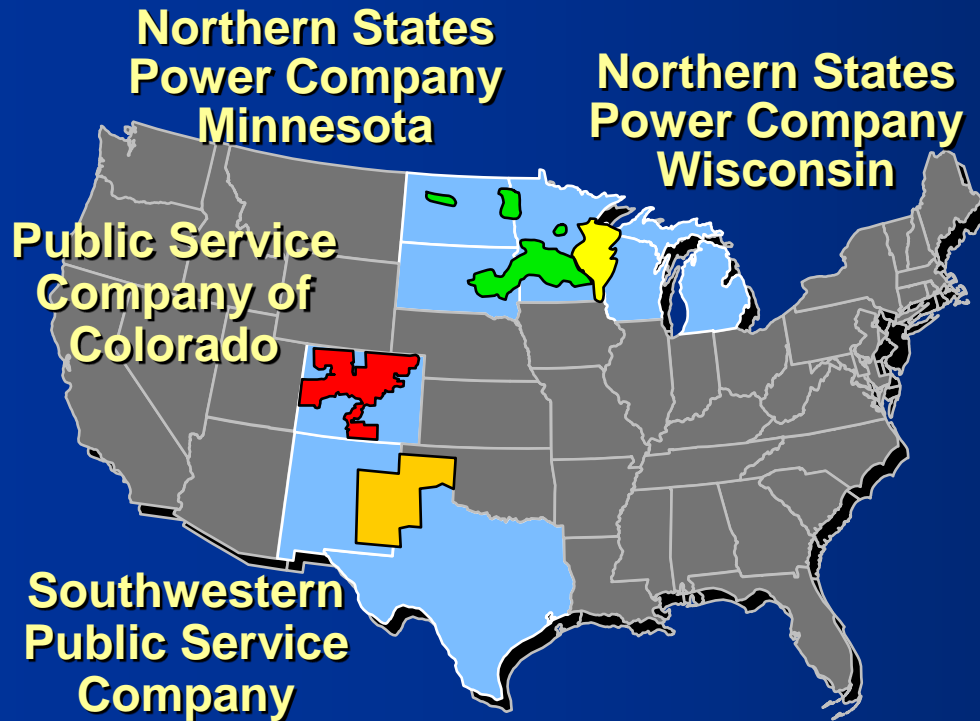




# Climate Change Issues in 2011: Energy Perspective

**Judy M. Poferi**  
**President and CEO**  
**Northern States Power Company - Minnesota**  
**February 10, 2011**

# Xcel Energy Service Territories



- ◆ Maintain reasonably priced, reliable energy
- ◆ Address risk through advanced, balanced, and diverse energy portfolio
- ◆ Create value for customers, shareholders and employees

