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New England's Biomass Markets: A Tool to Support Sustainable Forest Management

Summary

While biomass electricity generation has received a significant amount of public attention over the last several years, New England – particularly Northern New England – has a long history of biomass electric generation. New England has 19 stand alone biomass electric units, as well as significant a number of industrial facilities (primarily pulp and paper mills) that have large biomass units integrated into the production facilities. Many of these facilities have over two decades of continuous operations, and can serve as instructive on the benefits of a biomass market.

Wood fuel used in biomass electric facilities comes from a wide range of sources, including forest residues, sawmill residues, right-of-way clearing, land clearing, and low-quality stems. The exact mixture of fuels varies significantly by location, competing wood markets, landowner objectives and other factors. Given the disparate values between sawlogs and biomass fuel, forest-derived biomass comes from integrated timber harvesting operations, where biomass fuel is harvested alongside sawlogs and pulpwood.

As part of revisions to its Renewable Portfolio Standard (RPS), Massachusetts has proposed setting a strict limit of 15% of the volume harvested from a site be allowed as eligible biomass fuel. This limit, presumably designed to assure that forest residues are left on site, is excessive and unworkable. This is well in excess of what recommended biomass retention guidelines are in the Manomet report and other sources, and allow no flexibility for harvest conditions. Further, peer reviewed work conducted in Maine on sites producing both roundwood and biomass fuel suggests that nearly half of the residue generated during an integrated harvest is left on site, making a burdensome and inflexible regulatory process unnecessary.

For private landowners to continue to own and manage forests – providing environmental, economic and aesthetic benefits to society as a whole – landowners need markets for low-grade wood. Biomass is well positioned to provide landowners and forest managers this market, and support the public benefits that forests provide. The rule as proposed puts strict limits on the amount of low-grade stems that can be removed if any wood from the site is to be used in an RPS qualified site. This limit serves as a disincentive to good forest management practices, particularly in regions without a stable market for low-grade wood, and runs counter to the goals of sustainable forest management.

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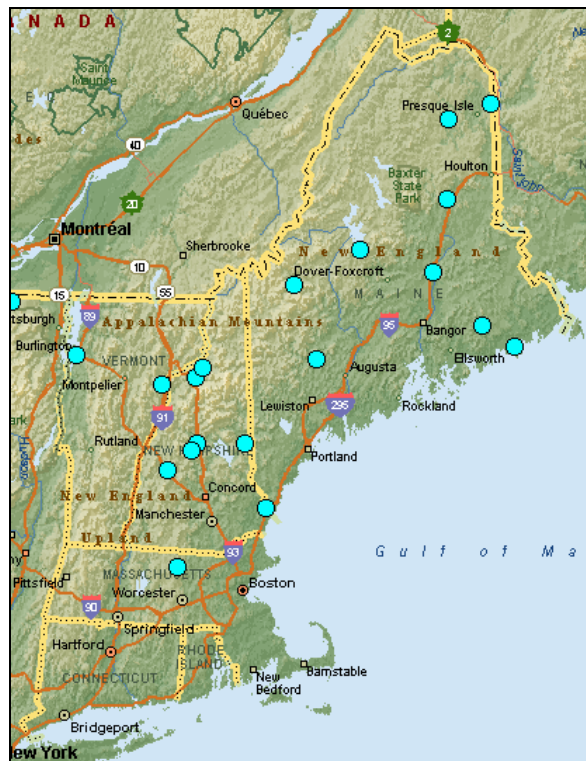
Biomass Electricity in New England

While biomass electricity generation has received a significant amount of public attention over the last several years, New England – particularly Northern New England – has a long history of biomass electric generation. New England has 19 stand alone biomass electric units, as well as significant a number of industrial facilities (primarily pulp and paper mills) that have large biomass units integrated into the production facilities. Of the biomass electric units, there are :

- Nine in Maine, all of which have been operational for two decades;
- Seven in New Hampshire, including a newly converted coal unit and 5 units with over 20 years of near-continuous operations;
- Two in Vermont, both of which have roughly two decades of operations; and
- One unit in Massachusetts, with roughly two decades of operations.

While proposals for new facilities are common, these existing projects have provided landowners and foresters in the region with an important market for forest residue and low-grade wood, and provide an important reference regarding the manner in which these facilities operate and their impact on the region's forests.

Figure 1. Existing Utility-Scale Biomass Power Plants in New England



New England is one of the most forested areas of the country, and states in the region have successfully integrated biomass markets into existing forest industry and land management practices. The market for low-grade wood provides foresters and landowners with a tool to economically remove low-grade wood, allowing high quality stems to add volume and value. Over time, this makes land ownership more a better return on investment and makes forest ownership an economically viable alternative to development, where land is no longer able to provide a broad range of public benefits.

Following over two decades of biomass electric generation, the region today remains the most forested in the nation. Maine, New Hampshire and Vermont, all with long-standing biomass fuel markets, remain well forested.

Figure 2. Percent Forestland by County

