



BIOMASS PROCUREMENT POLICIES IN MN

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What is Biomass?

- 1) Traditional Context
- 2) Broad Definition

Biomass in its Traditional Context

□ Traditional Sources of Biomass Include:

- ▣ Logging Residue (non-merchantable tops and limbs, small-diameter trees and stems, dead standing trees and down logs)
- ▣ Primary and Secondary Mill residue
- ▣ Dedicated energy crops
- ▣ Land clearing projects
- ▣ Fuels Reduction Projects

□ Potential Sources of Biomass Include:

- ▣ Timber Stand Improvements (TSI) “Weeding”
- ▣ Brushlands
- ▣ Invasive Species Removal (EAB)
 - May help to offset management costs

Broad Biomass Definition

Highest Value Forest Utilization
“Biomass” = All vegetation present on the stand

Fuel Wood Economics **Comprised of:**

The supply and demand that makes low-grade poor-quality poles, lumber and pulpwood available for fuel utilization

Traditional Uses for Stand Vegetation

- Timber
 - Poles – Lumber
 - Tops and Limbs - Pulp
- Woody Brush
 - Fiber
- Forbs and Grasses
 - Fiber

Woody Fuels **Comprised of:**

Above Ground: Tops and Limbs, Woody Brush and Forbs and Grasses
Below Ground: Stumps and Organic Soil (not currently utilized)
*Below ground utilization of biomass not practiced in MN

1 acre stand



Existing Biomass Supply and Utilization

Existing Biomass Supply

Current Utilization and Existing Facilities

Existing Biomass Supply

- Estimated annual statewide supply of **logging residue** 1,000,000 green tons (assumes a 3.7million cord harvest level and 50% recoverability)
 - ▣ On DNR lands, not more than 25% of available biomass is being utilized
 - ▣ 50% of biomass harvesters are not utilizing limbs
- Estimated annual statewide **brushland** material 1,000,000gt (assumes 15yr rotation and does not account for recoverability)
 - ▣ Need procurement equipment and commitment to periodic offering of brushlands for this resource to become available
 - ▣ Proposals into stimulus \$\$ and LCCMR for equipment development week
- Estimated annual statewide **TSI/Pre-commercial material** 400,000gt (high-range estimate that does not account for recoverability)
 - ▣ Biomass harvesting here will not make TSI profitable, just offset the costs and provide for more healthy and productive forests

Current Biomass Utilization

- Estimated Current Statewide Demand for Open-market Non-mill residue Woody Biomass = 900,787 Green Tons (GT)
- ▣ Open-market Non-mill residue Woody Biomass includes: logging residue and roundwood and may include salvage sites, land clearing debris, dead trees and urban wood waste.
- ▣ Current studies suggest not more than 50% of available limbs and branches are being utilized.
- ▣ Resource is not inexhaustible

Existing and Proposed Wood Energy Facilities

Existing Wood Energy Facilities

- 54 Wood Energy Facilities in the State (excluding landscape/mulch industry)
- Of those 54 facilities, 7 Facilities use over 200,000gt annually
 - ▣ All available mill residue in the state is utilized

Proposed Wood Energy Facilities

- 25 proposed biomass facilities for the state
 - ▣ More are announced every week
- Of those 25 proposals, 4 proposals have made public announcement or begun the environmental permitting process
 - ▣ Renewafuels (Cleveland Cliffs Subsidiary) (Location TBD) 200,000gt
 - ▣ Central Minnesota Ethanol Cooperative (Little Falls) 400,000gt
 - ▣ Mountain Timber (Mountain Iron) 200,000gt
 - ▣ US Steel Keetac Expansion (Keewatin, MN) 200,000gt

State Biomass Sales

Definition of Terms

Cass County

St. Louis County

MN DNR

Definition of Terms

- **Sold on Appraised Volume (SOAV) or Sold on Area Estimate** – The purchaser is charged for the appraised volume of timber or biomass on the sale. Timber or biomass is only scaled or weighed at the purchaser's end.
- **Consumer Scale** – Wood is harvested and then scaled by a third party to determine the quantity. Consumer scale agreements (between the state and the permit holder) specifies the consumer that the timber will be delivered to; not the amount nor species.

Definition of Terms Cont'd.

- **Added Timber** – Biomass can be added to a timber harvesting contract. Other timber products in the permit area may also be sold as added timber.
- **Whole Tree Sales** – Timber is offered as a whole tree product, rather than differentiating between products (e.g. pulp, bolts, or biomass).
 - *Currently not offering these types of sales. There may be a top size diameter specification such as 2”



Cass County Biomass Sales

Cass County Biomass Sales: 2 Types

Sale Type 1

- ❑ Sold as Area Estimate and includes biomass as part of bid (biomass free)
- ❑ Tops and Limbs must be scattered
- ❑ Promotes efficient utilization of biomass and does not penalize logger for not having a market

Sale Type 2

- ❑ Tops and Limbs Piled at the Landing and then county sells biomass for firewood for \$25
- ❑ Must be agreed upon in contract before harvest begins
- ❑ Not a common practice (< 4 occurrences)



St. Louis County Biomass Sales

St. Louis County Biomass Sales

- 1) Sales sold as Area Estimate and include the whole tree. Pricing is for cordwood with minor adjustments for biomass value. If not utilized, tops and limbs must be scattered.
 - ▣ Everything is “biomass” – utilization is in the eye of the beholder
- It's estimated that biomass is utilized on 30% of the sales.
- Offering some low-quality stands (dying black spruce or pine thinnings) at biomass prices to “pay” for stand management. Exploring the “magic” price.
 - ▣ Primary objective is to get the material removed; price accordingly



MN DNR Biomass Sales

MN DNR Biomass Sales

- Biomass sold by 2 prices:
 - ▣ 1) Informal (added timber) .80/green ton
 - ▣ 2) Auction .60/green ton
- Price is the same whether SOAV or Consumer Scaled; price depends on the purchase method
- Biomass typically sold as residual material above a 3" top, wood that is more than 50% rotten, or wood that is dead
- Biomass can be piled at the landing – logger assessed a liquidated damage charge if piles are left after permit has closed
 - ▣ Regions have the authority to decide what's biomass



Exploring our Options

Focus Groups with Loggers

Leasing of State Lands

Focus Groups with Loggers

- 3 Focus Groups scheduled for end of July 2009
 - ▣ Bemidji, Grand Rapids, Iron Range
 - ▣ Discuss ways in which the state can simplify the procurement process
- Leasing of State Lands
 - ▣ Feasibility study – biomass is a component





Constraints on the System

Federal Definitions of Biomass

Market Constraints

Biomass Constraints

- Market Constraints
 - ▣ Price paid for end product
 - ▣ Distance to transport
 - ▣ Consistent Demand – all dependent upon price of Natural Gas (\$7-\$9mBTU change the market)
- State and Federal Mandates
 - ▣ Next Gen. Energy
 - ▣ Federal Renewable Liquid Fuels Standard 36 Billion gallons by 2022
- Federal Definitions of Biomass
 - ▣ EPA Renewable Fuels Standard
 - “Logging Slash”
 - ▣ Waxman
 - “Naturally Regenerated Forest” and “Mature” Forests
 - ▣ Biomass Crop Assistance Program
 - \$45/cord roundwood

Questions

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