



SOUTHEAST
CHP
APPLICATION
CENTER

CLEAN HEAT & POWER

COX INTERIOR

5.2 MW COMBUSTION TURBINE

CHP FACTS

Location:

Campbellsville, KY

Generation Equipment:

Steam Turbine

Output:

5 MW

Installation Date:

1994

Annual Savings:

\$4.5 Million

Fuel:

Wood waste



PROJECT OVERVIEW

Cox Interior manufactures interior and exterior finishing products such as molding, doors, stairs, and fireplace mantels. These products are made from oak, cherry, poplar, and mahogany and the company produces over 100 tons of wood waste every day.

In 1992 the Cox Waste-to-Energy program was started which developed a co-generation plant to burn wood waste. The plant consists of two boilers which burn 300 tons of wood waste per day, producing 1.2 million pounds of steam per hour and 5 MW of electricity.

FINANCIAL

Cox Interior can use the heat to dry lumber, and saves money by purchasing green lumber and drying it. This cost savings was \$4.5 million in 2006. The facility saved \$978,897 in electricity costs and sold \$48,170 worth of electricity to the utility. With a gross savings of \$5.5 million, and an operating cost of 2.6 million, the system ultimately yielded a net savings of \$2.9 million.



PREPARED FOR
UNITED STATES

DOE

CHP OPERATION

Cox Interior has a fleet of 20 trucks with full time drivers to transport wood waste to the site. Once the wood is on site it is chipped in a large chipper and then stored in a 20,000 square foot fuel storage building. The plant uses a nearby lake located on company property for condensing.

SOURCE

http://www.interfacesouth.org/woodybiomass/case_studies/CS_Waste_Energy.pdf

http://www.eere.energy.gov/de/pdfs/chp_opportunityfuels.pdf

WOOD WASTE BOILERS

Wood waste boilers are known to perform nearly as well as coal fired boilers. Although wood has a lesser heating value and wood waste boilers require more maintenance, burning wood does not create additional problems. Wood waste boilers are successful when the supply of wood is cheaper and more available than coal, and it is perfect for the wood and paper industries.



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