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Energy Policy Under the Obama Administration

Frank Tierney
Vice President, AEGIS

Roger B. Cooper
Executive Vice President for Policy and Planning, American Gas Association

David K. Owens
Executive Vice President, Business Operations, Edison Electric Institute

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“In simple terms, risk is ‘uncertainty of outcome’”
– Wikipedia

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“It is a riddle wrapped in a mystery inside an enigma”
– Winston Churchill

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Outline

Understanding the scope and direction

- The Obama energy and environmental policy: not revolution but punctuated equilibrium
 - What is being debated
 - What is not being debated – but may be more important
- The role of natural gas and gas distribution
- What would a Waxman-Markey cap and trade bill do?
- Likely political scenarios for 2009 and beyond
- Known and unknown risks

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What Is Being Debated

Public opinion on climate change legislation: broad but shallow

- Climate change
- Cap and trade versus carbon tax versus “cool it”
- Who pays?
- Sooner or later
- US and the world

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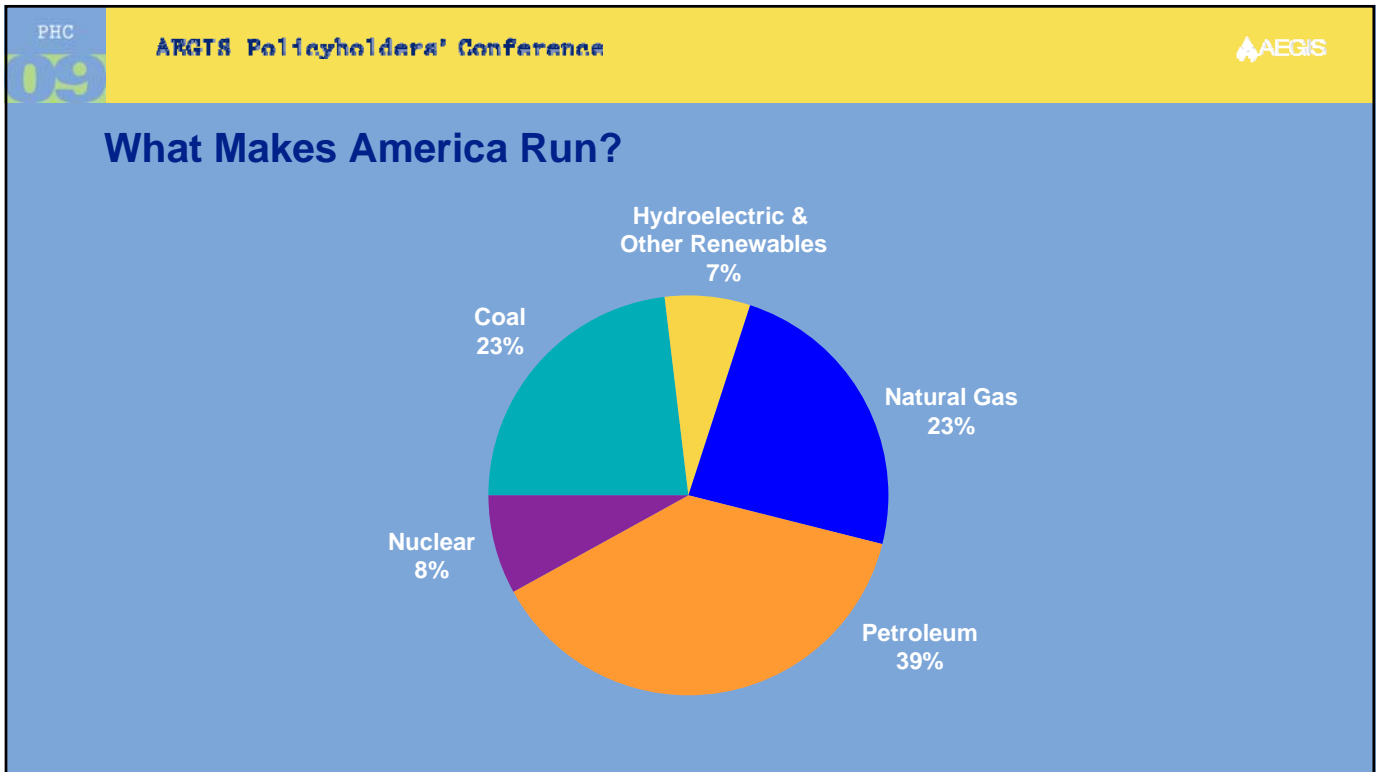
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What Is Not Being Debated

