

A Winning Combination: Woodchips and Cogeneration

Save Those Wood Chips!

There is an exciting **biomass** to energy project being developed in St. Paul, Minnesota. The selected biomass is wood waste such as tree trimmings and wood shavings from wood producers. A new plant is being built there that will use approximately 275,000 tons of wood waste to **generate** electricity. This wood waste, along with tons and tons more, is usually burned in the open or it is disposed of in a landfill.

The State Legislature Gets Serious About Biomass Power

In 1994, a law was passed by the Minnesota Legislature that required the local utilities company, Northern States Power Company, to generate a certain amount of power using biomass by the end of 2002. They are required to produce enough electricity with biomass to meet the demands of approximately 20,000 homes.

Why?

The state of Minnesota, like so many others, realizes the overwhelming need to use **renewable** energy sources. **Fossil fuels** are running out and their **emissions** damage our environment and cause health problems. It is projected that with this project 110,000 less tons of coal will be used, resulting in cleaner air. Six hundred tons less of sulfur dioxide and 280,000 tons less of carbon dioxide will enter the atmosphere.

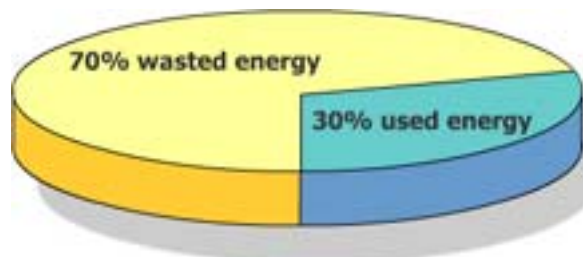
The City of Saint Paul also is experiencing an environmental problem with the amount of wood waste that is produced each year. Landfills are bursting.

Putting local wood wastes to good use means more money for the local economy. Wood waste producers will make money from their trash and the city will no longer have to shop out of state for coal and oil. The project also will provide new jobs for construction workers and those working in the wood fuel industry.



Generating Power the Good, Old-Fashioned Way

Most power plants **generate** power the “good, old fashioned way.” They burn fossil fuels in a boiler to heat water. The steam that is produced from the water drives turbines. Turbines drive generators, which produce electricity. This good, old-fashioned way, though, really isn’t very good at all. The problem with this process is that it isn’t very energy **efficient**.



Only about 30% of the energy the fuel produces is put to use. The other 70% is wasted. It is usually released into the atmosphere through smoke stacks or into rivers and lakes.

COGENERATION TO THE RESCUE

Cogeneration is a process that captures waste energy. This waste energy is then used to heat buildings or drive air-conditioning units. So now both electricity and heat are produced from a single source. This saves about 10%-30% of the fuel that would be needed to produce them separately. This savings is passed on to the consumer whose electrical bills become less.

GO! CITY OF SAINT PAUL, MINNESOTA!

The City of St. Paul, Minnesota, is showing great commitment in developing energy that is environmentally friendly. Not only is their power plant fueled with biomass, but it also has a cogeneration system. Now that's progressive!

YOU'RE AN EXPERT!

1. Imagine the atmosphere and the power plant in St. Paul are having a conversation. What would they say to each other?
2. Find out where cogeneration systems are being used in your city. Create a map. Send letters of congratulation to those involved.
3. Prepare a presentation about cogeneration for the School Board. Urge the School Board to use cogeneration systems in all schools.
4. Do you wonder how much people really know about biomass and its importance in today's energy market? Write up some questions and interview friends and family. For example, do people know what biomass is? Keep a record of your findings. Prepare a chart that shows your findings.

TAKE ACTION

1. What does your town do with its waste from yard trimmings? Do a little investigative work and find out. Where does it go? How much ends up in a landfill? Is it burned?
2. Educate the people in your town about putting their wood wastes to good use. Write an editorial to the local newspaper urging people to follow St. Paul's good example.