



**NARUC**

*Serving the consumer interest  
by seeking to improve the  
quality and effectiveness  
of public utility regulation  
in America.*

# Regulation of the Electric Industry in the United States

State/Federal Jurisdiction  
Climate Issues

Energy Efficiency/Demand  
Response

**ACERCA/NARUC Meeting**

**June 4, 2009**

**Managua, Nicaragua**

**Ted Boyer, Chairman, Utah Public Service Commission**



# Energy Regulation: State Responsibilities (1)

- Regulation of retail electricity and natural gas sales to consumers
- Approval for the physical construction of electric generation, transmission, or distribution facilities
- Facility siting of electric generation and transmission
- Regulation of activities of the municipal power systems, federal power marketing agencies, and most rural electric cooperatives



# Energy Regulation: State Responsibilities (2)

- Regulation of local distribution pipelines of natural gas
- Resource planning, including regional activities
- Power supply acquisition
- Infrastructure investment, including security measures
- Environmental impacts of utility operations
- Market monitoring



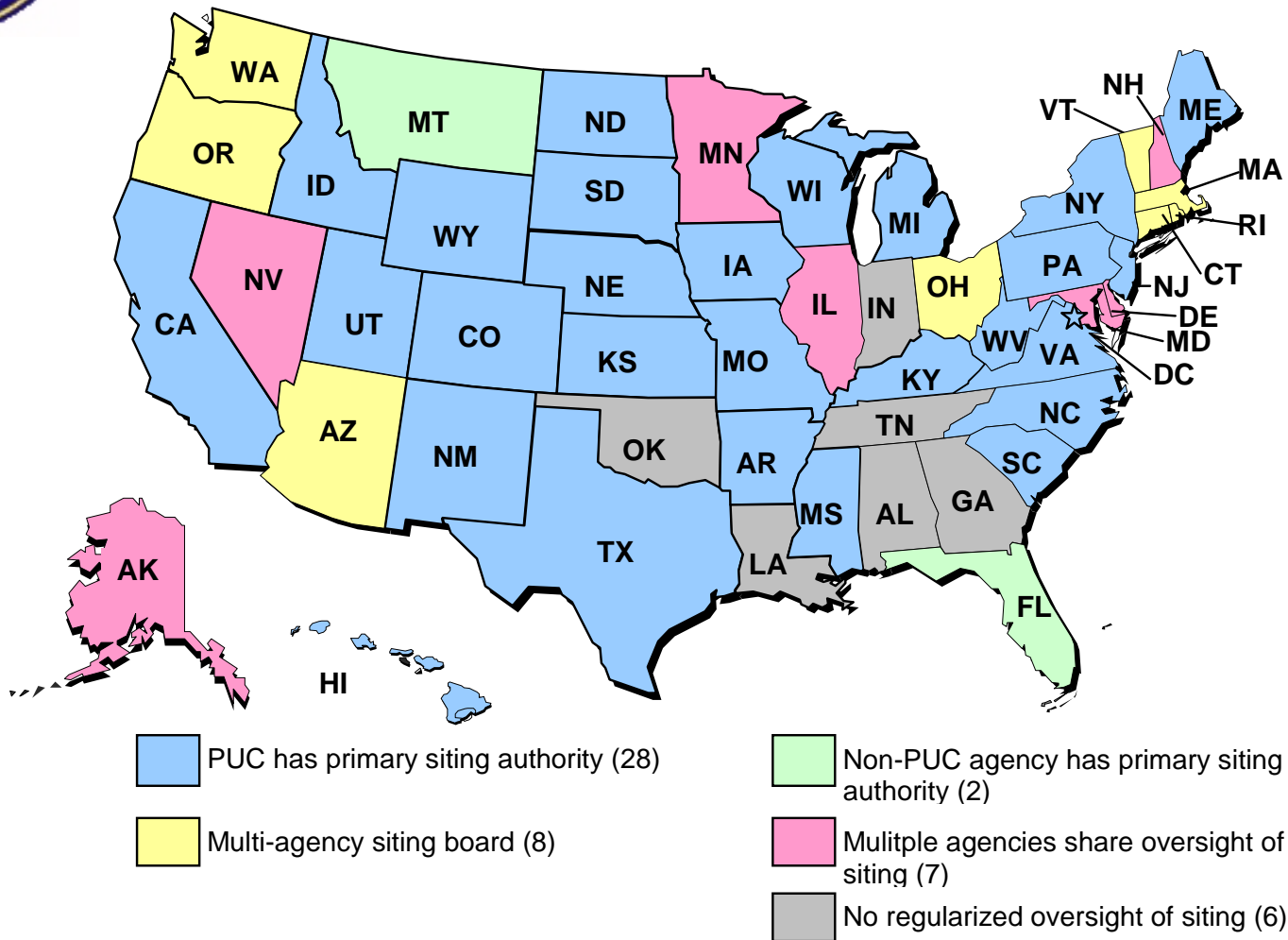
# Energy Regulation: Federal Responsibilities

