

# Impact of Current Administration's Proposals to Limit Greenhouse Gas Emissions

Presented to  
South Dakota Public Utilities Commission

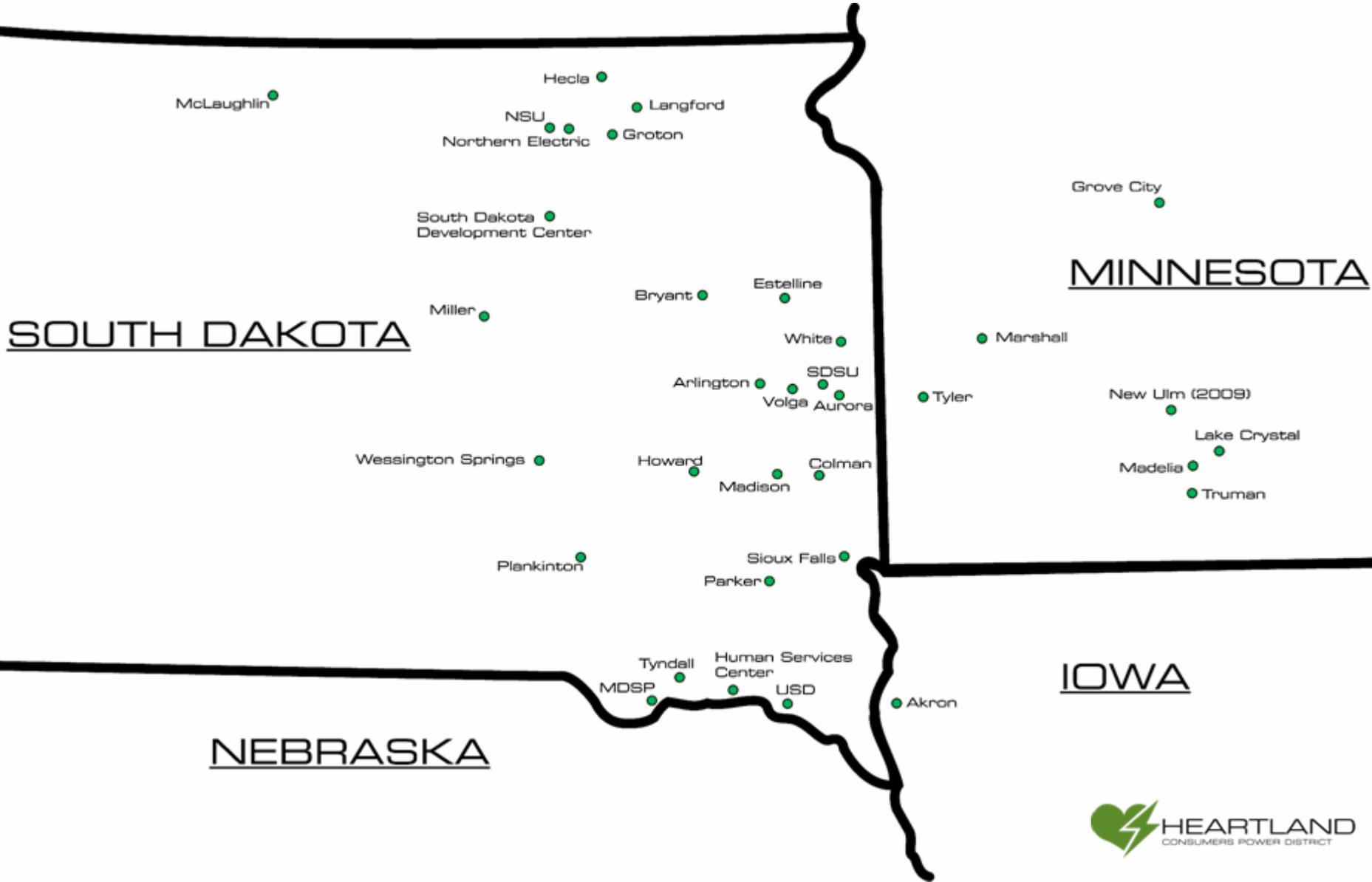
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Heartland Consumers Power District  
March 27, 2009





