

Proposed Contoocook Renewable Energy Park January 2008

Project Overview

- Develop and construct a 30 megawatt (“MW”) advanced biomass power facility.
- Help to achieve NH’s goal of generating 25% of renewable energy by 2025.
- Facility will use only clean, non-C&D wood chips.



Figure 1: Conceptual overhead rendering of a proposed new 30 MW power facility
(Please note that this is a concept picture only and does not represent the current site)

Environmental Benefits

- As a new low emission, advanced biomass energy conversion facility, the project will be required to meet Best Available Control Technology (BACT) and Lowest Achievable Emission Rates (LAER) in accordance with US EPA requirements and New Hampshire Renewable Portfolio Standards.
- Helps to combat climate change (biomass energy is considered carbon neutral).
- Reduced air emissions (PM, SO_x, NO_x) compared to fossil fuel plants and other older vintage biomass facilities.
- Encourages sound forest management.

Site Characteristics

- Zoned industrial. - Historically used for renewable power generation.
- Access to water.
- Easily accessible by trucks.

Economic Benefits

- Project will provide significant economic benefits to the community including:
 - Increase tax base for the town of Hopkinton.
 - Potential district steam heating option available.
 - At least 25-40 permanent positions filled by the local workforce.
 - Stimulation of the wood supply infrastructure.
 - Additional economic stimulus during construction period.
 - Provide NH with a reliable source of clean, renewable energy.



Figure 2: Conceptual rendering of a proposed new 30 MW power facility
(Please note that this is a concept picture only and does not represent the current site)

Technology Description

- 30 MW low emission advanced biomass energy conversion facility.
- Boiler will include a fluidized bed gasification process.
 - Technology provides extremely efficient fuel utilization with low emissions.
- Facility will utilize advanced technology for NO_x emissions control.
- Facility will utilize continuous emission monitoring equipment to insure compliance with NH Renewable Portfolio Standards.
- Advanced particulate control technology.

Table 1: Facility Comparisons

	Bio Energy (12 MW) Facility	Proposed 30 MW Facility Approximate Limits
Wood Consumption	232,000 tons/year*	300,000 to 360,000 tons/year
Truck Traffic	~30-35 trucks per day	~ 40-50 trucks per day
Stack Height	~ 157 ft	~ 150 to 190 ft
Boiler Building Height	~ 60 ft	~ 100 to 120 ft
Silo Height	~ 76 ft	Not Applicable – Project will not use an outside silo.
Wood Storage Pile Height	~ 35 ft	~ 50 ft
Emissions		
NOx	Limited to 0.25 lbs/mmBTU*	Limited to 0.075 lbs/mmBTU
CO	Limited to 225 lbs/hr per day and an average of 57 lbs/hr per year*	TBD through permitting and boiler design
Particulate Matter	Limited to 0.1 lbs/mmBTU*	Limited to 0.02 lbs/mmBTU

* Denotes current Title V permit limits



Figure 3: Conceptual street-side rendering of a proposed new 30 MW power facility (Please note that this is a concept picture only and does not represent the current site)