Federal Energy Regulatory Commission  
(FERC):

- regulates the interstate transmission of electricity, natural gas, and oil
- reviews proposals to build liquefied natural gas (LNG) terminals and interstate natural gas pipelines
- licenses hydropower projects



# Transmission Siting Authority by State



NARUC New Commissioners Training – Electricity Issues

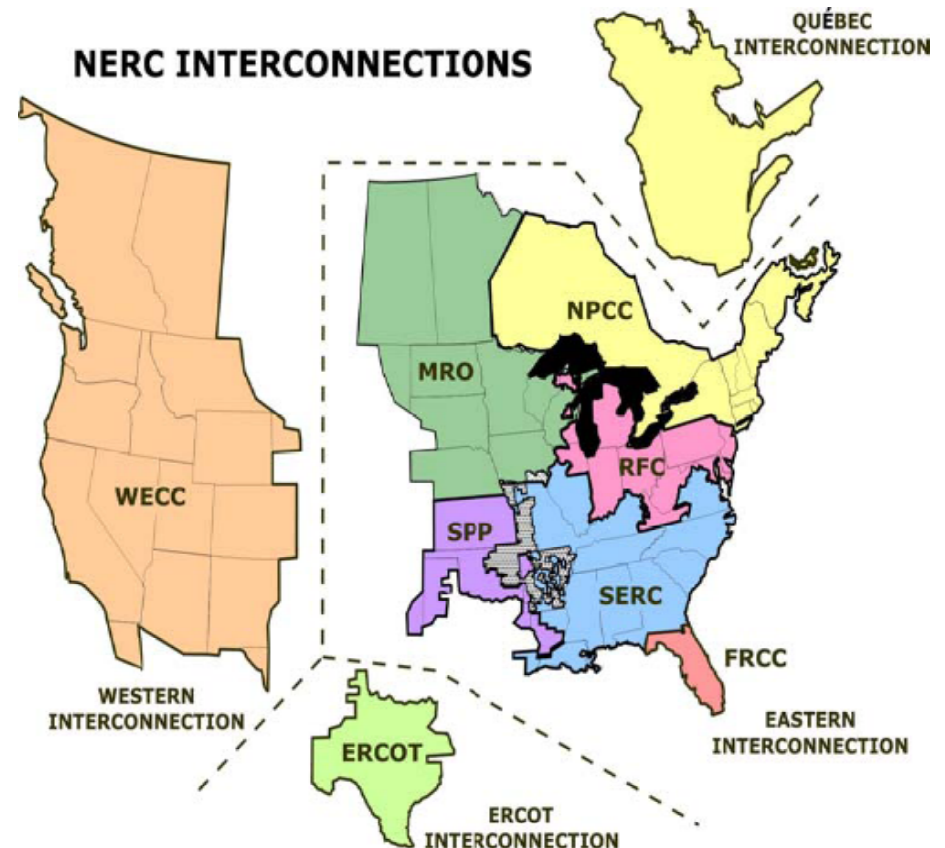
March 11, 2008

Source: EEI, *Transmission Line Siting Regulations*  
2001, updated by J. McGarvey



# North American Electric Reliability Corporation (NERC)

- On July 20, 2006, NERC became an Electric Reliability Organization (ERO) for the United States. As the ERO, NERC will have legal authority to enforce reliability standards on all owners, operators, and users of the bulk power system, rather than relying on voluntary compliance
- Establishes reliability and performance standards
- Coordinates with eight regional Reliability Councils (effective January 1, 2006)
- ISO New England is a member of the Northeast Power Coordinating Council (NPCC)

