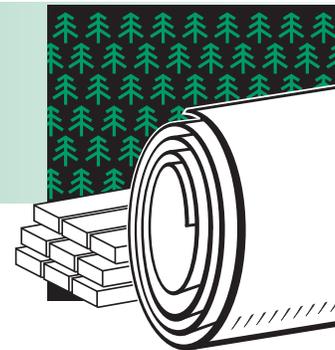


# FOREST PRODUCTS

## Project Fact Sheet



## COMMERCIAL DEMONSTRATION OF WOOD RECOVERY, RECYCLING, AND VALUE-ADDING TECHNOLOGIES

### BENEFITS

- Converts low-value solid waste wood into higher-value products
- Saves the industry 22 million kWh per year of electricity
- Lowers petroleum use in Maine by 15 percent for kiln-drying operations
- Reduces CO<sub>2</sub> and other greenhouse gas emissions by 25 percent
- Makes U.S. sawmills more globally competitive
- Creates job opportunities for many mills and secondary woodworking operations
- Improves manufacturing of wood products
- Promotes on-site solid wood waste-recovery programs

### APPLICATIONS

At present, there is no fully operational U.S. recovery and value-adding facility for low-value and under-utilized solid wood waste fiber. Every geographical area with solid wood waste materials, and any manufacturer that generates solid wood fiber waste are candidates for an on-site recovery and value-adding operation.

## CONVERSION FACILITY PROMISES TO SIGNIFICANTLY REDUCE WASTE STREAMS

Many in the forest products industry believe that recovery of the low-value, solid wood-fiber waste stream of sawmills is not cost-effective. Consequently, few mills convert waste material into higher-valued products, and millions of tons of recoverable solid wood fiber are reduced each year to low-value chips, mulch, and fuel. Conversion of waste materials into higher-valued products would help solve a number of problems facing mills—reduced availability of feedstock, higher costs for raw materials, increased waste, air emissions from biomass boilers, greater global competition, and pressure to operate in an environmentally friendly manner.

Auburn Machinery, Inc. (AMI) has years of experience in developing and demonstrating award-winning technologies for recovering and converting waste stream material into higher-valued products. AMI will set up and manage a demonstration facility showing the capabilities and potential benefits of recovery systems. It will also identify new products for available materials and develop a marketing plan for merchandising the products through the demonstration center.

The Central Maine Power Company estimates that, with a recovery level of 25 percent at most in-state sawmills, the industry could save 22 million kilowatt hours (kWh) of electricity annually in harvesting and initial processing operations, as well as in debarking, chipping, and grinding of waste. Further, when raw material costing \$25 to \$50/mbf for chips, or \$150 to \$250 for low-utility stock, is converted to recovered-wood products, the value-adding potential ranges from \$275/mbf for pallet components to more than \$5,000/mbf for high-end and specialty millwork.

FIGURE 1.



Pre-recovered waste and recovered-wood products.



## Project Description

**Goal:** To develop and demonstrate the benefits of a fully operational recovery and value-adding (RVA) facility for solid wood waste, and to showcase recovery technologies and techniques for marketing recovered products.

Equipment will be procured and a layout for the demonstration facility developed. Raw material will be identified, collected, and processed. Data will be collected at the demonstration center on all aspects of material acquisition, equipment performance (including energy usage), and the potential for developing and marketing new wood products from the recovered material. Results will be compiled into case studies and reports for distribution to the wood products industry, recyclers, consumers, brokers, and market outlets. The facility will determine the economic viability of a centralized collection and processing facility that could be replicated on a regional basis throughout the country. It will also document the multiple applications of recovery technologies for use in individual sawmills, by wood-products manufacturers, and in recycling operations. The market development aspects of this project will identify the key elements for merchandising recovered wood products. The recovered products will be test-marketed with brokers, wholesalers, distributors, retailers, and consumer and environmental organizations.

## Progress & Milestones

- AMI has developed and demonstrated wood recovery, recycling, and value-adding technologies for the past 15 years, and currently sells most of the equipment required for the demonstration facility.
- AMI has received a Phase I SBIR grant from the U.S. Dept. of Agriculture to conduct a limited research project on recovery opportunities for sawmills that will provide breadth and leverage to the proposed effort.
- AMI has also received a Cluster Enhancement grant from the Maine Technology Institute to identify sources of raw materials and to conduct market research for new products manufactured from recovered solid wood materials.
- Task 1, Facility Design and Equipment Procurement, will be conducted from months 3 to 16 after award of contract.
- Task 2, Raw Material Inventory and Collection, will occur during months 2 to 24 of the contract.
- Task 3, Trial Runs and New Product Identification, will start in month 5 of the contract, with a milestone at 18 months after award of contract.
- Task 4, Market Development and Merchandising Initiatives, will take place over months 2 to 24 after award of contract.
- Task 5, Full Demonstration and Case Study Reports, will run during months 7 to 24 of the contract.
- After a successful start-up of the demonstration facility in Maine, AMI will move to establish Regional Recovery and Value-Adding Centers.
- AMI also intends to become a broker helping to develop markets and demand for recovered wood products



### PROJECT PARTNERS

Maine Wood Products Association

Maine Technology Institute

University of Maine  
Advanced Structure & Composites  
Laboratory and Advanced Manufacturing  
Center

U.S. Department of Agriculture

U.S. Forest Service

Central Maine Power Company

Coastal Enterprises, Inc.

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