You watch the volcano and miss the glacier

- Energy efficiency
 - The quiet revolution
 - Zero net energy consumption buildings
- Earning more and selling less – the possible upside of utility regulation
- Jevons paradox – should we be worried?
- Developing countries, world population, energy use and economic growth: does the math work?




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Role of Natural Gas

"It's not bragging if you can do it" - Dizzy Dean


- The new natural gas supply abundance
 - Is the current 100 year supply forecast too modest?
- A nearly perfect fuel
 - Domestic
 - Cleanest fossil fuel
 - Leads nation in greenhouse gas emission reductions: since 1970 the number of customers have increased by one-third and GHG emissions have declined

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Impact of Climate Change Legislation on Outlook for Natural Gas

	Shorter Term	Longer Term
Natural gas price relative to competition	+	?
Ability to function under cap	+	?
Availability of high efficiency, low carbon technology	+	?
Natural gas supply availability	+	?
Natural gas demand for electricity generation	+	?

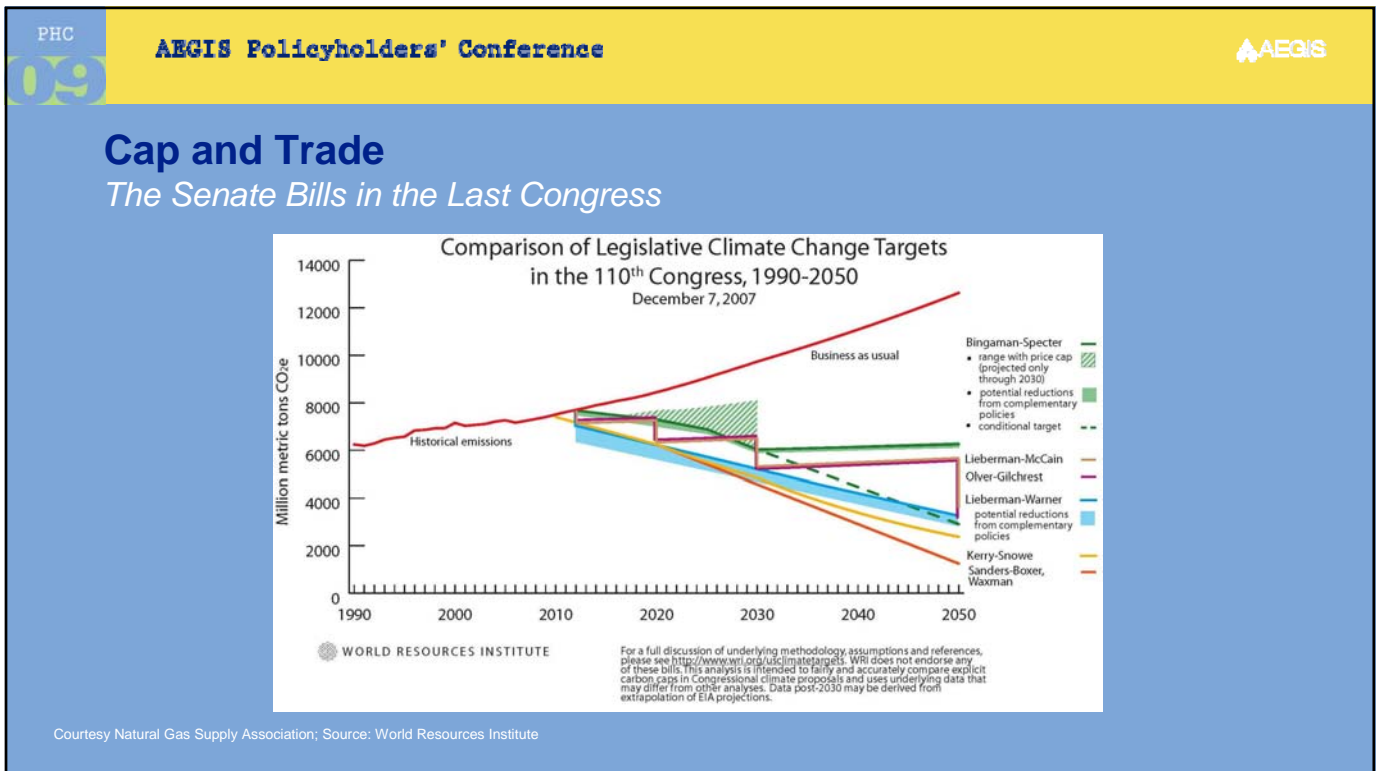
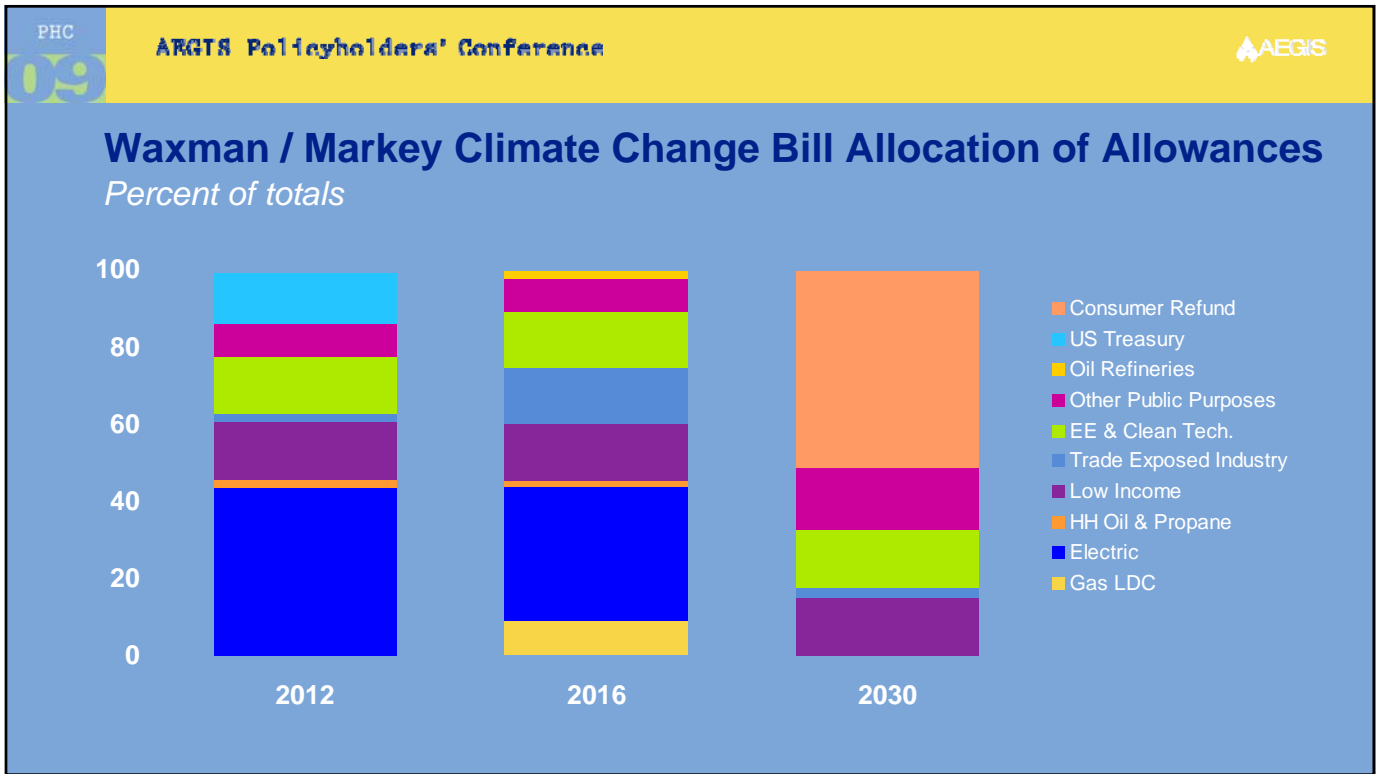
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What Would a Waxman-Markey Bill Do?

