Triveni
TURBINES

PRECISION IN EVERY TURBINE. POWER IN EVERY TURN.

ENGINEERED FOR EVERY INDUSTRY.



A JOURNEY DRIVEN BY PURPOSE AND POWERED BY PRECISION

Started in 1968, for over 50+ years, Triveni Turbine Limited (TTL) is a globally recognized leader in industrial heat and power solutions and decentralized, sustainable energy systems. With a strong foundation in engineering excellence, the company designs and delivers high-efficiency, reliable, and customised solutions that enable industries worldwide to optimize energy use, enhance operational performance, and reduce carbon footprint.



Over **6000**
Steam Turbines
Installed Globally

22+
Industries Served for Heat & Power Needs

350+
Annual Turbine
Manufacturing Capacity

Green Impact Strength
Nearly 80-85% of our Business came from Thermal Renewable Fuels

Installations in
80+ Countries

>30%
Global Market Share*
*(Sub-30 MW Range -McCoy Report)

BUSINESS OVERVIEW

TRIVENI TURBINE LTD. (TTL)

PRODUCT & SERVICES DIVISION

Design, Supply, Installation of Steam Turbines for power and drive applications up to 100 MW range

Contract Manufacturing ST up to 800 MW

24/7 customer service

Quick response in the delivery of spares

Complete Turnkey and Lifecycle Management of supplied machines

REFURBISHMENT

REFURB™

Life extension experience of up to 900 MW Steam Turbines

Any age, Any make Turbines (Ansaldo, GE, Siemens, Chinese & Russian makes, Toshiba etc)

