

Maine Statewide Wood Energy Assistance Team Plan of Work

Need: Maine's forest based economy is at a critical turning point. Although closures of wood processing facilities have affected all states over the last two decades, until recently, Maine has been able to weather industry downturns, and even the loss of some sectors of the forest products cluster (e.g. wood-turning mills). As mills have closed, remaining facilities have been able to absorb the redirected wood flow and support the maintenance of fairly stable harvest levels.

Unfortunately, the loss of three large pulp and paper mills in 2014 and 2015, coupled with production cuts at two other mills has tipped the scale. At the same time, biomass to energy markets have declined due to factors that include, but are not limited to, energy policy changes in neighboring states and cheap natural gas.

As mills closed in neighboring states and provinces, Maine's forest products industry became, in effect, the "last man standing." Now, for the first time in at least 30 years, Maine's woodland owners and managers do not have markets for every tree they harvest. This situation affects woodland owners and managers in other states (primarily New England and New York) and neighboring provinces as well, as they have long looked to Maine as a market for low-grade wood.

The entities that will comprise the MESWEAT have worked together in multiple capacities over the past decade, as described in the background section above. Establishing a focused team will give these groups and individuals the charge and resources needed to sustain deep, ongoing collaboration that significantly advances the wood energy sector.

Goal: The MESWEAT's overarching goal is to make wood chip and pellet central heat and/or CHP mainstream alternatives to fossil fuels. It will be a common heat source for public buildings, installed systems will operate as intended, the public will broadly understand and accept this technology, and technicians and tradesmen will be familiar and skilled in its installation and use.

Cooperation between practitioners will help Maine move closer to this long-term goal. The team's specific objectives, methods, and deliverables are as follows:

Objective 1. Wood Energy Sector Collaboration: Encourage communication and collaboration between wood energy stakeholders in Maine to bolster in-state capacity and ensure achievement of the goals set forth here.

Methods: Develop, deliver, and track progress of the Wood Energy Assistance Team over the project period. Form advisory group of approximately 10 key practitioners and convene for quarterly half-day meetings, which will include program review, professional development, and engagement of other State Wood Energy Teams, among other activities.

Deliverables:

- Meeting agenda and minutes.
- Cadre of practitioners available to respond to thermal wood energy inquiries

Objective 2. Technical Assistance: Increase adoption of wood chip and pellet heating systems and CHP projects, especially in the public and non-profit sectors, by providing expert technical advice needed to develop potential projects and helping move those projects toward completion.

Methods: A MESWEAT sub-committee will use existing networks to identify potential projects and select a group of professional consultants (through a competitive solicitation) to serve as technical advisors. Public entities will apply for technical assistance and the MESWEAT will determine what level of assistance (if any) is appropriate - e.g. basic site assessment, prefeasibility study, heat load analysis, bid specification development, bid review, or public presentations in advance of board votes.

Deliverables: Include technical reports and all documentation associated with specific project support.

Objective 3. Performance Assessment: Assess and enhance performance of existing nonresidential central woodchip and pellet heating systems and use findings to inform future installations. Disseminate findings as a means of improving system design and operation in Maine and other states.

Methods:

- Pool team knowledge and existing resources to create a detailed, comprehensive database of existing wood based heating systems.
- Conduct a survey of institutional wood heat/electricity users as a subjective performance assessment.
- Conduct site visits to problematic projects and recommend strategies to improve performance.
- Through a competitive solicitation, select a system monitoring consultant to gather and review data collected by boilers' existing data logs and identify potential problems and opportunities. Share results with boiler operators and work with them to make improvements as needed.

Deliverables:

- Comprehensive wood public heating system database (nonresidential);
- Summary of survey results available to practitioners;
- Technical report on boiler performance and strategies for improvement based on assessment of at least 20 systems and monitoring of at least 10; and,
- Conference presentations, communication to other SWEATs, and incorporation of findings into technical consultants' work.

