

FUEL: Another Reason To Manage Our Forests

Oregon Fish & Wildlife Journal Article – Summer 2009

By Diana Ebersbacher

Amid these difficult economic times, Seneca Sawmill Company in Eugene, Oregon, continues to move toward its goal of using its woody biomass as efficiently as possible. It is clear that, as a nation, we must decrease our dependence on foreign oil, and find innovative ways to generate energy from renewable sources.

In 1979, Seneca began studying the technology of cogeneration (generating power and thermal energy from a single fuel source – in Seneca's case, woody biomass). When all the components finally penciled out, a new company joined the Seneca Family of Companies.

Seneca Sustainable Energy will build a cogeneration plant on six acres north of Seneca's three sawmills this year. It will be fueled by the bark, shavings and sawdust created in the sawmill manufacturing process, along with slash from sustainable harvest practices.

The facility will produce 18.8 megawatts of electricity, enough to power 13,000 homes annually. The plant will also redirect enough steam to run Seneca's dry kilns, which are now powered by natural gas, a fossil fuel. Seneca is negotiating a contract with the Eugene Water & Electric Board, a local public utility, to purchase that power.

Renewable Sources of Energy and New Standards

Seneca ensures that no part of the logs used to manufacture lumber is wasted. Bark, shavings and sawdust are currently sold to local companies to make products such as landscape bark, charcoal briquettes, particleboard, medium-density fiberboard, wood pellets, pulp and paper.

The slash created by harvesting the trees on the Seneca Jones Timber Company tree farm has been traditionally burned in the woods. This woody biomass will now be used as a source of fuel for the renewable-energy cogen plant. An extensive study showed that by retaining and rerouting those byproducts to manufacture electricity they would be put to much better use.

In the search for renewable resources, power generated by wind and the sun is often discussed. Because of the inherent variables, e.g., cloudy days, dark nights and lack of wind, they are considered non-firm sources.

Seneca's biomass cogen plant, however, is a firm source of power, because we are able to control both the input and the output, and can help shape demand loads. In the same way others are searching for new ways to turn wind and sun into power, Seneca has found new ways to efficiently use our resources. The raw materials that fuel the cogen plant can be provided entirely by Seneca companies. The sawmills can supply shavings, sawdust and bark, and forest biomass can come from our sustainably managed tree farm.



Seneca Jones Timber Company's Powderhouse Harvest Unit on Seneca's Smith River Tree Farm - April 2009

New times require new vocabularies, and the State now has requirements called "Renewable Portfolio Standards (RPS)." As of this date, 29 states and the District of Columbia have committed to these standards. By 2025, 25 percent of Oregon's power must come from renewable sources. Seneca Sustainable Energy's firm power will be a part of that 25 percent.

Keeping the air clean

We're all concerned about the air we breathe. Seneca shares that concern.

Seneca's new cogen plant will cost about \$45 million. About one-quarter of the total cost (\$11 million) will pay for air-emission control technology, most of which is designed to reduce particulate emissions.

Care was taken to design the plant so the release of particulate emissions is kept to a minimum.

The new plant will help in other ways, too. Open burning of slash in the woods discharges a significantly larger volume of emissions than burning in a controlled environment, such as our cogen plant. For example, Carbon Monoxide (CO) emissions are 20 times more intense from open burning than from cogeneration, and hydrocarbon emissions are up to 960 times more intense.

Truck traffic will be reduced by approximately 4,000 loads per year, because the bark, shavings and sawdust will remain on our site

Job creation

With each new day, we hear about more businesses closing and more people losing their jobs. During construction, it is expected that up to 90 craftspeople will be hired to build the new plant. Once it becomes operable, by the end of 2010, 11 new, permanent, family-wage jobs will be created by Seneca Sustainable Energy for the local workforce.

Eliminate Dependence on Foreign Oil

Another consideration in deciding to build the plant comes from the reality of our country's dependence on foreign oil.

Seneca Sustainable Energy's cogen plant reduces that need on a local level by providing a new source of energy. Seneca's fuel source is right here in Lane County; our power will be produced locally and used locally.

In addition, fuel will no longer be needed for the 4,000 trucks carrying away byproducts; and we will stop purchasing and burning natural gas to power our dry kilns.

Continuing to Look Ahead

This cogen plant is an ambitious project to begin in such a tough economy, but Seneca is no stranger to looking forward and stepping into uncharted territory. We're positioning ourselves to be ahead of the game, not only when the economy rights itself, but on into the future.

And just think, one of these days you could be reading a book by the light of a lamp powered by electricity generated by Seneca sawdust.