MRO -Repair & Maintenance, OEM

Reverse Engg. & Supply of Parts

High-Speed Vacuum Balancing

ENERGY TRANSITION PRODUCT SOLUTIONS

Heat Pumps

ORC Systems

Steam Compressors

Energy Storage Systems

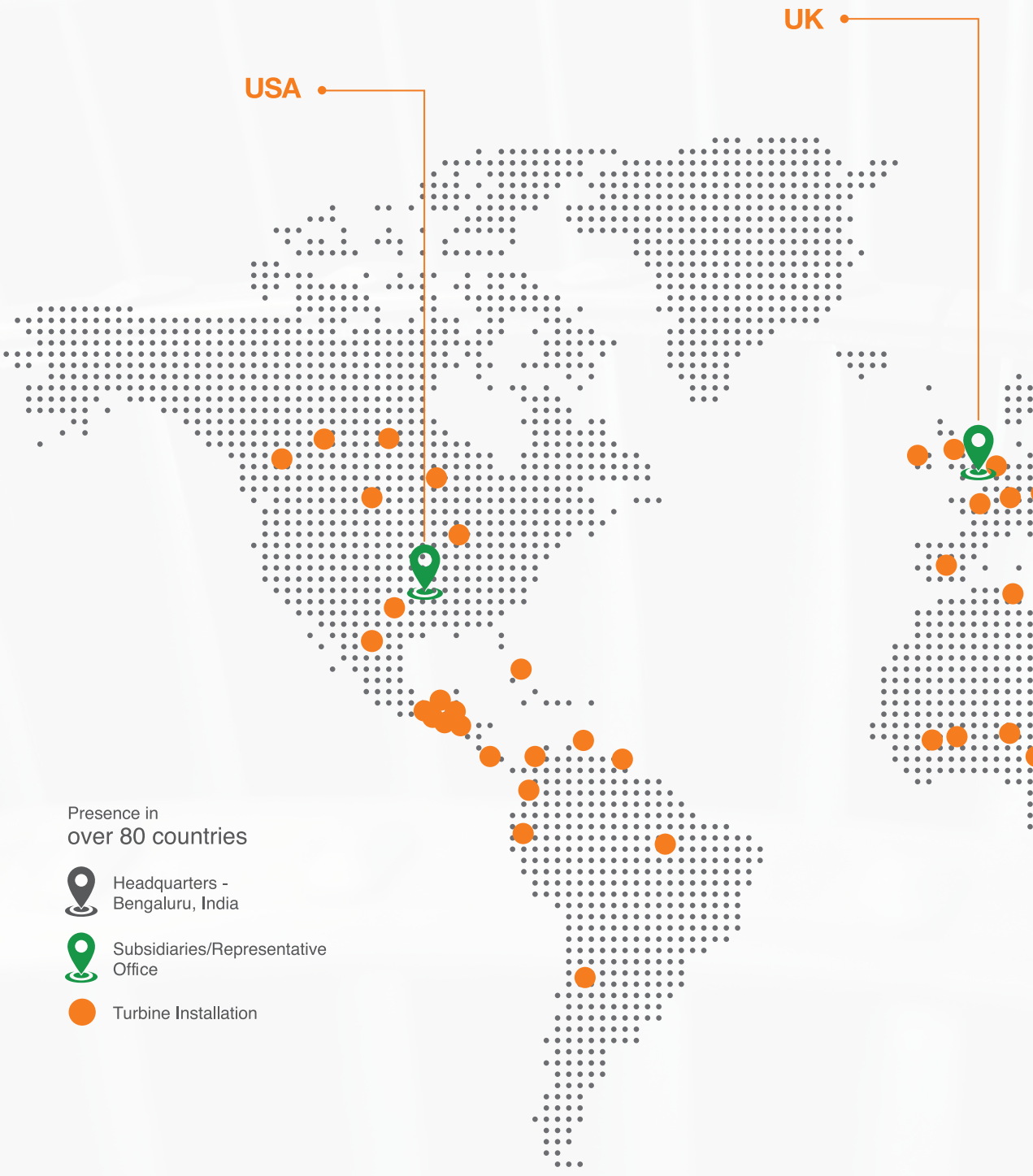
Oil Systems

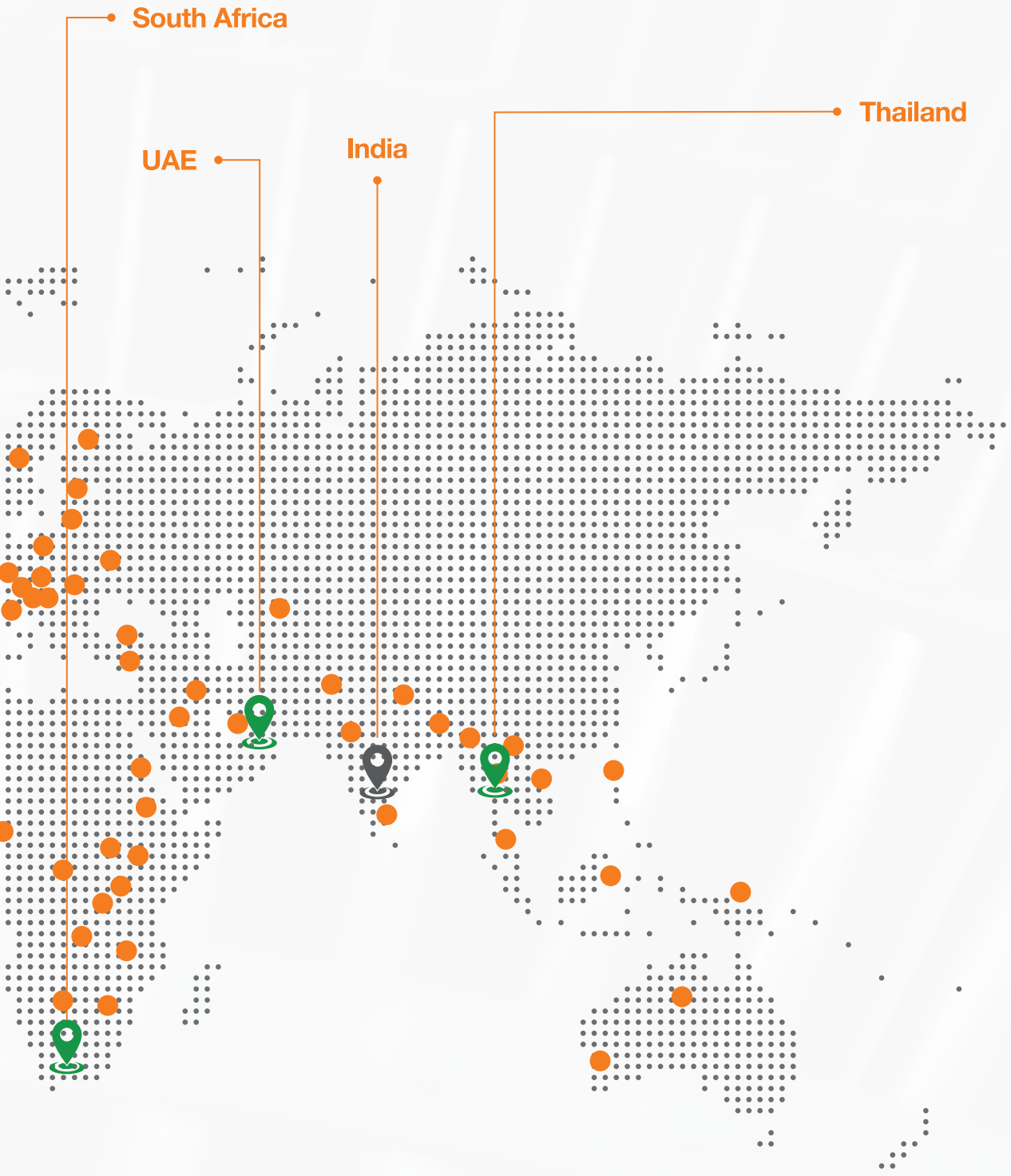
CO_2 based Turbines



GLOBAL PRESENCE.
LOCAL COMMITMENT.

With a footprint across more than 80 countries, Triveni Turbines delivers worldwide service backed by global scale. Supported by our state-of-the-art facilities in Peenya and Sompura, Bengaluru along with our global centres in the USA and South Africa, we offer customer-specific solutions strengthened by strategically placed offices and strong on-ground teams that ensure continuous engagement and lasting partnerships.




South Africa
UAE
India
Thailand

VERSATILE TURBINE SOLUTIONS FOR EVERY ENERGY NEED

At Triveni Turbines, with our decades of intellectual capital and ongoing R&D activities, we have established a comprehensive portfolio of products that cater to the energy needs of diverse industries. Our products are also helping shape a better tomorrow by addressing the global urgency of energy equity, security and sustainability.



INDUSTRIAL STEAM TURBINES

High-Performance Turbines. Industrial-Grade Reliability.

Built for demanding operations-delivering power, precision, and proven uptime across global industries.



CONDENSING STEAM TURBINES



BACK PRESSURE STEAM TURBINES

Types

Specifications

- Up to 100 MWe
- Up to 545°C
- Up to 140 bar(a)

Condensing Steam Turbines

- Straight condensing type
- Bleed condensing type
- Extraction condensing type
- Double extraction condensing
- Injection condensing type
- Axial turbines
- Reheat turbines

Back Pressure Steam Turbines

- Straight Back Pressure type
- Bleed Back Pressure type
- Extraction Back Pressure turbine

Key Features

- Robust construction
- Customisable designs
- High operational reliability
- High efficiency
- Compact design
- Low maintenance
- Flexible configuration





API STEAM TURBINES

API steam turbines compliant with international standards (API 611 - General Purpose and API 612 - Special Purpose)

Range up to 100 MW

Applications:

