A STRATEGY FOR BIOMASS TO BE COMPETITIVE ECONOMICALLY

Advanced Biomass Workshop
November 15, 2007
U of MN -- Morris
WHO IS RURAL ADVANTAGE?

MN Nonprofit Corporation

Est. Nov. 2003

Fairmont, MN
To promote the connections between agriculture, the environment and rural communities in order to improve ecological health, economic viability and rural vitality.
The Madelia Model stretches people’s thinking beyond ethanol and toward an alternative energy solution that can provide multiple benefits, including a more sustainable solution for rural communities economically, environmentally and socially.
SO HOW DO WE GET THERE?
TARGETED ACRES

- Droughty Soils
- Too Wet Soils
- Buffer Zones
- Water Retention/Aquifer Recharge
- Marginal Lands
- Expiring CRP
Crop Equivalent Ratings for the Madelia Fuelshed

CER
- Not farmed
- 0.1 - 20.0
- 20.1 - 40.0
- 40.1 - 60.0
- 60.1 - 80.0
- 80.1 - 100.0

Legend:
- Not farmed
- 0.1 - 20.0
- 20.1 - 40.0
- 40.1 - 60.0
- 60.1 - 80.0
- 80.1 - 100.0

Scale:
0 2.5 5 10 15 20 Miles

Cities:
- New Ulm
- Sleepy Eye
- Mankato
- Saint James
- Madelia
- Winnebago
BIOMASS SUPPLY

► 1.9 Million Acres in Corn/ Soybean

► Convert 20% of the Most Environmentally Sensitive Acres

► 380,000 acres

► 10% Long Term Perennials
   Native Mixes, Trees, Hazelnuts, Willows, etc.

► 10% Short Term Perennials, Small Grains, Cover Crops
   Hay Crops, Switchgrass, Oats, Wheat, Alfalfa, Grazing, etc.
BIOMASS YIELDS

- Corn Stover: 2 Tons per Acre
- CRP/CREP/ Natural Areas: 2 - 3 Tons per Acre
- Switchgrass: 4 - 6 Tons per Acre
- Native Prairie Mixes: 6 - 8 Tons per Acre
- Miscanthus x giganteus: 15 - 20 Tons per Acre
Net revenue needs to be competitive with corn & soybeans.

Production Payment from the Energy Facility + Environmental Commodity Payments + Less Production Costs/Inputs =

Payment [net] at least as good as Corn/Soybean
HOW BIOMASS CAN COMPETE

- Biomass Payment $$$$.
- Environmental Commodity Payments $$$$.
  - Carbon $$. $$
  - Nitrogen Reduction $$. $$
  - Phosphorous Reduction $$. $$
  - Sustainability Standards $$. $$
  - Habitat Improvement $$. $$
  - Green Space $$. $$
  - Aquifer Recharge $$. $$
- Conservation Stewardship Program $$$. $$
- Net At Least As Good As Corn $$$$.$$
RIM -- Clean Energy
Example Payment Components

- Production Payment
- Establishment Mitigation
- Risk Mitigation Payment
- Environmental Commodity Payments [Public Benefits]

Years
THE END