- Public corporation and political subdivision of the State of South Dakota
- Formed in 1969 under the power district statutes
- Governed by elected Board of Directors
- Serves as both supplemental and full requirement power supplier
- Our Resource base includes 20% wind generated energy

# Heartland Customers



# Technologies

- When the technology is commercially available, the utility industry has proven it can meet emissions limits, providing there is a clear national system in place and adequate time is permitted to implement the technology
  - At this time, there is no commercial scale technology to capture CO2 emissions in existing plants although some promising R&D is underway
- Heartland believes the industry's historical successes can be duplicated – *at a cost*

# Costs of Capture and Sequestration (C&S)

- Based on current demonstration technologies, generation capacity would be reduced by 20-30% to power equipment to *capture* CO<sub>2</sub>
- Cost to install and operate equipment for CO<sub>2</sub> capture? True costs unknown at this time
- Installing additional equipment may be physically impossible at existing plants
- Sequestration or storage of captured CO<sub>2</sub> adds another unknown cost for new infrastructure and operating expenses
- Improbable that additional base load resources required to replace the reduced generation and accommodate load growth could occur in the current operating environment

# Unresolved Sequestration Issues

- Based on EPA's recently stated intent to regulate GHG under the Clean Air Act:
  - Sequestration of GHG in underground geologic formations would be allowed only in Class 1 injection wells under current federal law
  - Class 1 wells cannot be located in any area that has seismic activity, placing large areas of the US off limits for sequestration
  - Class 1 wells cannot be located within most aquifers, further limiting available CO2 storage areas

# Cost to Consumers

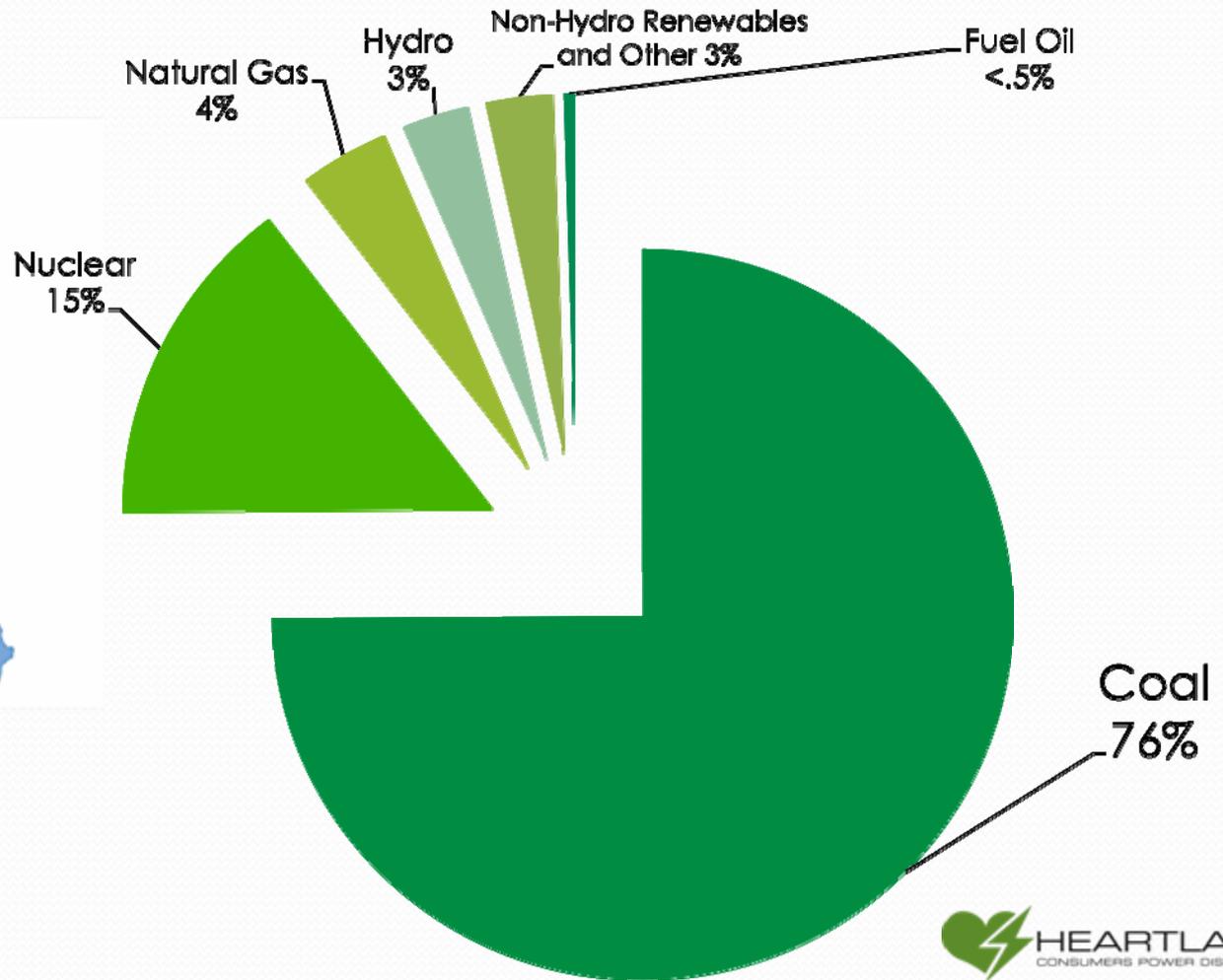
- Cost to implement C&S technology is unknown
- We can project cost to consumers based on just the current cap & trade proposals
  - Auctions of all CO2 emission allowances
  - HCPD rate increase for CO2 values of \$8 - \$60 per ton of CO2
    - Range suggested by consultant to Minnesota PUC

