



Community wood shed provides firewood to residents and a stock of wood for a future community biomass project for Hoonah. Courtesy photo by Bob Christensen.

Wood Energy Heats Up Alaska

Alaskans pay more for energy than any other State in the Nation. Using wood to produce energy is an excellent fit for communities in Alaska, many of which are remote and must rely on fuel oil being flown in. Biomass boilers, which can run on wood, chips, or pellets, are high-efficiency, low-emission heating systems. Wood is a versatile, durable, abundant, and cost-effective renewable resource that provides numerous environmental and economic benefits.

Benefits Beyond Heat

Using wood to produce energy has many benefits beyond heating buildings. The carbon released by heating with wood is far less than that of using fossil fuels to produce the same amount of heat. Sustainable wood energy contributes to diversifying rural economies and supporting local jobs and sustainable forest management. “We’re heating greenhouses to grow produce, and harvesting diseased and damaged

trees reduces the fuel load in our forests and reduces wildfire risk,” says Priscilla Morris, the Anchorage-based wood biomass and forest stewardship coordinator for the U.S. Department of Agriculture (USDA), Forest Service.

Harvesting wood for biomass heating improves forest health by periodically removing undesirable and damaged trees. This makes room for the remaining healthy trees to prosper. This sustainable forest management can also improve the quality of habitats for many wildlife species.

The Forest Service Wood Innovations Program supports traditional wood utilization projects, expands wood energy markets, and promotes using wood as a construction material in commercial buildings. The program is designed to reduce hazardous fuels and improve forest health on National Forest System and other forest lands, reduce costs of forest management on all land types, and promote economic and environmental health of communities. Communities operating biomass boilers can use locally sourced wood fuels that provide sustainable jobs and help support responsible forest stewardship.



Empty and full cribs of firewood used to heat the school in Naukati Bay on Prince of Wales Island. Courtesy photo by Clay Good.

Reducing a Community's Carbon Footprint

Trees use the sun's energy to absorb and store carbon from the atmosphere. In a sense, woody biomass is stored solar energy, available 24 hours per day. The carbon released into the atmosphere when the wood burns is the same carbon the tree absorbed from the atmosphere when it was growing. If that tree is replaced with new growth and the soil biology is not significantly altered, the cycle is renewable.

Sustainable Energy in Galena and Hoonah, Alaska

The Forest Service Wood Innovations Program supports multiple wood energy projects across the State. Currently, there are 53 installed biomass systems and 170 more considered feasible. In the past 6 years, 15 biomass heating systems were built.

Galena is a village of about 500 people in central Alaska along the Yukon River. Galena developed the first large-scale woodchip heating system in an isolated, remote community. As the project progresses, it will replace about 200,000 gallons of diesel fuel with sustainably harvested local wood. The wood boiler is a state-of-the-art, low-emissions, high-efficiency boiler that is heating 14 buildings.

Icy Strait Lumber in Hoonah received a Forest Service 2020 Community Wood Energy and Wood Innovations grant to support their plan to use sawdust, waste wood, and other wood without a commercial market in an advanced wood boiler to heat a production workspace. The heated workspace will allow the mill to expand their forest product offerings and keep their workforce employed through the winter.

The Forest Service is a Community

To help expand the role of wood energy, the Forest Service works in partnership with the Alaska Wood Energy Development Task Group. The task group is a coalition of Federal and State agencies and not-for-profit organizations that are exploring opportunities to increase the use of wood for energy and biofuels production in Alaska.

More Information

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FAST FACTS

- Operating biomass boilers keeps locals employed year-round.
- Biomass boilers can heat multiple buildings and are being used to heat greenhouses that support food security in Alaska.
- Using insect-killed, diseased, or otherwise damaged trees for biomass heating reduces ground fuels that increase the risk of devastating and costly wildfires in Alaska.



Hydroponic vegetables and greenhouse heated by wood energy, Naukati, AK on Prince of Wales Island. USDA Forest Service photos.