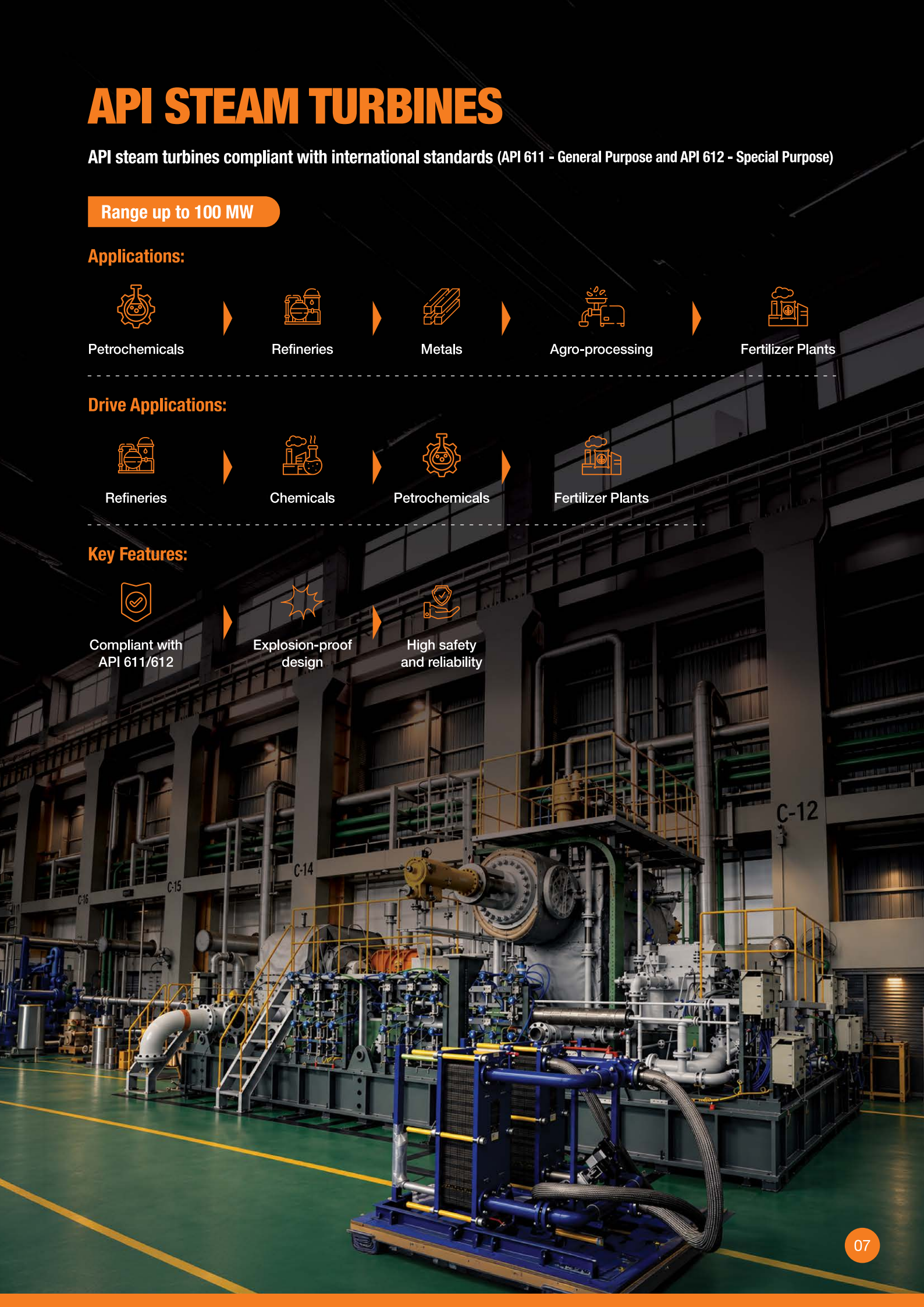
Petrochemicals | Refineries | Metals | Agro-processing | Fertilizer Plants

Drive Applications:

Refineries | Chemicals | Petrochemicals | Fertilizer Plants

Key Features:

Compliant with API 611/612 | Explosion-proof design | High safety and reliability





REFURB™

Triveni REFURB (Multi-brand services) is carving out a niche in the refurbishing and repair of rotating equipment of 'Any age, Any make' across the world. The wide portfolio includes efficiency enhancements by the complex re-engineering of rotating equipment, using advanced scanning equipment and state-of-the-art design & manufacturing facilities to basic activities like overhauls, health checks, condition assessments and spare parts supply by reverse engineering.