"If I'd asked my customers what they wanted, they'd have said a faster horse"
– Henry Ford

- Dramatically change a multi-century trend in rising energy consumption
- Create a market place for greenhouse gas emissions
- Bring new players, new ideas and new technologies to the US and world energy markets
 - The Thomas L. Friedman view: ET bigger than IT – what would that mean?
- Begin an unprecedented world-wide transformation in energy




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Likely Political Scenarios for 2009 and Beyond

"The are only two times in Congress: now and not now"

- What could get 60 votes in the Senate in 2009?
 - The challenges of cap and trade in 2009
 - Why an energy and energy efficiency bill could be doable
- 2010 and 2011

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Known and Unknown Risks

*It ain't what you don't know that gets you into trouble.
It's what you know for sure that just ain't so." – Mark Twain*

- Cost and cost pass-through
- Implications of more efficient homes and buildings
 - Declining use per customer and indoor air quality
- Measurement and verification
- Technological changes
 - Stranded assets
- Scandals
- "Never mind" (Congress as Emily Litella)

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Outlook for the Electric Power Sector

David K. Owens
Executive Vice President, Business Operations
Edison Electric Institute

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A Significant Transformation Is Underway

- Stimulated by
 - Restructured financial market
 - Major initiatives to address climate change
 - Emerging technologies
 - Gaps / lack of clarity in federal / state decisions on infrastructure and market issues

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Overview

- The recession has resulted in dampened demand, but demand is forecast to rebound and grow into the future
- The utility industry is at the beginning of a major investment cycle
- Addressing climate change and new priorities will be costly
- Wall Street restructuring affects access to capital markets and increasing cost of capital for needed utility investments

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Industry Faces Difficult Decisions

To invest or not to invest?

- Defer or cancel infrastructure projects to enhance current liquidity position
- Opportunities with sharply declining commodity and input costs



- Electric reliability could be impacted when economy and demand rebound
- Higher financing costs

Uncertainty ?

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President Obama's Energy / Environmental Views

<p>Climate Change</p> <p>80% reduction by 2050</p>	<p>Renewable Portfolio Standards</p> <p>25% by 2025</p>
<p>Energy Efficiency</p> <p>Overhaul of federal efficiency codes</p>	<p>Smart Grid</p> <p>Increased government support</p>

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Questions We Must Answer

- Climate change
 - What must US climate change legislation and carbon management strategy include to ensure economic growth and energy security and avoid unfairness?
- Renewable technology
 - How much can increased renewable capacity contribute going forward?
 - How do you get transmission constructed?
- Energy efficiency
 - How significant of a role can energy efficiency play in the future?

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Important Issues Needing Attention

- Targets & timetables
- Timing of transition to full auction
- Price collar / safety valve
- Offsets
- Combined efficiency and renewable energy standard

