



The University of Idaho's Moscow campus is heated by using local sawmill residues to produce steam, saving money for Idaho taxpayers.



Stimson Lumber Co., Plummer — “co-generation” uses mill residues to produce steam heat to kiln-dry lumber and spin a turbine to generate electricity (can produce up to 5 megawatts per year).

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Energy Facts



Idaho — Wood Bioenergy

The ISEA Forestry/Biomass Task Force highlighted the role wood bioenergy plays in meeting Idaho's energy needs for heat and electricity as follows in its 2009 report :

- ❑ Wood bioenergy is from a renewable resource that can help restore forest health, fire resiliency and wildlife habitat as well as revitalize rural economies by providing jobs.
- ❑ Wood bioenergy benefits also include reduced air pollution, fossil fuel greenhouse gases, and landfill disposal burdens.

Wood bioenergy is Idaho's second largest homegrown energy product (behind hydropower), producing eight percent of the energy consumed in the state:

- ❑ Some 40,000 households in Idaho (seven percent of the total) use wood as their primary heating source.
- ❑ Direct combustion of wood in a steam boiler produces thermal energy to heat buildings, drive industrial processes, and via “co-generation” can generate electricity.
- ❑ In the past ten years schools in St. Maries, Kellogg, Garden Valley and Council have converted to heating with wood.

Wood bioenergy feedstock types (also called forest biomass):

- ❑ Mill Residues — Residual byproducts from manufacturing solid wood products (almost all are now used for energy).
- ❑ Forest Residues — Also called logging slash, this is tree tops and branches left in the forest after timber harvest operations.
- ❑ Forest Thinnings — Brush and small diameter trees removed to improve forest conditions and reduce wildfire risks.

Idaho's private forests and state endowment lands offer an opportunity to develop new wood bioenergy facilities, primarily from forest residues, of approximately 500,000 dry tons per year.

- ❑ This is sufficient to either heat 25 district energy systems comparable in size to the University of Idaho, or to produce 100 MW of electricity, enough to meet the needs of 100,000 homes per year.
- ❑ New research projects at the University of Idaho funded by the U.S. Dept. of Agriculture as part of an “all of the above” energy strategy are focused on establishing supply chains to convert forest biomass into liquid transportation fuels.



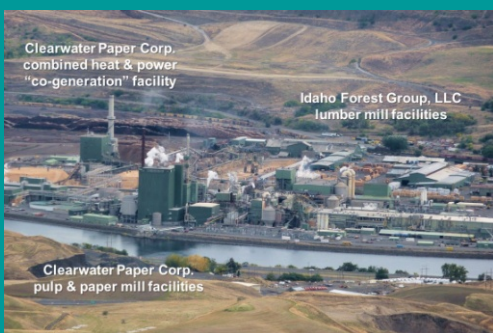
Harvesting timber provides family-wage jobs and useful products, with energy feedstocks as a by-product.



Open burning of forest residues produces more air pollution than wood bioenergy production.



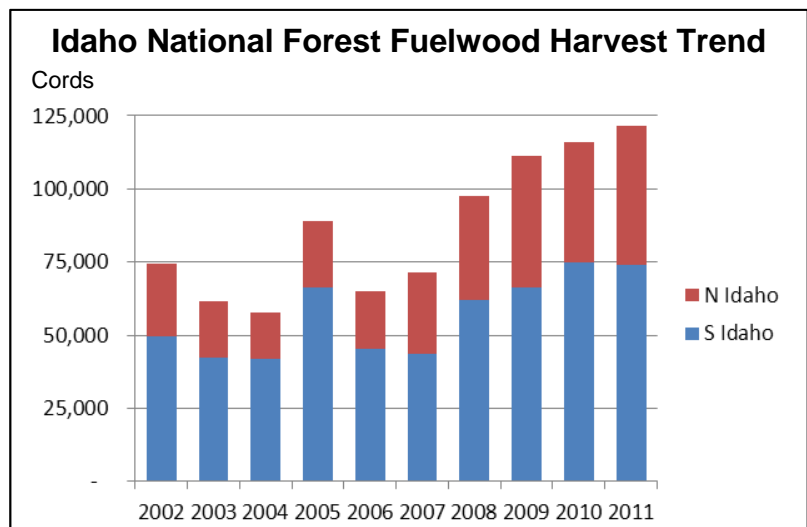
Thinning dense forest stands can provide wood bioenergy feedstocks that otherwise would be burned.



Clearwater Paper Corp., Lewiston — one of the nation’s largest wood co-generation facilities (can produce up to 65 megawatts per year).

Federal forest lands in Idaho also offer substantial opportunities for additional wood bioenergy feedstocks via projects to restore conditions that are more resilient to wildfires.

- ❑ Three-fourths of Idaho’s forest resources are on federal lands and provide about ten percent of the annual timber harvest.
- ❑ Many national forests are overstocked, with dense stands that have led to the highest levels of tree mortality in 60 years.
- ❑ Additional timber harvests would provide jobs and useful products, with additional energy feedstocks as a by-product.
- ❑ Thinning dense stands of trees in strategic locations can modify wildfire behavior and reduce risks to structures, wildlife habitat, watershed values and soil.
- ❑ Removing small-diameter hazard trees is costly, but will result in benefits from avoided costs of fighting future fires.
- ❑ Thinning federal forest lands where roads exist could provide about 500,000 dry tons per year of energy feedstocks.
- ❑ Fuelwood harvests have increased over the past decade.



Developing new wood bioenergy facilities is a triple win that can:

1. Revitalize rural communities by providing local employment;
2. Provide useful wood products and, as a by-product, energy feedstocks that help reduce air pollution, fossil fuel greenhouse gases, and landfill disposal burdens; and
3. Restore forest health, increase resilience to wildfires, and improve wildlife habitat.

Sources Cited

[1] *Wood Bioenergy: Homegrown Baseload Energy for Idaho*. Report of the ISEA Forestry/Biomass Task Force (2009).

http://www.energy.idaho.gov/energyalliance/d/forest_packet.pdf

[2] *2012 Idaho Energy Plan*. Prepared by the Idaho Legislative Council’s Interim Committee on Energy, Environment and Technology with the assistance of the ISEA and public comments.

http://www.energy.idaho.gov/energyalliance/d/2012_idaho_energy_plan_final_2.pdf