



## **ANHUI TIANDU PAPER COMPANY LIMITED**

### **Replace Several Small Boilers with One Large Boiler to Improve Energy efficiency**

#### **SUMMARY OF THE OPTION**

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Anhui Tiandu Paper Co. Ltd. is a medium size paper company in the Liushipu Industrial Development Area, Anhui Province, China, and currently produces up to 50,000 tons of industrial paper per year for the domestic market, but expanding production capacity to 200,000 tons/year.

It was observed that there were about 10 small steam boilers, one was 2 tons/hour, four were 4 tons/hour and three were 10 tons/hour; and several of these have been used for a long time and were at the expiry time.

According to boiler tests carried out during the energy assessment, it was found that heat loss of the boilers was significant and that oxygen content in the exhaust smoke was high (about 12%). Based on data on the spot monitor it was found that carbon dioxide content was low (8%), and the air surplus coefficient was high.

**Table 1. Measured value of the boilers parameters**

<b>Boilers number</b>	<b>#7</b>	<b>#8</b>
CO <sub>2</sub>	7.5	8.1
CO	10	20
Smoke temperature (°C)	176	185
O <sub>2</sub>	12.4	11.8
Temperature difference(°C)	145	152
Combustion efficiency (%)	85.7	85.7
CO/CO <sub>2</sub>	0.0001	0.0002
P index	0.01	0.02
Air surplus coefficient	145	130

Therefore the company bought a 35 ton/hour boiler for paper-making machine #8, which is part of the new production line, to replace some of the smaller boilers (which can still be used as back up boilers). The total investment cost of the boiler is about US\$ 403,000, including the installation charge. Total savings, payback period, and reduced coal, water and emissions were not determined.

The company will start using this boiler when the new product line is completed, and then financial and environmental savings can be measured.

#### **KEY WORDS**

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Pulp and Paper, China, Boilers and Thermic Fluid Heaters



## FOR MORE INFORMATION

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