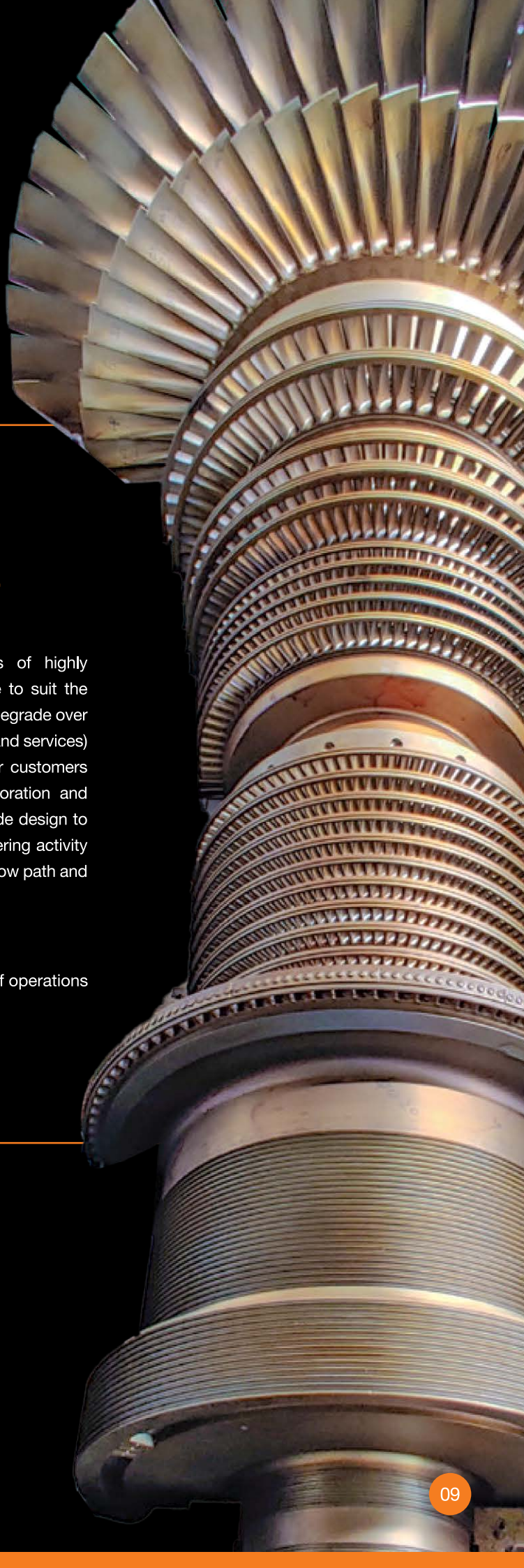
ANY age make turbine

Trust us to bring it to life

WHY REFURBISHMENT?

Triveni REFURB (Multi-brand services) team consists of highly experienced specialists who can re-engineer the turbine to suit the customers' current requirements. Steam turbines tend to degrade over usage with reduced efficiencies. Triveni REFURB (Multi-brand services) with our vast experience of installed base will assist our customers in re-engineering to address customers' efficiency restoration and enhancement by amalgamation of our highly-efficient blade design to the existing turbine housing. This is a complex re-engineering activity which our experts will undertake by upgrading the steam flow path and guaranteeing enhanced output to our customers.

- Up to 15% improvement in efficiency
- ROI under 2 years resulting in increasing profitability of operations
- Life extension of the turbine by over 100000 hours
- Increased span between two overhauls



