



# How Minnesota's Energy Policies and Actions Address Greenhouse Gas Emissions

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# MN Energy Policy Questions

- Does the state's energy system meet our economic needs?
- Are Minnesota's energy costs low when compared to our neighboring states and the rest of the nation?
- Will the pollution per amount of energy generated, produced, delivered, and used be less tomorrow than it is today?

Minnesota's energy policies,  
goals and actions are designed to  
reduce all environmental  
impacts...  
...including reducing GHG  
emissions.

# Primary Ways Minnesota is Addressing GHG Emissions

- Promoting Clean Energy.
- Promoting Energy Efficiency.
- Emission Reductions.
- Process Improvements.
- Transportation.
- GHG Targets.
- Sequestration.
- Education.

# Promoting Clean Energy

- All Electric Utilities: 10% Renewable Energy Objective by 2015.
- All Electric Utilities: offer green pricing, net metering, distributed generation standards, and (soon) community energy tariff.
- Xcel Energy mandates: 1,125MW wind & 125MW biomass by 2010.
- Key participant in developing Midwest Renewable Energy Tracking System.

# Promoting Clean Energy

- Xcel Energy: Up to \$20M to U of MN for renewables R&D 2003-2008.
- Xcel Energy funding: \$16M/yr to Renewable Development Fund.
- State funding: 1.5 ¢/kWh for 200MW wind.
- State Hydrogen Energy Economy Goal: *...move to hydrogen as an increasing source of energy for its electric power, heating, and transportation needs.*

**Total Renewables: 11% in 2003, 20% by 2015**

# Promoting Energy Efficiency

- Conservation Improvement Program (CIP):
  - \$91M spent by electric & natural gas utilities in 2003.
  - 2003 natural gas and electricity savings were equivalent to over 16,000 (gas) & 48,000 (electric) MN homes' annual use.
  - For every \$1 invested, \$2-3 are saved in new power plant and fuel expenditures.
- State Sustainable Building Guidelines for all publicly funded buildings (30% better than code).
- Select ENERGY STAR rated appliances sales tax exemption (6.5%).

# Emission Reductions & Process Improvements

- Metropolitan Emission Reduction Proposal:
  - Xcel Energy will convert two coal plants to natural gas & retrofit one coal plant with advanced pollution control equipment - \$1B investment by 2009.
- Environmental Externalities calculations in electric resource planning.
- Saint Paul District Heating & Cooling:
  - 33 MW electricity, 28M ft<sup>2</sup> heating, 10M ft<sup>2</sup> cooling.
  - 80% biomass fueled.
  - Same rates as 1984 (\$/MMBtu) - 99.99% reliability.

# GHG Targets & Sequestration

- University of Minnesota joins Chicago Climate Exchange (December 2004).
- MN Pollution Control Agency voluntary GHG emissions goal of 18%.
- Sequestration a component of a proposed clean coal project.

# Transportation

- 10% Statewide Ethanol Mandate since 1997.
  - Governor's proposal (E20) to double this to 20% by 2012.
- 2% Biodiesel (B2) mandate begins July 2005.
- 105 public E85 stations (half of all in U.S.)
- State Purchasing: reduce state fleet gasoline consumption by 50% and consumption of diesel by 25% by 2015.
- 20 ¢/gal state ethanol production incentive - 11 of 13 ethanol plants are cooperatively owned.

# Education

- U of MN Initiative for Renewable Energy & Environment.
- Electric utility generation source disclosure requirements.
- Clean Energy Resource Teams - regional energy education and planning.
- U of MN Cedar Creek Programs & Research Facility.

# Not Business as Usual: Minnesota is getting REAL GHG Emissions Reductions

- Renewable Electricity: -3.5M tons/yr
  - CIP: -0.5M tons/yr
  - MERP: -2.3M tons/yr
  - E20 & B2 mandates: -1.7M tons/yrEst.
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- GHG Reductions: -8M tons/yr

30-40% reduction of CO<sub>2</sub>e emissions  
between 2000-2010

# Thank you



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