

# Forest BioEconomy Strategy

## Using the “Vast Forest Resource”

By: Anna Dirkswager



# DNR Mission

- Work with citizens to conserve/manage state's natural resources
- Provide outdoor recreation opportunities
- Provide for commercial uses of natural resources to create sustainable quality of life



# Current Biomass Utilization

- Estimated Current Statewide Demand for Open-market Non-mill residue Woody Biomass = 960,000 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.

Resource is not inexhaustible



# Existing and Proposed Wood Energy Facilities

## Existing Wood Energy Facilities

- At least 52 Wood Energy Facilities in the State
- 6 use over 200,000gt annually
- 2 million green tons household firewood
- Virtually all available mill residue in the state is utilized

## Proposed Wood Energy Facilities

- 25 proposals
- 5 proposals have made public announcement or begun the environmental permitting process



# The Vast Forest Resource

Resource Use	Volume
Historic timber harvest	7.6 million green tons
Current timber harvest	5.6 million green tons
Upper limit of “sustainable” timber harvest	11 million green tons
Current woody biomass utilization	4.5 million green tons
Potential for Expansion	3 million green tons +/- 50%



# Checks and Balances

- Safeguards to ensure sustainability:
  - Third Party Certification
  - Biomass Harvesting Guidelines
  - MN's Logger Education Program: Master Logger Certification

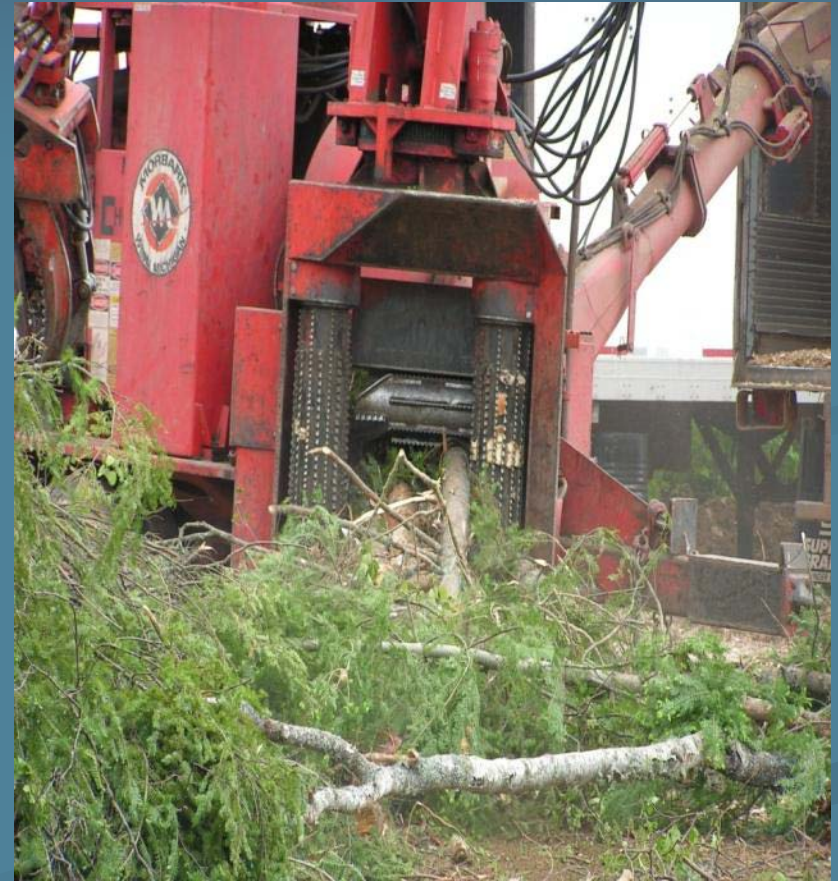


# Alternative Biomass Utilization Scenarios for 3 million green tons

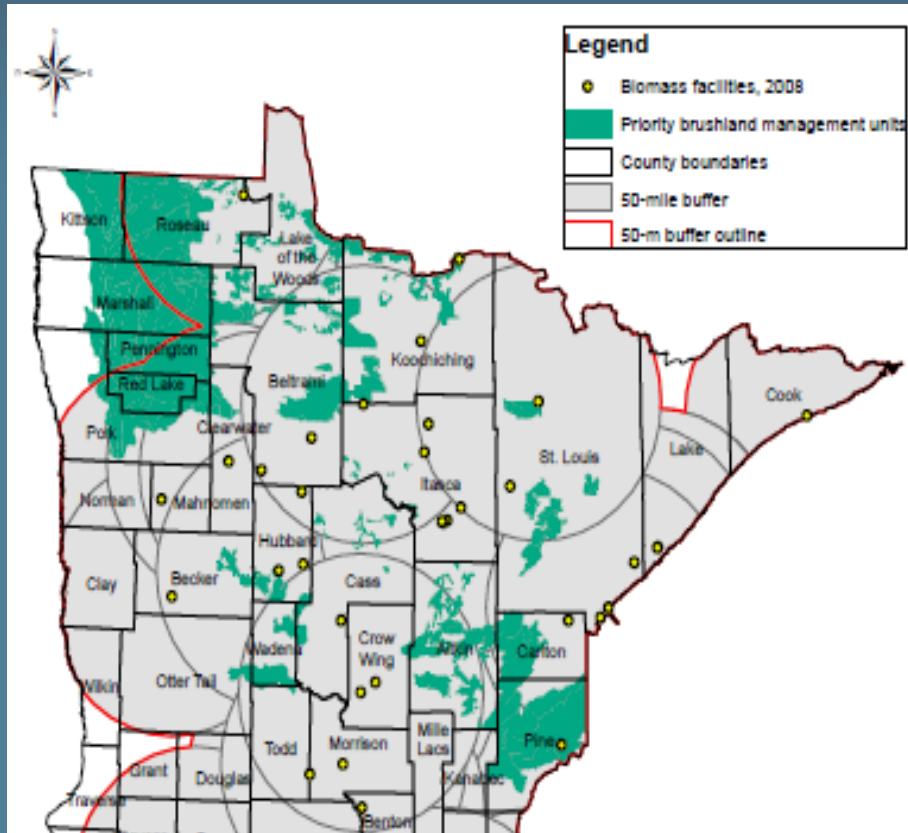
Energy Market	Woody Biomass Potential Contribution
Residential Heating	225,000 homes
Commercial	200 to 400 million sq feet
Electric Power	250 MW
Cellulosic Biofuels	150 million gallons
Industrial Fuel Switching	10 to 20 projects (IE taconite or ethanol plants)
Export of raw or semi-finished wood fuels (i.e. green chips or pellets)	1.5 million dry tons

# Constraints in Using Biomass

- Market Constraints
  - Price paid for end product
  - Distance to transport
  - Consistent Demand – all dependent upon price of Natural Gas
  - Fuel Costs and the Catch 22
  - Mismatched supply and demand curves



# Opportunities for Biomass



## Areas to Explore

- Brushlands
- Timber Stand Improvements (“Weeding”)
- Fuels Reduction Projects
- Removal of Invasives
- Emerald Ash Borer

# Forest BioEconomy Strategy

## Guiding Principles

- Healthy Forests
- Contributes to environmental goals –  
Air Quality / Water Resources / GHG
- Contributes to economic goals  
Job retention / Job Creation
- Efficient use
- Links to Ag –Bio Energy Strategies



# Thank You

- [Anna.Dirkswager@state.mn.us](mailto:Anna.Dirkswager@state.mn.us)
  - 651-259-5253