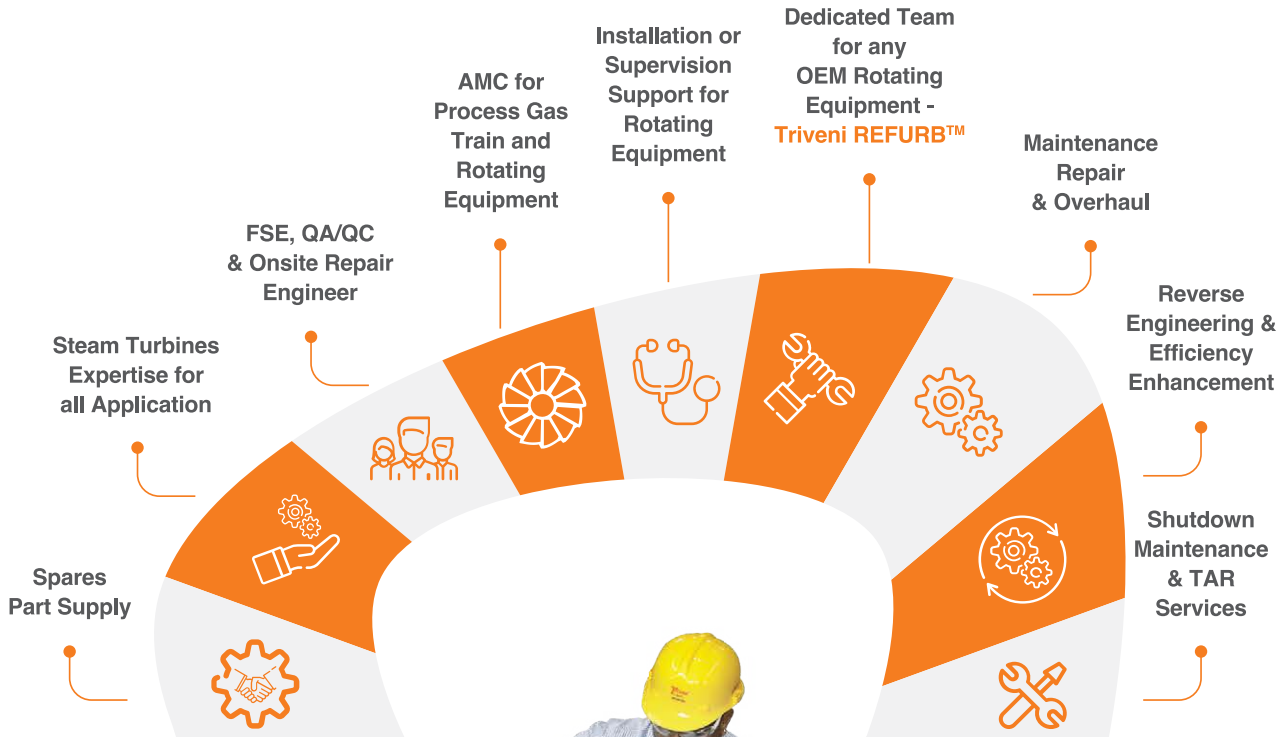
360° CUSTOMISED SERVICE PORTFOLIO

1000+ CUSTOMERS SERVED ANNUALLY

CUSTOMISED SERVICE SOLUTIONS

TOTAL CUSTOMER SATISFACTION

HIGH REPEAT CUSTOMER ORDERS





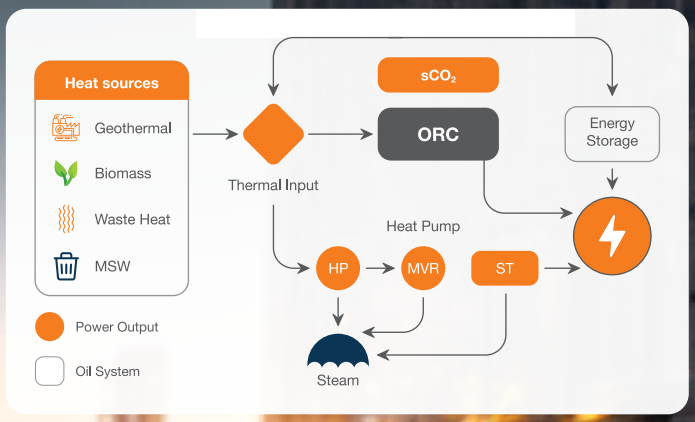
WE DO HEAT, STEAM & POWER INTEGRATED SOLUTIONS FOR EFFICIENT INDUSTRIAL GROWTH

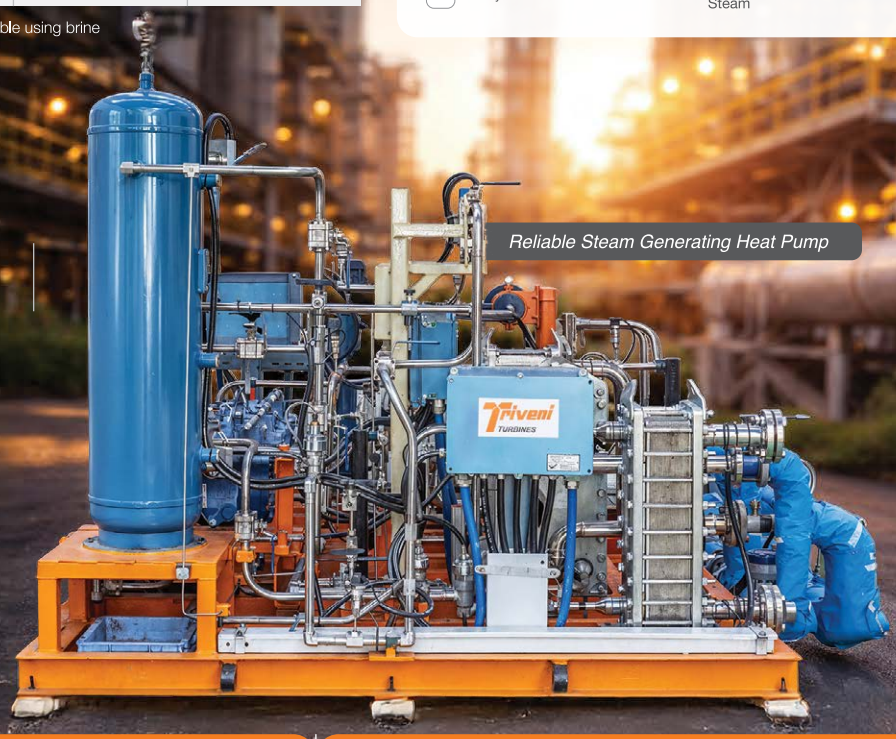
We provide integrated solutions across heat, steam and power for modern industrial applications. Our capabilities bring together efficient energy use, steam generation, power recovery and system optimisation in one connected offering.