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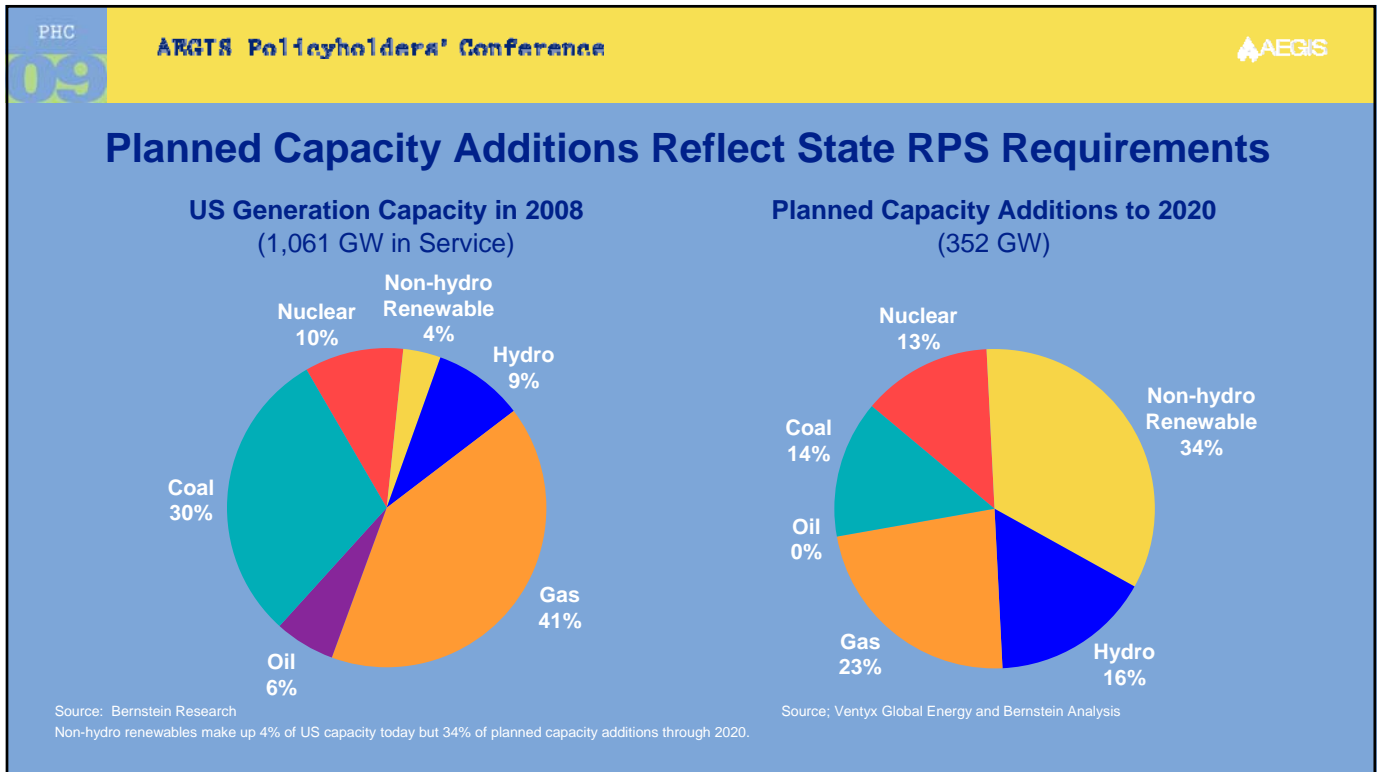
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What Will It Take to Address Climate Change?

There is no silver bullet!

- Renewables
- Energy efficiency
- Clean coal technologies
- Carbon capture and storage
- Nuclear
- Plug-in hybrid electric vehicles

We need it all ... but it will be costly!



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The Biggest Challenge for Interconnecting and Integrating Renewables Is Transmission...

- Planning
- Siting
- Cost allocation

Renewables are variable resources!