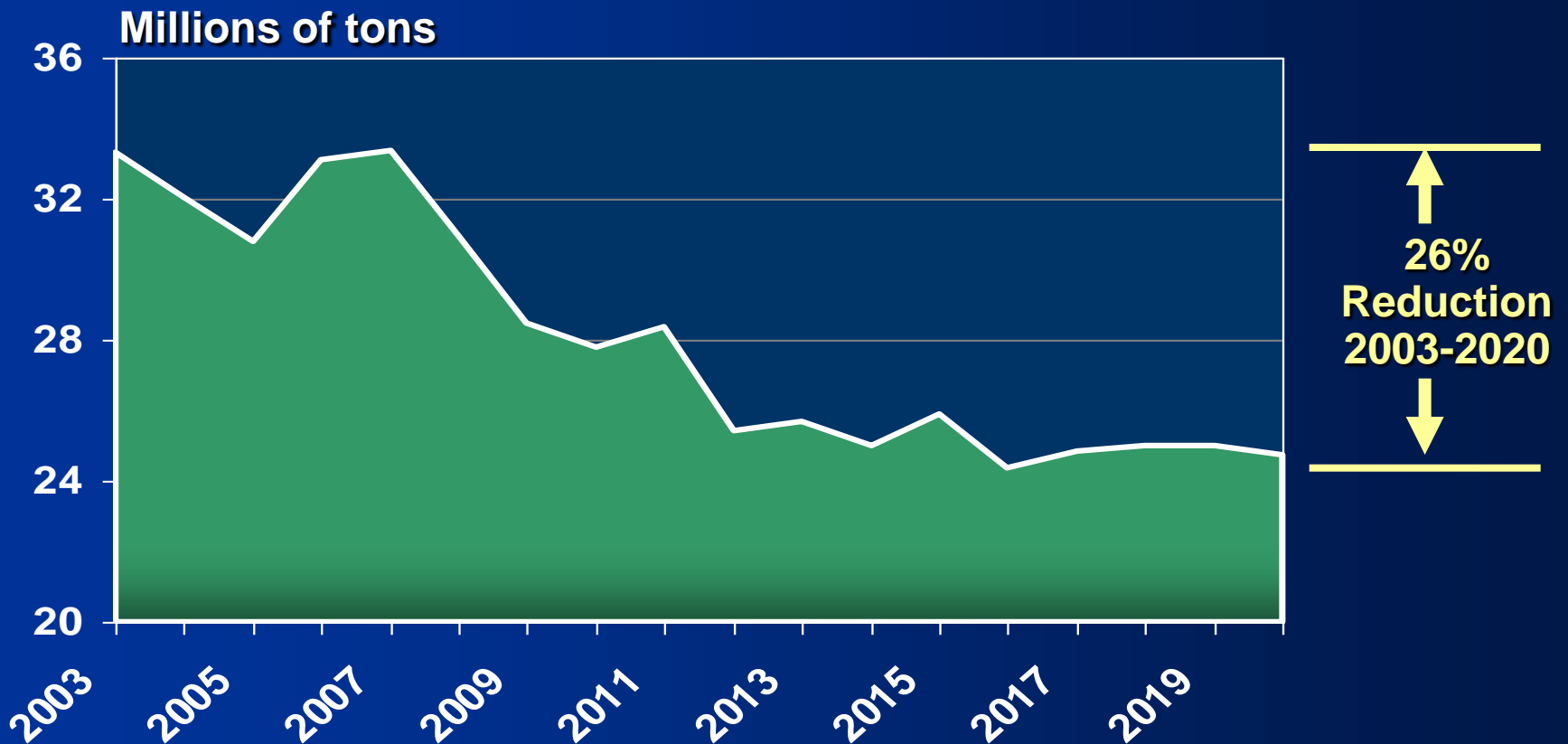
Gas Customers	1.9 M
Electric Customers	3.4 M

# Xcel Energy's Perspective

- ◆ **Clarity and certainty of rules is essential**
  - Aging infrastructure
  - Long-lead time, long-lived assets
  - Significant capital required
  
- ◆ **Investments should prove valuable from a variety of perspectives**
  - Cost
  - Reliability
  - Environment
  - Risk



# CO<sub>2</sub> Emissions: 2003 to 2020



# Emission Reduction Initiatives

**Retrofit  
“anchor”  
coal units**

## **Minnesota Emissions Reduction Project**

- **Retrofit one unit to BACT level controls**
- **Retire five units**
- **Construct two natural gas combined cycle units**

**Preserve  
valuable  
assets for the  
future**

**Retire  
“heritage”  
coal units**

## **Black Dog Proposal**

- **Retire 270 MW of remaining coal**
- **Construct natural gas combined cycle unit**

**Maintain  
reasonable  
long-term cost**

**Approach requires significant investment and supportive regulation**



# Nuclear



**Monticello Plant**

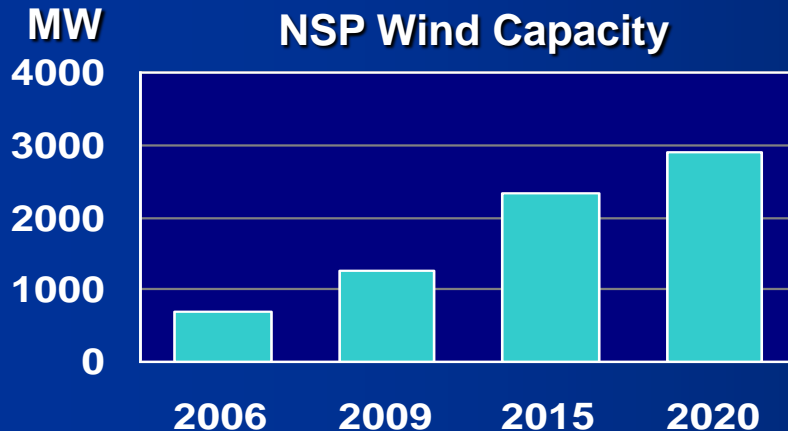


**Prairie Island Plant**

- ◆ **Low cost, emission-free, carbon-free, reliable base load**
- ◆ **License extensions save customers money (\$1 billion)**
- ◆ **Expanded capacity to meet growing needs (+235 MW)**

