On Farm Digesters in the Midwest

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The Minnesota Project is……

• Non Profit
• Formed in 1979
• Mission: Connecting people with policy to build strong local economies, vibrant communities and a healthy environment
• Areas of focus: Renewable Energy/Agriculture & Water/ Local Food
• www.mnproject.org
How does a digester work?

- Manure is collected, put in covered tank
- Bacteria break down manure
  - Heated digesters are more efficient
- Biogas is produced and captured
  - 60% methane, 40% CO₂, other trace gases
- Biogas is routed to be burned for electricity production or another use
- Digestate is produced
  - Volume is slightly reduced (3-7%)
  - Nutrient levels remain the same during before and after digestion
BARN-collect manure → HOLDING TANK → DIGESTER → GAS UTILIZATION (electric generation or another use) → SOLID SEPARATION → SALE OF SEPARATED SOLIDS → LAND APPLICATION

→ DIGESTATE STORAGE
Glance at Midwest On Farm Digester Projects

Minnesota

Haubenschild Diary, Princeton (1999)

- 850 head dairy farm
- Plug-flow digester
- Fuel cell that runs off cleaned biogas
- Sell carbon credits to the Chicago Climate Exchange
Northern Plains Diary, St. Peter (2003)

- 3000 head dairy farm
- Plug-flow digester
- Electrical production
- Separated solids for bedding
Wisconsin’s Farm Digester Projects

- 11 - Existing Digesters
- 5 - Existing Digesters, capacity upgrades
- 20 - New Digesters, in construction or planned

Photo courtesy of Wisconsin Focus on Energy
Community Digesters

Tillamook Bay, Oregon

- 4,000 cow digester, collecting manure from several dairy farms

2000 PHASE 1 COMPLETE
NOVEMBER 2003
Community Financing

Dairyland Power Cooperative

- Partner with Microgy and Wisconsin farmers
Thank You

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