



CASE STUDIES

Triveni
TURBINES

Case Study 1

Sugar Plant in Belize, Central America



Turbine Details

Supplied
2x 16.5 MWe
Backpressure Steam
Turbogenerator units

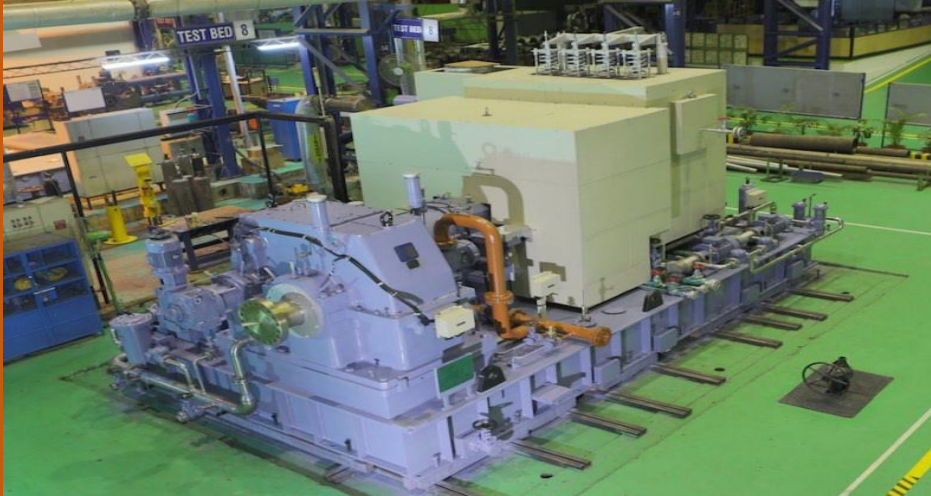
Project Highlights

- ☼ Supply of **2 Straight Backpressure Turbogenerators**
- ☼ Boiler parameters are 42 Bar(g) and 400 Deg C
- ☼ Triveni Turbines' make use of superior design technologies to generate maximum efficiencies and improve reliability under tough grid conditions
- ☼ Units are in operation since 2015

Project Highlights

- ☼ The same turbine can operate at dual inlet pressures - **42 bara** and **21 bara (old boiler)** without having to change rotor and blade path arrangement
- ☼ The blade and nozzle material is ASME standard which ensure longer blade life as well as increased OPEX benefits
- ☼ Exhaust steam is sent to the sugar process house and excess power to the national grid

Bagasse based Co-generation in Vietnam



Turbine Details

30 MWe Backpressure Steam Turbogenerator set

Project Highlights

- ⊗ Back pressure Turbine Inlet steam @ 65 Bar(a) 500°C with 2.5 Bar(a) Exhaust
- ⊗ Steam Admission through 4 inlet Throttle Valve and a Unique patent design for 360oArc of Admission
- ⊗ Hydraulically operated Automatic Stop and Emergency Valve powered with 24 kg/cm² oil system
- ⊗ Single Cast exterior casing with Guide blade carriers for faster start ups and reaction stages offer better efficiency.

Project Highlights

- ⊗ Steam Path designed to handle, very large volumetric steam flow. 12 stage Rotor with Reaction Blading providing higher efficiency
- ⊗ Taper and Twisted blades with entire blading provided with integral shroud. Hydrodynamic tilting pad Thrust and Journal bearings
- ⊗ Stable rotor dynamics with very low level of vibrations of max 0.4 mils. against specified limit of 1 which is within API 611 limits
- ⊗ **Better Acoustics:** 82 dB max. (spec.85-90 dB). Caulking pin type sealing. Base frame with Integral Oil system

Case Study 3

Sugar Co-generation Plant in Thailand



Turbine Details

1 X 25MWe Backpressure &
25MWe Extraction
Condensing Steam
Turbogenerator units

Project Highlights

- ☼ Single customer had both Extraction Back pressure Turbine as well as Extraction Condensing Turbine at same facility
- ☼ Inlet steam @ 65 Bar(a) 500°C with 2.5 Bar(a) Exhaust

Project Highlights

- ☼ Turbines are used for providing process steam to run the Sugar process as well as produce electricity to sell to the grid.
- ☼ The Extraction condensing turbine is run during non milling season to export power to the grid, thus providing flexibility during milling and non milling seasons

**POWER TO SUSTAIN
DREAMS**

THANK YOU



www.triveniturbines.com

