

UNIVERSITY OF MINNESOTA

EXTENSION

Assessment of Biomass at the County Level

Randy Hillard, AURI

Fueling the Future:

The Role of Woody Biomass for Energy Workshop

April 2, 2009

Brainerd

Sponsored by:

University of Minnesota Extension, WesMin and Onanegozie RC&Ds, Natural Resource Conservation Service – Baxter, MN, Soil and Water Conservation District – Crow Wing County

www.extension.umn.edu/agroforestry

Agricultural Utilization Research Institute

The Resource for Value-Added
Agriculture in Minnesota



Agricultural Utilization Research Institute

AURI Mission

- Identification and expansion of markets for new or existing commodities, ingredients and products;
- The development of new uses or value improvements for Minnesota agricultural commodities;
- The development of ag-based, renewable energy opportunities



AURI

- Created by the Minnesota Legislature in 1987, began operating in 1989
- Offices in Crookston, Marshall and Waseca



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What we do

Sole focus is adding value to MN agriculture

- Scientific, technical assistance
 - R&D for MN agriculture and rural processors
 - Technical and market feasibility
 - Analytical testing of processes/products
- Broad impact initiatives
 - Identify emerging opportunities with potential to impact large number of producers



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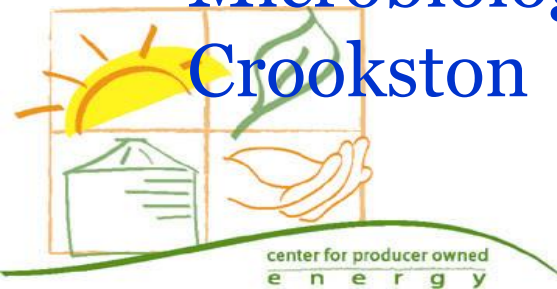
What we do

- Provide R&D expertise to rural Minnesota
 - Access to experienced technical and scientific staff
 - On-site or at AURI laboratory facilities
 - Conduit to additional networks and resources
- Provide producer information and education
 - Training sessions
 - Forums
 - Informational materials



AURI Facilities

- Meat Lab, Marshall
- Fats & Oils Lab, Marshall
- Coproducts Lab, Waseca
- Product Development Kitchen, Crookston
- Microbiology Lab, Crookston



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Renewable Energy Template

Project Purpose

- Identify Renewable Energy Opportunities
- Project Feasibility
- Local Markets for Renewable Energy
- Empower Local Organization, Communities, etc.
- Cost Savings
- Spur the Development of Renewable Energy Projects Utilizing Biomass



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Renewable Energy Template

Summary Tables

- Renewable Energy Potential
- Energy Use Estimate Summary



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Renewable Energy Template

Renewable Energy Potential

- Crop Residues
- Animal Wastes
- Forest Wastes and Residues
- Wind Energy Potential
- Solar Energy Potential
- Geothermal/Earth Energy Systems



Renewable Energy Template

Energy Use Estimates

- Residential Energy Use
- Transportation Energy Use
- Agricultural On-Farm Energy Use
- Industrial Energy Use
- Commercial, Retail and Office Energy Use



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Renewable Energy Template

Infrastructure Resources

- Railroads
- Natural Gas
- Electricity Service Territories
- Other Infrastructure



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Renewable Energy Template

Corporate Structures

- C - Corporations
- S – Corporations
- LLC Limited Liability Corporations
- Cooperatives
- C-BED



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Renewable Energy Template

Tax Credits & Federal Renewable Energy Incentives

- Central Database of Incentives
- Section 45K Tax Credits
- Alternative Fuel Excise Tax Credit
- Renewable Energy Production Incentive (REPI)
- Renewable Energy Production Tax Credit (PTC)
- H.R. 2810 Amendment to Production Tax Credit
- Green House Gas Credits



Renewable Energy Template

Worksheets

- Renewable Energy Potential Summary Table
- Energy use Summary Table
- Crop Residue Summary Table
- Animal Residue Methane Potential
- Logging Residue Energy Estimate
- Wind Energy Estimate



Renewable Energy Template

Worksheets

- Estimated Residential Energy Consumption by Household Number
- Estimated Residential Energy Consumption by Age of Household
- Annual Fuel Consumption Estimate Based on VMT by County
- On Farm Energy Use Estimate
- Commercial Building Energy Use



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**Questions?
Thank You!**

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