DRI kiln
- Configuration : 78 TPH WHRB +1ST+ BOP
- First sponge iron enterprise in India to earn carbon credits





Wonder Cement

Waste Heat in Cement Plant

- Size : 18 MW
- Fuel : Waste Heat from PH and AQC
- Configuration : 17 kg/cm², 385 degree cel
- One of the largest cement waste heat recovery plant in Asia



Rain Cement

Waste Heat in Cement Plant

- Size : 4.5 MW
- Fuel : Waste Heat from PH and AQC
- Configuration : 17 kg/cm², 325 degree cel





Varied fuels and project configurations at work

Bataan 2020

Biomass

- Size : 12.5 MW (Philippines)
- Fuel : Rice Husk
- Configuration : 78 TPH AFBC Boiler +1ST+BOP
- Won the Gold Award for the best biomass cogeneration plant in Asia by Asian Power Award 2012



Isabela Biomass Energy Corporation

- Size
 - ze : 20 MW (Philippines)
- Fuel : Rice Husk
- Configuration : 67kg/cm², 490 Degree centrigrade Travelling Grate Boiler
- Won the Sustainable Energy Finance Award by International Finance Corporation

Jai Hind Sugar Pvt Ltd

Bagasse Based for Sugar Sector

- Size : 18MW
- Fuel : Bagasse/ Coal
- Configuration: 100 TPH Bagasse fired travelling grate boiler+BOP



Ruchi Soya Biomass Gasifier, Washim, India

- Ruchi Soya Biomass Gasifier, Washim, India
- Systems supplied, erected and commissioned
 - Biomass preparation & feeding system
 - Gasifier system
 - Gas clean up system (Olga)
 - Power generation system 4 nos 250 KWe engines



Dangote Cement Zambia

- Size : 30 MW
- Fuel : Coal
- Configuration : 2*65 TPH AFBC boiler+1ST+BOP
- Repeat orders from customer in other parts of Africa



MEPL (GDF Suez) Large IPP

- Consultant : Evonik Energy Services (India)
 - Pvt Ltd
- Size : 300 MW
- Fuel : Indian/ Imported Coal
- Configuration : 2*495 TPH CFBC Boiler+2ST+BOP
- Largest CFBC Reheat Boiler to be commissioned in the 11th five year plan in India

Grasim Bharuch (Aditya Birla Group)

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Industrial Cogeneration

- Size
- : 96 MW + process steam : Indonesian Coal

- Fuel :
- Configuration : 4*175 TPH CFBC Boiler+ 3STG+BOP including for Process steam
- One of the largest Industrial cogeneration plants for a staple fibre unit.

MWV India Paper Board Packaging Pvt. Ltd.

- Size : 20 MW + process steam
- Fuel : Coal
- Configuration : 110 kg/cm², 540°C CFBC Boiler







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Thermax Business Portfolio

- O Heating
- O Cooling
- O Power
- Air Pollution Control
- Chemicals
- O Water and Wastewater Solutions
- O Solar
- Specialised Services

This brochure presents only some of our products and we reserve the right to amend any product details without notice. The photographs used in the brochure are indicative and may not match the actual plant.

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