

CASE STUDY:

District Energy St. Paul: CHP District Energy Fueled by Biomass



District Energy St. Paul, Inc., is a private, non-profit, community-based corporation located in downtown St. Paul.

District Energy owns the largest hot water district heating system in North America in addition to a rapidly expanding district cooling system.

Since 1999, Market Street Energy Company (a District Energy affiliate)

and Trigen-Cinergy Solutions have been working to build a CHP system that will burn urban wood waste to produce electricity while simultaneously generating energy for St. Paul's district heating and cooling needs.

The new CHP plant, which will be operational in 2003, is a 25 MW

wood-waste fired facility that will supply over 75% of the thermal energy required by district heating and cooling customers in downtown St. Paul. The 25 MW of electricity will be supplied to the local grid under a 20-year contract with Xcel Energy, and helps

Xcel meet a mandate to produce 125 MW of biomass power.

A substantial portion of the wood waste used for CHP will come from downed trees, tree trimmings and branches from around the Twin Cities

area. Using this material has several benefits. First, by turning regional wood waste into a useful product, the system will help keep energy dollars in the local economy, instead of importing fossil fuels. Second, using wood waste will help solve the ongoing environmental challenge of wood waste disposal, using approximately half of the 600,000 metric tons of wood waste generated in the metro area annually. Lastly, the project will significantly reduce air pollution by displacing 80% of the coal and oil District Energy currently burns every year, thereby reducing sulfur dioxide emissions by roughly 600 tons per year and reducing carbon dioxide emissions by roughly 280,000 tons per year. This efficient



District Energy Tour Participants from left to right: Anders Rydaker, District Energy; Secretary of Energy Spencer Abraham; President George Bush; Jim Rogers, Cinergy; EPA Administrator Christine Todd Whitman; Mayor (now U.S. Senator) Norm Coleman; and Michael Burns, District Energy



In January 2003, construction is almost completed at the new combined heat and power plant in St. Paul

use of a renewable energy resource should serve as a model for communities looking to take similar steps.

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