Objective 4. Outreach and Education: Increase awareness of woodchip and pellet central heat/electricity and provide technical education to boiler operators and building trades; ensure conditions are in place for further sector development.

Methods:

- Review other SWETs' websites, informational handouts, and other materials. Adapt the strongest messages/approaches to create Maine-centered materials.
- With input from other SWETs, create a general presentation for use at multiple events. Present general information about wood heating options at public events, conferences, and/or meetings and more specific technical information to building trades, e.g. architects and HVAC professionals.
- Track statewide wood heat use to help prioritize MESWEAT outreach and understand usage patterns.
- Build on the Maine Governor's Energy Office weekly heating fuel price survey by adding the average price of delivered, bagged wood pellets, a service to Maine's many bagged pellet users.
- In partnership with the University of Maine, Community College System and based on the ME ARRA Wood to Energy project model, host boiler operators' workshops to increase technical understanding for current and prospective wood boiler operators.
- Develop white paper analysis of potential policy roadblocks for further sector development and make policy recommendations.

Deliverables:

- Website and Maine-specific informational materials;
- Evidence of media outreach and its audience reach;
- Regular wood heat use and price reports;
- 20 presentations at various events;
- 4 boiler operators' workshops; and,
- Feasibility studies and white paper analysis on sector growth impediments.

Objective 5. Thermal Wood Energy Market Analysis, Monitoring and Information: In the past five years, Maine has experienced at least five pulp mill closings or reductions, and has seen the market capacity for low-grade wood shrink by nearly 4 million tons annually. The change in markets has been particularly challenging for softwoods; today landowners and loggers face significant challenges selling low-grade hemlock and white pine, and face significantly reduced stumpage prices for pulpwood-quality spruce and fir. This is also beginning to impact softwood sawmills, which are facing challenges finding markets for residues. The MESWEAT will evaluate ways to support increased energy markets for a range of low-grade wood, particularly in geographies or for species without alternative outlets.

Maine is fortunate to have significant forest industries in state that provide year-round markets for a range of forest products, and the harvesting and chipping infrastructure necessary to provide wood to biomass customers. The presence of six operating biomass electric facilities, as well as biomass use at pulp mills, provides loggers and others the ability to invest in the chippers and trucks necessary to supply a seasonal heating market. Maintaining this supply

infrastructure - and identifying any gaps that could increase supply chain efficiency - will be a goal of the MESWEAT.

Conduct a fuel wood use survey to better understand how much of the forest resource is being consumed by this sector. Maine has not conducted a fuel wood use survey since the late 1990's.

Currently, there is a significant disparity between Maine wood consumption figures as measured through our annual wood processor report and the forest inventory, with the forest inventory showing greater removals than indicated by the wood processor report. We believe that the gap can be closed up a bit with better understanding of fuelwood use. Knowing how much of Maine's timber harvest is allocated to fuel wood use will help us better assess opportunities for other wood to energy sectors.

We intend that the survey be conducted via telephone with a dual frame of landline and cell phone numbers, selecting the most informed in each household. The estimated sample size is at minimum 500 (325 landline; 175 cell phone). The sample will be stratified such that geographic regions within each state are proportionately represented in the final sample.

Deliverables:

- Implement a fuel wood consumption survey;
- Develop a firewood web site development/ enhancement;
- Normalization and posting of ARRA WTE project fuel consumption; and,
- Monitor and disseminate Information regarding current market adjustments.

Accomplishments

Anticipated accomplishments are consistent with the objectives set forth above. To summarize:

- A team of practitioners will meet regularly and collaborate to advance wood energy in Maine.
- At least 20 building owners will receive technical assistance, and at least 10 of those will have installed wood heat or CHP systems.
- Wood heat practitioners will better understand factors behind high performance systems and how to remediate problems; performance will be optimized and problems resolved for at least 10 systems.
- Maine building owners will be more likely to recognize central wood heat and CHP and choose these options.
- Building professionals will better understand wood heat technology and be prepared to spec, install, and operate it.
- Thermal wood energy market analysis and information will be available for decision makers.