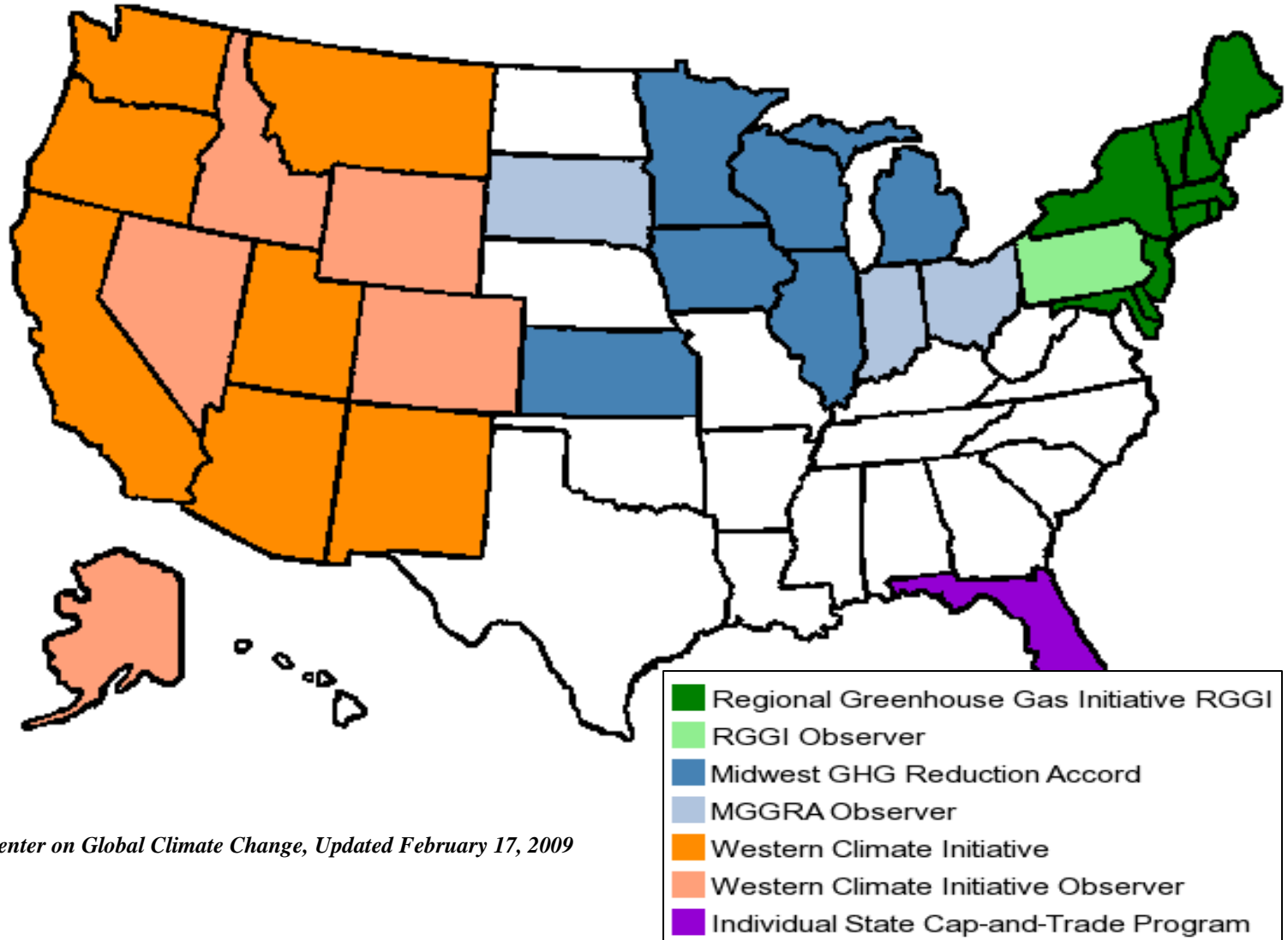


Source: ISO-NE

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# Climate Policy by State



Source: Pew Center on Global Climate Change, Updated February 17, 2009



# National Action Plan for Energy Efficiency

## U.S. National Action Plan for Energy Efficiency Recommendations

1. Recognize energy efficiency as a high-priority energy resource.
2. Make a strong, long-term commitment to implement cost-effective energy efficiency as a resource.
3. Broadly communicate the benefits of and opportunities for energy efficiency.
4. Provide sufficient, timely and stable program funding to deliver energy efficiency where cost-effective
