



Biomass Program

Feedstock Interface R&D

Biomass Bulk Processing and Storage

Reducing the cost of handling and stable storage of biomass feedstocks are both critical to developing a sustainable infrastructure capable of supplying large quantities of biomass to biorefineries. Major challenges are the susceptibility of biomass to spoilage, lack of methods and standards for monitoring feedstock quality, and the competing demands of feedstock quality and cost.

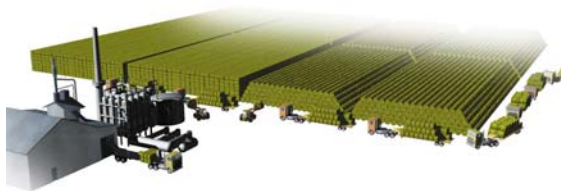
The foci of this project are to determine the requirements and performance characteristics of bulk processing and storage systems for biomass. Researchers will be investigating both dry and wet bulk storage technologies. Dry storage is needed for arid climates or for applications where dry feedstocks are preferred (combustion, gasification). Wet storage is required for humid climates.

In addition, handling low bulk density biomass at variable moisture contents is expensive and challenging. New bulk methods will be investigated to overcome the current cost and logistical limitations.

R&D Pathway

Researchers will examine the cost-effective means of handling and storing bulk, dry biomass, taking into consideration weather, rodents, fires, and other issues. Parallel work will focus on wet storage technology, considering factors such as microbial activity, moisture and flow channeling issues, air infiltration, odor, water usage, and weather effects.

Innovative strategies will be investigated for collecting and handling low bulk density biomass in a flowable form, to reduce the costs of collection, transportation, and storage.



Potential biomass bulk processing and storage scenarios.

Benefits

- **Reduced feedstock cost**
- **Improved biomass availability, yield, and quantity**
- **Storage systems tailored for varying geographies, feedstocks, and end uses**

Applications

Bulk processing and storage technology will initially be designed for corn stover and cereal straw, but could potentially be applied to many other biomass feedstocks.

Project Participants

**Idaho National Engineering and Environmental Laboratory
Oak Ridge National Laboratory**

Project Period

FY 2003 – FY 2005

For more information contact:

David Thompson
Idaho National Engineering and Environmental Laboratory
thomdn@inel.gov

EERE Information Center
1-877-EERE-INF (1-877-337-3463)

Visit the Web site for the Office of the Biomass Program (OBP) at
www.eere.energy.gov/biomass.html

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