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Operational Challenges for Integrating Renewables

- Higher RPS levels can create significant surplus energy
 - Can't be used on grid or sold to others
 - Energy storage / off-peak electric vehicle charging can mitigate problem
 - At present these technologies cannot significantly contribute to resource plans - smart grid will help enable these new technologies

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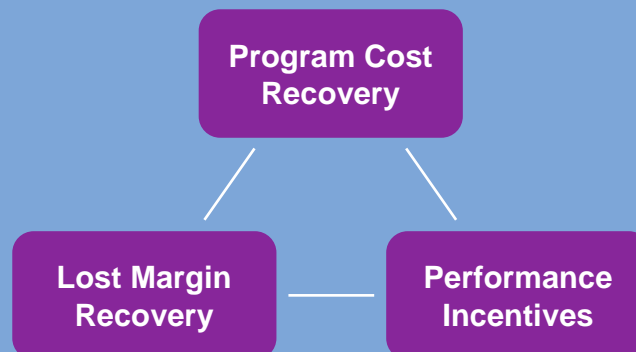
Operational Challenges for Integrating Renewables

- Higher RPS levels will require higher planning reserve margins for system backup to maintain reliability
 - More ancillary services required to maintain frequency and voltage levels
 - Generation and storage technologies required to meet system regulation, load following, and ramping requirements
 - Quick start and fast ramping technologies (peaking / storage) to manage generation variability and maintain reliability

Intensified National Commitment to Energy Efficiency Is Needed

- Aggressive campaign for technologies
 - Smart buildings
 - Smart appliances
 - Smart electric meters and grid
 - Smart rates
- Commercializing plug-in hybrid electric vehicles

Energy Efficiency Business Model Components



Carbon Capture and Storage Challenges

- Capture
 - Develop cost-effective means of capturing CO₂ from combustion
- Transport
 - Ability to access current gas and CO₂ pipeline structure
 - Regulatory framework
 - Liability concerns
- Storage
 - Permitting and siting
 - Liability concerns
 - Full-scale demonstration projects
 - Public education and acceptance

Smart Meter Platform and Home Area Network Technologies Will Take EE and DR to New Levels

Giving customers the tools and the know-how to be smarter energy consumers



The Changing Competitive Environment

- Smart grid opportunities
 - Unique role of utility to optimize the integration of existing and future supply and demand resources—renewables, energy storage, smart devices etc.
 - Empowering customers with information and tools to keep supply and demand in balance – “smart devices, smart rates”
 - Increasing the efficient use of existing resources and improving reliability
 - Powering the electric transportation market (PHEVs)
 - New business partnerships, new products, new services

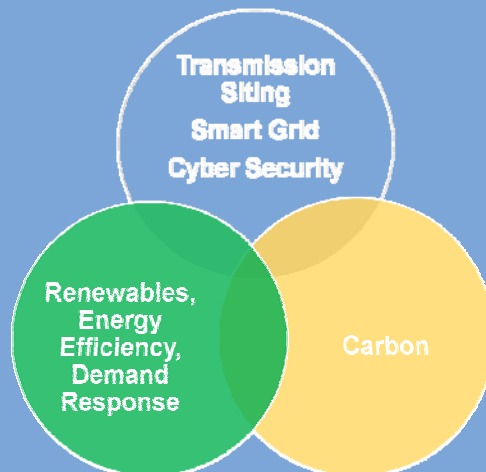
The Changing Competitive Environment

- Smart grid challenges
 - The potential for new regulatory policies to negatively impact utility revenue (net metering, increased reliance on energy efficiency without cost recovery, etc.)
 - Mid-deployment changes in regulatory requirements, standards and protocols that impact cost recovery
 - Cyber vulnerabilities as with the increasing reliance on technology
 - Emergence of new competitors, new competitive alliances, new business models and the resulting potential of changed customer relationships
 - New pressures on state / federal relationship due to cost-benefit misalignment
 - The open question is how to change business models to remain competitive

Emerging New FERC Focus

- Regulation of carbon markets
- Regulation of combined efficiency and renewable electricity standard (CERES)
- Smart grid investment and cost recovery
- Distributed resources
- How do these areas fit together?
- How do they impact FERC / state relationships?

Evolving Areas of Federal / State Collaboration



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The View Forward

- Respond to comprehensive energy and climate legislation
 - Preserve all options
 - Accelerate development of technologies
 - Mitigate the impact of rising costs on consumers
- Develop a new regulatory model which
 - Stimulates new investment
 - Provides timely cost recovery
 - Equitably transforms our society to a greener and more energy efficient economy

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