Carbon costs (\$/ton)	8	20	30	40	50	60
2012 Rate Increase	25%	54%	81%	109%	136%	165%

- Impact of energy rate shock: lower economic growth and possible loss of jobs out of state, or even to other countries

# Disproportionate Impacts in US

West North Central



# Disproportionate Impacts in US

## **Regional Coal Dependence**

- East North Central: 70%
- East South Central: 65%
- Mountain: 61%
- South Atlantic: 53%
- Middle Atlantic: 37%
- West South Central: 37%
- New England: 15%
- Pacific Noncontiguous: 12%
- Pacific Contiguous: 3%

# Effect of GHG Proposal

- The Administration's proposal would turn SD electric utilities into tax collectors to pay for proposed Administration tax cuts
- Auctions could easily result in Wall Street speculators or even foreign governments gaining control over electricity fuel prices and availability of resources
- Risk to electricity reliability

# Significant Reliability Risks

- Low-cost base load resources are required to maintain an affordable and reliable electric supply
- Coal must remain a viable base load option
- Nuclear should be an option but waste storage ??
- Risks for large scale conversion to natural gas
  - Dramatic increases in natural gas prices
  - Serious availability and deliverability issues
  - Increased reliance on LNG imports

# Significant Reliability Risks

- As an example:
  - If the 1,650 MW Laramie River Station (LRS) - which provides energy throughout SD - would be converted from coal to natural gas, the amount of natural gas required to produce the equivalent amount of "coal" energy each year would be 2.4 times more natural gas than the entire state of SD used in 2007
  - LRS would be competing for natural gas against many current uses, including fuel for production of crop fertilizer and ethanol.

# Looking Forward

- Affordable and reliable electricity and progress towards limiting GHG emissions are not necessarily incompatible
  - Energy efficiency and renewable resources can offset a portion of the costs to implement emissions limits
  - Significant R&D funding is critical if cost-effective technology is to be developed and deployed to limit GHG emissions

# Issues for Policymakers

- Can electricity for SD consumers be kept affordable in a GHG regulatory environment?
- If GHG regulation restricts or prevents operation of coal-fired resources, how can new significant levels of base load generating capacity be constructed in today's regulatory environment?
  - No base load "capacity" value in renewables or energy efficiency

# Issues for Policymakers

- Most economists agree that affordable and reliable electricity are necessary for a healthy economy.
- Policy makers have a challenge as well as an opportunity to develop GHG emissions limits while maintaining affordable electricity.



**HEARTLAND**  
CONSUMERS POWER DISTRICT

Thank you for the opportunity to provide  
testimony this morning.