With expertise in steam turbines, heat pumps, MVR systems, advanced power cycles, energy storage and oil systems, we help industries improve efficiency, reliability and sustainable growth.

Range	Heating	Chilling
Capacity	100 kW to MW scale	
Water Outlet Temperature	Up to Maximum 120°C	Up to Minimum 6°C*

*Sub-zero temperatures possible using brine





Reliable Steam Generating Heat Pump

Category	Details
Heat Pump for Hot Water	Heating up to **120°C,** Simultaneous chilling possible, Combined **COP up to 7**
	Capacity: 100 kW to MW scale
Steam Generating Heat Pump	Steam Generation up to **140°C**
	Pressure: **3.6 bar(a)**

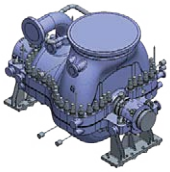
BENEFITS OF CO_2 HEAT PUMP & CHILLER SOLUTIONS

- Helps meet ESG and Net-Zero target with low GWP (1) and zero ODP.
- Natural, safe, and inexpensive refrigerant.
- Simultaneous heating and cooling provides higher efficiency (COP).
- Compact footprint.

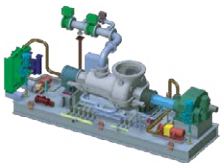
ENERGY TRANSITION SOLUTIONS



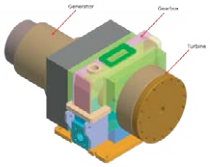
Mechanical
Vapor Re-compressors



ORC
Systems



Sub-Critical CO_2
Turbines up to 100 MWe



Supercritical CO_2
Turbines upto 10 MWe

POWERING INDIA'S ENERGY AMBITIONS WITH NEXT-GENERATION CO_2 INNOVATION

Long Duration Electrical Energy Storage - CO_2 Battery Project

Driving the next chapter of India's energy transition, Triveni Turbine Limited is proud to support NTPC's Co_2 based Long Duration Energy Storage (LDES) project at Kudgi with a capacity of 160 MWh.

Built for long-life, high-efficiency energy storage, the project eliminates dependency on critical minerals like Lithium and Cobalt while enabling minimal degradation, 100% depth of discharge, and flexible deployment across geographies.



MANUFACTURING & EXCELLENCE THAT POWERS PRECISION

Our advanced facilities in Sompura and Peenya have a combined capacity of over 350 turbines annually, supporting end-to-end manufacturing, assembly, testing, and refurbishment.

We also operate a turbine assembly and repair hub in South Africa, and we've recently opened one more facility in the USA. Supported by these global hubs our operations are designed to be lean, sustainable and scalable, ensuring precision, flexibility and unmatched reliability for diverse turbine solutions.

Key Capabilities Include

- Integrated CAD/CAM systems
- Five-axis CNC machining centers
- Extensive fleet of four-axis CNC machines
- Five-axis CNC mill-turn centers
- Five-face CNC gantry machines
- Vacuum tunnel
- Computerised test facility
- Full-speed mechanical steam run testing
- GMTH Goratu turn-milling machines
- Zeiss coordinate measuring machines

AS9100D, ISO 14001, ISO 45001 Standards

IEC, BS, API, NEMA, DIN, ASME, CE, PED, AGMA, TEMA, HEI

5S, TPM, Employee Involvements through QCs

Industry Best Practices



INDUSTRIES SERVED

Turbine Solutions Built Around Your Industry

- Pulp & Paper
- Pharmaceuticals
- Sugar
- Food Processing
- Distillery
- Boiler Feed Water Heating & Plant Chilling
- Textile
- Palm Oil
- Waste-to-Energy
- Cement
- General Engineering
- Steel
- Oil & Gas
- Public Institutions
- Automobile Industry
- Marine (Ships & Submarines)
- Biomass
- Geothermal
- Carbon Black
- Glass
- Rice Mill
- Ceramic
- District Heating

Applications of Steam Turbines and CO_2 Heat Pump | Applications of Steam Turbines | Applications of CO_2 Heat Pump


Triveni
TURBINES
VACUUM TUNNEL FOR HIGH SPEED BALANCING


MILLTURN
M 120

GLOBAL NETWORK

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IMAGINE.
INNOVATE.
INSPIRE.

Triveni Turbines
Corporate Film

Website

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