# Concurrent Strategies

- ◆ Nation's No. 1 Wind Provider
- ◆ Nation's No. 4 Energy Efficiency Programs
- ◆ Transmission investments
- ◆ Commitment to innovation
  - Energy Innovation Corridor
  - Electric vehicles



## Savings

**Demand**  
**2.1 million kW**

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**Natural Gas**  
**9.3 million MCF**

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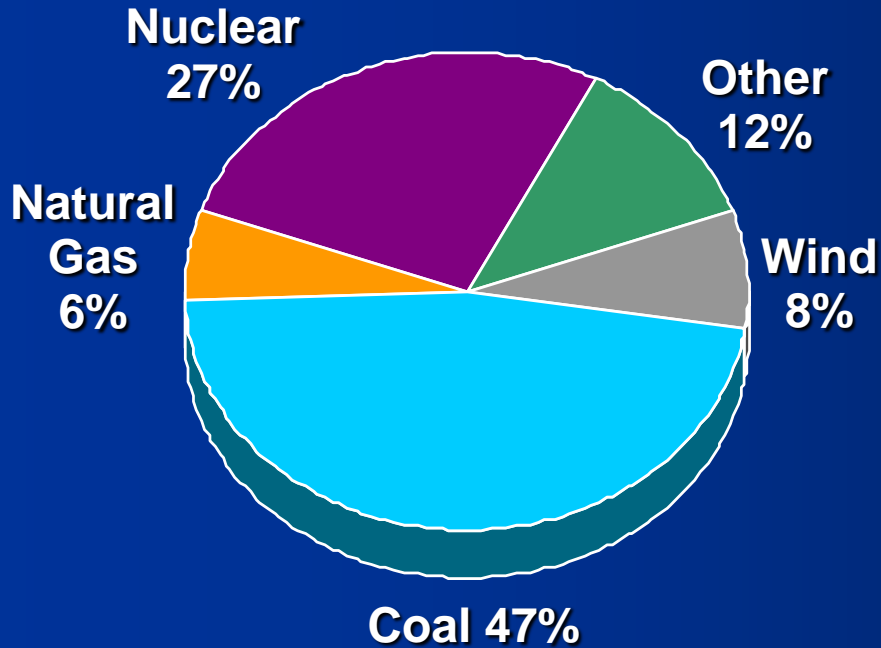
**Electricity**  
**4.8 billion kWh**

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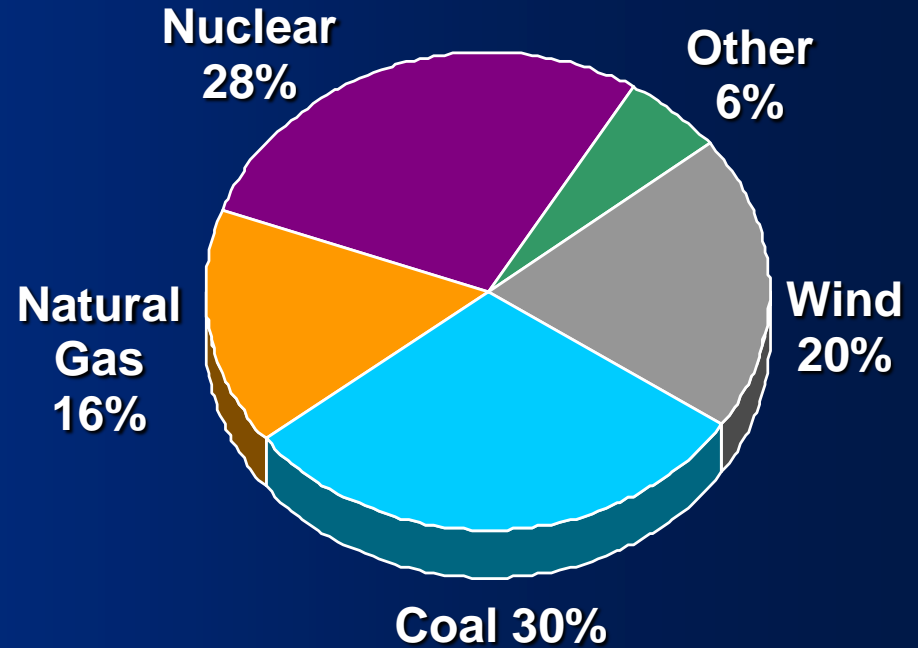
**Results: Equivalent of removing 4 million metric tons of CO<sub>2</sub> emissions**

