



Industry Case Study

# Palm Oil



## Case Studies:

*Back Pressure Single Stage Steam Turbine in Indonesia*

*Condensing Steam Turbine installed in Surat Thani,  
Thailand*

*Condensing Steam Turbine installed in Medan, Indonesia*



*The project is driven by 1.2 MWe Back Pressure Single Stage Steam Turbine in Indonesia*

### **Project Highlights:**

- **Mill Capacity:** 50 TPH
- **Power required by the mill:** 1000 kW
- **Boiler Parameters:** 30 Bar/Saturated
- **Boiler Capacity:** 35 TPH

**Challenge:** Fluctuating process and power demand

**Solution:** Multi-functional hand valve to meet process demand and operate turbine with higher efficiency

**Benefit:** Un-interrupted steam and power supply



*The project is driven by 8 MWe Condensing Steam Turbine with an inlet pressure of 38 Bar and inlet temperature of 400 Deg C installed in Medan, Indonesia*

### Challenge

- Space constraint for future expansion as there was an existing 45 TPH Boiler and a TG unit
- Combined Heat and Power Solution for 3 different palm oil refineries and factories adjacent to the unit

### Solution

- Modified the standard frame of the turbine to meet the existing site conditions
- Hybrid optimized efficient extraction condensing turbine offered with customized design
- Modern control and operating system

### Benefits

Existing units replaced with highly efficient extraction condensing steam turbine to meet power and heat requirement of other units



*The project is driven by 5 MWe Extraction Condensing Steam Turbine with an inlet pressure of 30 Bar and inlet temperature of 350 Deg C installed in Surat Thani, Thailand*

### **Challenge**

- Process steam required at 4.2 Bara ( 3.2 B arg ) and variable flow from 12TPH to 18TPH during plant operation
- Power generated to be exported to the grid

### **Solution**

- Extraction Condensing TG set for variable process flow to meet the process steam requirement and the excess power that can be exported to the grid
- Triveni's scope of supply includes Water cooled condenser, Gear box (Double helical, Single reduction), Generator and PLC based Control System

### **Benefits**

- Cost effective and Reliable solution

**Thank you.**

