Biomass Program

Salix Consortium: Energy Crops for Power Production

Niagara Mohawk Power Corporation, as a representative for the ***Salix Consortium: Rural Energy for the Future***, is leading a project to produce energy crops for power generation in the Northeast and Northern Midwest. The Consortium partners, in conjunction with other sponsoring agencies, have proposed a scale-up from site trials and co-firing experiments to a commercial business enterprise. The proposed project is a multi-phased, multi-partner endeavor to establish commercial energy crops for power production in the U.S.

The Salix Consortium is now moving toward a start date for commercial operations. Key accomplishments include installing biomass cofiring equipment at the Dunkirk Power Station and production of 9 MW biopower on the New York grid while demonstrating reductions in both SO_x and NO_x emissions at the plant.

Growers have participated in establishing 400 acres of hybrid willow, which has been critical to demonstrating the commercial viability of energy crops for power production. This pioneer acreage is expected to be scaled-up to allow the Dunkirk facility to draw 10 percent of its fuel supply from dedicated plots. It will also serve as a living laboratory for growers and researchers to test equipment and crop management techniques.

As the Consortium prepares for commercial operations, it is working on solving the last remaining operational issues to become a viable enterprise. The Dunkirk facility is expected to cofire biomass at an average rate of about 10% (heat input basis) using locally available willow, mill residues, and other clean wood wastes. Approximately 42,000 tons of wood will be required annually and the estimated supply (on a mass basis) will be 10% willow, 50% mill residues, and 40% other clean wood.

Plot of hybrid willow trees.

R&D Pathway

The path forward includes making improvements to the willow processing (doubling performance of harvester and chipper operation) and finalizing the logistics for delivering willow from the field to the power plant. Commercial operation is expected to begin this year.

Congressionally Directed Feedstock R&D

Benefits

- **Help to establish the use of energy crops for power generation in the Northeast and Northern Midwest**

Applications

The prime application will be commercial power production using willows as a significant source of fuel.

Project Participants

Niagara Mohawk Power Corp.
Antares Group Inc.
Cornell University
FORECON Inc.
NRG Energy Corp
New York State Electric & Gas Corporation
New York State Energy Research and Development Authority
South Central New York Resource Conservation & Development
State University of New York, College of Environmental Science and Forestry
Salix Consortium – members include 16 university, utility and state organizations

Project Period

FY 1996 - FY 2007

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Visit the Web site for the Office of the Biomass Program (OBP) at www.eere.energy.gov/biomass.html

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