# Upper Midwest Fuel Mix

2009



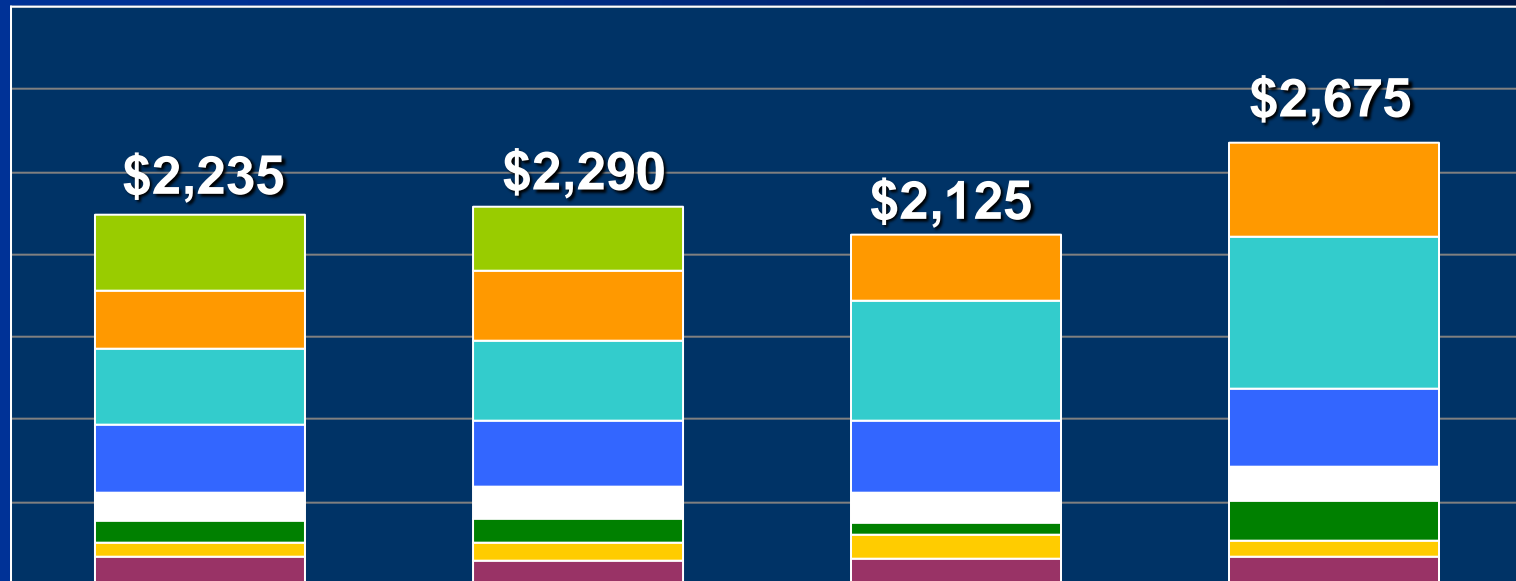
2025





# Capital Forecast

Dollars in millions



2010

2011

2012

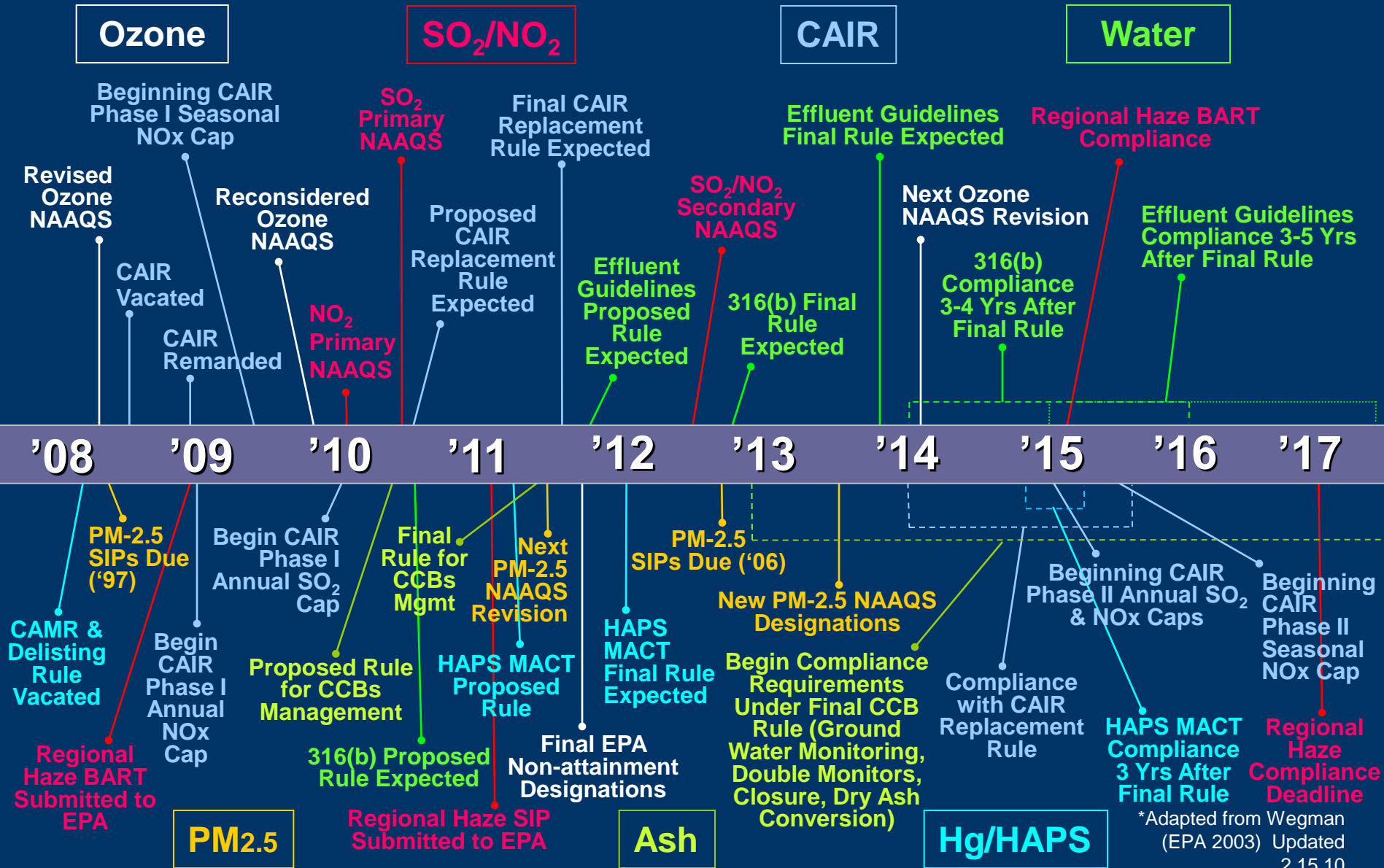
2013

- Other
- Nuclear Uprate & Life Ext
- Electric Distribution
- Electric Generation

- Nuclear Fuel
- Natural Gas
- Electric Transmission
- Wind

# EPA Initiatives

## Non-CO<sub>2</sub> Environmental Regulatory Timeline for Coal Units



\*Adapted from Wegman (EPA 2003) Updated 2.15.10

# Key Decisions



## Retire and Replace

*Natural gas supplemented with renewables?*

*Higher operating costs?*

*More volatility?*

## Retrofit

*More retrofits in the future?*

*Future carbon costs?*

*Costs over useful life?*

# Looking Forward

- ◆ **Continue to pursue balanced, diverse energy portfolio**
  - Coal, nuclear, gas, renewables and efficiency
- ◆ **Address coal infrastructure**
  - Retire and replace aging coal infrastructure
  - Retrofit the more efficient “anchor coal”
  - Invest in natural gas and renewables as appropriate
- ◆ **Explore and implement cost-effective new technology development**
- ◆ **Advocate for flexible, low-cost energy and environmental policies**



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