



Woody Biomass

An abundant resource for energy and other uses

Description:

The term “woody biomass” refers to the woody parts of trees and other plants, including limbs and tops and their needles or leaves. Biomass is usually a byproduct of forest management or restoration, hazardous fuels treatments to reduce the threat of wildfires, and urban tree care. The use of woody biomass supports forest ecosystem health by improving the economic viability of both forest management and wood products manufacturing. Utilizing woody biomass is also a valuable tool for mitigating climate change by reducing consumption of fossil fuels.

The Forest Service is part of a coordinated USDA effort to expand the use of woody biomass. The Northeastern Area State and Private Forestry (NA S&PF) has a Woody Biomass Business Plan, which tiers to the USDA Forest Service’s national [Woody Biomass Utilization Strategy](#). NA S&PF works across several program areas to provide technical and financial assistance to partners interested in the sustainable use of woody biomass.

Key Issues:

- Sustainability—Consider the ecological, social, and economic impacts of biomass; ensure forest systems are maintained or enhanced; focus on the most efficient uses of woody biomass.
- Working forest lands—Provide sufficient rewards to landowners and communities that lead them to maintain or expand their forest land.
- Renewable energy and air quality—Diversify the region’s energy portfolio, reduce greenhouse gases, improve energy security, and stabilize energy prices.
- Economic opportunities—Enhance local economies by developing new markets for energy, carbon sequestration and offsets, liquid fuels, building materials, and wood-derived chemicals, bringing new business activity and reducing reliance on imported energy.

Accomplishments:

- Integrated woody biomass into the strategic plans (2013 – 2018) of the Northeastern Area Association of State Foresters and the Northeastern Area State and Private Forestry, and continued a multiprogram initiative.
- Provided technical assistance through the Wood Education and Resource Center (WERC) biomass coordinator and financial assistance through the WERC grant program. Efforts span the 20 States served by NA S&PF and the 35-State hardwood region.
- In FY 2016 there were active projects in 10 States.

Budget History:

Woody Biomass Program ¹
(dollars in thousands)

Entity	FY 2013	FY 2014	FY 2015	FY 2016
Forest Service	\$1,150	\$1,200	\$950	\$1,693
Partners	1,250	1,250	1,500	1,023
Totals	\$2,400	\$2,450	\$2,450	\$2,716

¹ Since 2006 the NA S&PF Woody Biomass Program has conducted projects in 20 of the 35 States served by WERC.



Project Highlights:

In Vermont, the WERC Wood Energy Technical Assistance Team is working with the State Wood Energy Team and the Public Service Department to plan and install high-efficiency wood energy systems in schools, commercial facilities, and multifamily housing units. The team is working with the same partners to improve the performance of existing wood energy systems.

State Wood Energy Teams have been established in 10 States served by NA S&PF: Maine, Massachusetts, Michigan, Minnesota, New Hampshire, New York, Pennsylvania, Vermont, West Virginia, and Wisconsin. These teams are a collaborative effort between NA S&PF and multiple State partners to expand knowledge about the use of wood energy and to encourage the expanded use of wood for energy in each State.

In Maine, the State Forester's office is supporting a statewide wood energy team to determine how wood energy can maintain the State's timber harvesting infrastructure. The WERC Wood Energy Technical Assistance Team analyzed the opportunities for combined heat and power projects across the State. The team found that, in aggregate, conversion at the 240 identified facilities with fossil fuel boilers would require an investment of approximately \$220 million, which would save approximately \$21 million on energy annually, even given the relatively low cost of fossil fuels today. These facilities would require the equivalent of 359,000 green tons of wood chips annually. WERC also found that over 69,000,000 mmBtu of fossil fuel is used for thermal energy annually in the State. Thus, the 240 facilities represent only about 4 percent of the potential for conversions.

Future Direction:

NA S&PF is working with the Forest Service's Northern Research Station, Eastern Region of the National Forest System, and the Forest Products Laboratory, along with the Northeastern Area Association of State Foresters, to encourage the sustainable use of woody biomass across the Northeast and Midwest. Plans include the following:

- Maintain technical assistance capabilities in the use of woody biomass for energy
- Encourage the most efficient use of the region's woody biomass resources
- Demonstrate technologies that improve efficiency and reduce emissions from wood energy systems
- Develop value-added opportunities for the use of woody biomass

WERC-Supported Technical Assistance Wood Energy/Woody Biomass Utilization FY 2016

Project Type	Active projects	States involved
Wood energy feasibility studies	10	10
Woody biomass utilization support	10	6

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