5. Modify policies to align utility incentives with the delivery of cost-effective energy efficiency and modify ratemaking practices to promote energy efficiency investments.

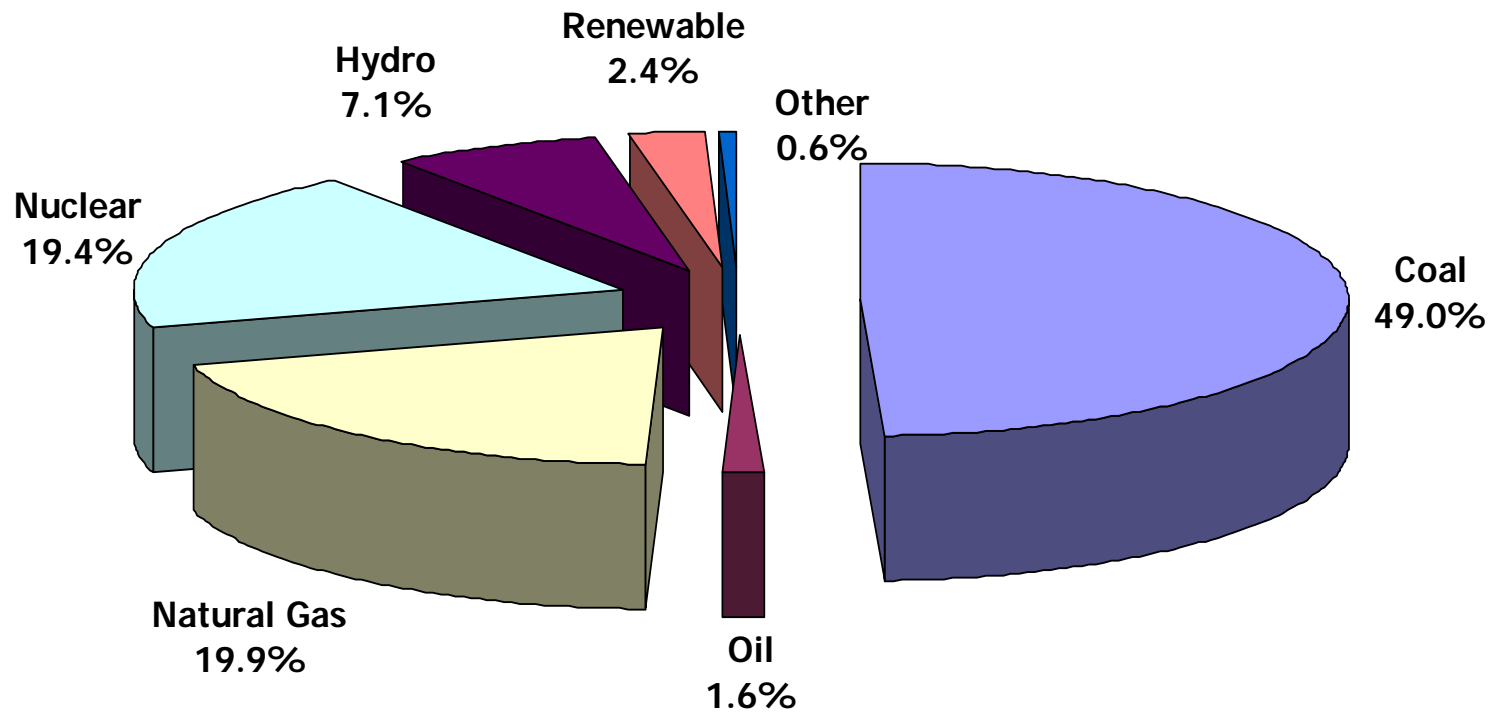


# EE/Climate Change

- Energy efficiency is still the least-cost resource compared to new supply options
  - 3 cents/kWh (levelized) for efficiency
  - 5 cents/kWh and up for central station power
  - 12 cents/kWh and up for peak power
- Growing risks associated with new power plant construction
  - Cost of capital—investor reluctance
  - Fuel price risks
  - Future environmental costs
- Climate change; energy efficiency is a proven, cost-effective means to reduce emissions of greenhouse gases and cut the cost of carbon cap programs



