

# IS WOODY BIOMASS ENERGY RIGHT FOR YOU?

USING FEASIBILITY STUDIES & LIFE CYCLE ANALYSES TO EXPLORE YOUR OPTIONS

**WHEN:** Wednesday, July 27, 2016 / 1:00 – 2:00 PM EDT

**REGISTER:** <https://attendee.gotowebinar.com/register/6061167075681852161>

## ABOUT THE WEBINAR:

This free discussion will provide an introduction to the key components and process for performing a life cycle cost analysis (LCCA) based feasibility study for a woody biomass energy system. First, the webinar will examine the use of LCCA feasibility studies for considering changes to an energy system, then case studies will be presented for two facilities that used this type of evaluation to decide to implement biomass systems. Finally, webinar participants will be able to ask the facility managers and biomass consultants questions about the specific projects and life cycle cost analysis approaches.

## FEATURED CASE STUDIES:

### GEORGIA STATE PRISON COMPLEX

**Presenter:** Daniel A. Wilson, P.E.; Vice President – Wilson Engineering Services, PC

A recent feasibility study and life cycle analysis at this site explored options for woody biomass thermal, thermally-led combined heat and power (CHP) using natural gas and wood fuels, district energy, and thermal cooling options. As lead engineer on the study, Wilson will explain how this study was conducted and how facility managers can use this information in their decision-making.

### HOLDERNESS SCHOOL BIOMASS DISTRICT HEATING PROJECT

**Presenter:** Tony Lemenager, Facilities Director – Holderness School

This project consists of a new central plant and districting heating system and is driven by a 5 mmBtu/hr advanced biomass combustion unit/hot water boiler coupled with 4,000 gallons of hot water thermal storage. The system supplies hot water to 25 buildings on campus through a new district heating network including over 16,000 ft of hot water distribution piping. The system replaced a wide mix of existing heating systems, including an aging steam district system, forced air furnaces, fuel oil steam boilers, and fuel oil and hot water propane boilers. The system meets over 95% of the annual heating demand with wood fuel, and relies on propane to provide for peak loads and load coverage during biomass system maintenance. The woody biomass boiler is offsetting previous annual averages of over 89,000 gallons of #4 fuel oil, 44,000 gallons of #2 fuel oil, and 10,000 gallons of propane.

### MENOMINEE TRIBAL ENTERPRISES BIOMASS CHP DISTRICT ENERGY PROJECT

**Presenter:** Dale Kaquatosh, Boiler Plant Supervisor – Menominee Tribal Enterprises

The project includes a new advanced biomass combustion unit and steam boiler rated at 8.6 mmBtu/hr, a new combustion control system for an existing 25 mmBtu/hr biomass boiler, a 190 kW backpressure steam turbine, new steam infrastructure (deaerator, feedwater pumps, controls, steam metering, etc.), new hot water district heating system for a new sawmill building, and interconnection to the existing steam district heating system. The project provides an annual savings of over \$500,000 through increased residual sales of >11,000 tons/yr, operating cost savings, and electric generated and used onsite. The system provides approximately 24% (1,000,000 kWh) of the annual electric usage, and reduces PM emissions by over 115 tons annually.

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