Energy Audit Final Report

September - 2014

PT HM SAMPOERNA Tbk.

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Sukorejo, Indonesia

Address for Communication
Schneider Electric
Energy & Sustainability Services (ESS)
Global Solutions, Demand Operations

Description	Units	PP-1 Blow down heat recovery
Energy cost	USD/MMBTU	6.43
Cost of Natural gas	Rp/M3	750
Annual monitory savings	MRp	34.75
	USD	2,996
Estimated Investment	USD	10,000
Payback period	Months	40

5.3.5 *Operate all RTC electrical heater with automatic temperature controller through Thyristor*

Background

In CP – 1 four number of RTC line are installed for tobacco processing. Each line of RTC one electrical heating oven is installed for drying the tobacco and moisture control. Each heater have three heating zone and each zone have two type of control combination for temperature control, one set of heater is always on condition and other set is connected with thyristor for temperature control.

Findings

Required temperature inside the oven is 160 °C but temperature varies from 180 °C to 195 °C and it's goes up to 210 °C . Operators are control oven temperature manually through thyristor control in different time interval.

Recommendation

Provide automation system with existing system which will controls all thyristor through temperature feedback.

Benefits:

The cost benefit analysis is given below:

Table 16. *Cost benefit analysis of RTC electrical heater with automatic control*

Description	Units	Value
Total RTC heaters power consumption	kW	404.3
Annual operating hours	Hr	7,920
Expected energy saving with automation and temperature feed back	%	12%
Average power saving	kW	48.516
Expected annual energy saving	kWh	384,246
Energy cost	IDR/kWh	1,057
	USD/kWh	0.0911
Estimated annual monetary saving	USD	35,013