# Net U.S. Electricity Generation, 2006



Source: EIA Electric Power Annual (2006)



# Power Generation Dominates U.S. Emissions

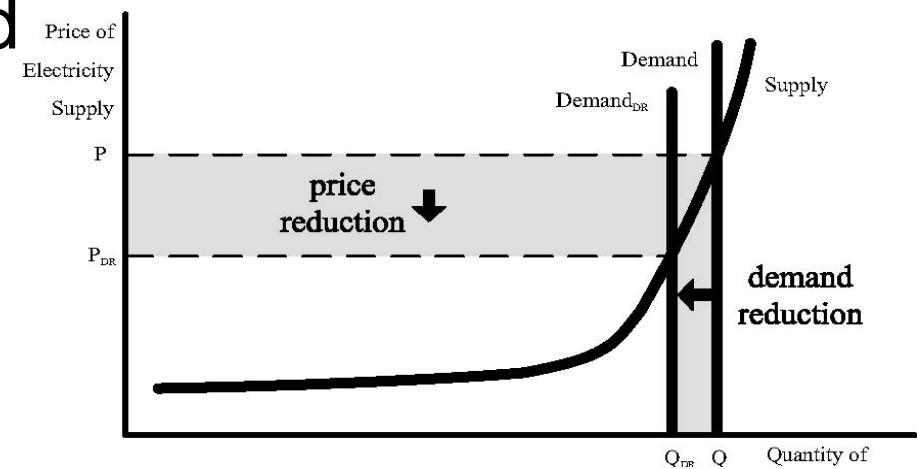
- Sulfur Dioxide (SO<sub>2</sub>): 69%
  - Precursor to acid rain; health & visibility effects
- Nitrogen oxides (NO<sub>x</sub>): 22%
  - Health effects; precursor to ozone “smog”
- Mercury (Hg): 43%
  - Toxic heavy metal
- Particulates (PM-10) 10%
  - Lung damage; haze
- Carbon Dioxide (CO<sub>2</sub>) 41%
  - Dominant greenhouse gas





# What is demand response?

- Process whereby customers change demand for electricity in response to price, incentives, or emergency appeals
- Compared to other commodities, electricity demand tends to be fixed
- Potential benefits of DR
  - Lower prices
  - Less volatility
  - Curbs market power
  - More customer options
  - Reduced environmental impact



→ *Then why so little DR?*



# Fuel Efficiency, Renewable Energy and Demand-Side Management

- Drivers

- One of many components needed to address rising energy demand, limited supply, global warming, air quality issues and potential carbon dioxide regulation.
- Increasing cost of fuel, volatility of fuel prices, desire for stability.
- Increasing load demand (big screen TVs, more central AC)
- Escalating environmental constraints.
- Aging generation fleet
- Shareholder and ratepayer demands



# Renewable Energy–Regulatory Framework

- Actions in Utah:
  - The electric utility submits a biannual IRP and the gas utility submits an annual IRP
  - The electric utility has committed to develop 2,000 MW of renewable energy system-wide by 2013
  - Tariffs -- Blue Sky Program, Solar Incentive Program
  - Governor’s Blue Ribbon Advisory Council on Climate Change and the Renewable Energy Initiative
  - State tax credits for renewable energy projects
  - Implemented a net metering statute in 2002
  - Investigating barriers to net metering & interconnection



# DSM – Regulatory Framework

- Actions in Utah:
  - Rate Design
  - Have DSM programs for both electric and gas utilities
  - Electric company is required to pursue all cost effective DSM programs
  - Electric DSM is funded by a 2% rider on all bills, Gas DSM supported by a decoupling tariff with an accrual account
  - Programs evaluated according to the tests identified under investigatory docket