

## Case Study: **Steam Boiler**

# SENERGY Consultants (P) Ltd

### **Background:**

While conducting energy audit at a textile company, the efficiency of a coal fired boiler was observed to be unusually low.

### **Operating Scenario:**

The boiler efficiency was computed by indirect as well as direct method as under.

### **Indirect Method:**

- Combustion efficiency with the help of flue gas analyzer
- Insulation losses with the help of thermal imaging camera
- Combustible in ash through analysis
- Blow down & other losses through assessment

### **Direct Method:**

- Consumption of water and fuel during the specified period of time
- Enthalpy of water and steam

The efficiency was observed to be lower due to poor combustion efficiency.

### **Energy Conservation Measures:**

The above concerns and issues were addressed by

- Adjusting the air to fuel ratio by tuning the boiler
- Streamlining the coal firing rate and methodology
- Re-sizing the grate area

### **Outcome:**

- The overall saving of 15% was realized in the boiler fuel consumption.

SCPL-CS-02

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