Information about forest biomass in Washington

The burning of forest biomass (wood waste from forests) has been used as an energy source in Washington for many years. Recently, forest biomass burning has drawn interest from the public, businesses, and government agencies. Some see it as a potential source of renewable energy, jobs and economic development, and as a way to help decrease our reliance on foreign oil. Others see it as a possible source of pollution and a threat to the health of people, forests, and the environment.

Several existing facilities burn forest biomass to produce heat and power for their own use and for sale. New, similar operations are proposed. This publication explains Ecology's views on some issues surrounding forest biomass.

What is forest biomass?

Forest biomass means the wood waste left on-site as the result of forest management activities including:

- Thinning,
- Pruning,
- Logging,
- Management practices that improve forest health or reduce wildfires.

Forest biomass **does not include:**

- Wood treated with creosote and other chemicals,
- Wood from old growth forests,
- Wood required to be left on-site under the state Forest Practices Act,
- Municipal solid waste.

Ecology's role with forest biomass

Ecology has authority for air and water quality, and waste management issues. Ecology's responsibilities include:

- Issuing or denying air quality permits and water discharge permits,

FOREST BIOMASS IN WASHINGTON

Forest biomass burning has both advantages (renewable energy) and disadvantages (some air pollutant emissions). Washington supports the sustainable use of forest biomass for energy recovery as long as it does not cause environmental problems.

- The Washington Department of Natural Resources can sell forest biomass from state lands, and permits its removal from state and private forest land.
- The Washington Department of Ecology has authority over air and water quality, and waste management issues.
- The Washington Department of Commerce is responsible for the state's energy policy and leads the state's bioenergy team.
- Local clean air agencies have permitting authority for some forest biomass energy projects in their jurisdictions.

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- Providing technical assistance on solid waste handling permits for operations planning to use forest biomass.

Proposals to use biomass must meet appropriate regulatory standards. When permitting them, Ecology uses the most current standards and laws.

What about emissions caused by burning forest biomass?

Much like burning oil, coal, or natural gas, burning wood in an industrial boiler releases pollutants. These air pollutants include:

- Carbon dioxide,
- Carbon monoxide,
- Nitrogen oxides,
- Fine particles,
- Formaldehyde and other volatile organic compounds.

However, burning a ton of forest biomass in a controlled boiler -- especially one with advanced controls -- releases far less air pollution than burning the same amount in a home wood stove or fireplace. Burning in a controlled boiler also produces less air pollution than a wildfire or the planned burning of forest slash on the ground.

As long as the region's forest resources stay the same or increase, state law does not consider carbon dioxide from industrial burning of forest biomass a greenhouse gas. (In the law, maintaining or increasing forest resources is called the region's "sequestration capacity.") This is because the Legislature recognized that standing trees absorb the carbon dioxide released by burning forest biomass. However, carbon dioxide emissions from forest biomass burning must be reported under the state's greenhouse gas reporting requirements. (See RCW 70.235.020.)

Washington's forest biomass

Forest biomass is seen as a source of renewable energy that reduces our dependence on fossil fuels, especially from foreign suppliers. It also may help Washington utilities meet requirements to produce a substantial percentage of their electricity from renewable sources like solar, wind, and biomass. Washington voters approved this standard in 2006 as part of Initiative 937.

Forest biomass helps promote jobs in rural communities by creating a market for a product previously seen as "waste." For example, forest biomass is used, among other things, to:

- Make wood pellets for home and commercial heating,
- Produce power for industrial facilities and other consumers,
- Make biofuels as alternatives to gasoline or diesel fuel.

Policies on burning forest biomass are being debated around the country. In Washington, Ecology coordinates with other state agencies to make sure this burning does not lead to environmental problems.

For more information

- Washington Department of Natural Resources:

  http://www.dnr.wa.gov/ResearchScience/Topics/OtherConservationInformation/Pages/em_biomass.aspx
- Washington Department of Commerce: http://www.bioenergy.wa.gov/Biomass.aspx
- Local clean air agencies: http://www.ecy.wa.gov/programs/air/local.html
- Washington Department of Fish & Wildlife: http://www.wdfw.wa.gov/index.html
- WSU Cooperative Extension: http://extension.wsu.edu/energy/Pages/default.aspx