



Energy and Climate Change in the West

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Energy Landscape in the West

Landscape

Challenges

- Energy
- Carbon
- IGCC

Initiatives

- WGA
- WY-CA MOU
- NextGen

- The West is growing (baseload increase of over 15,000 MW in next two decades) and has vast energy resources – both fossil and renewable
- Increasing demand for clean energy resources, including carbon capture
- Transmission infrastructure needs to be built to bring clean energy to consumers
- Markets for CO₂ may exist (EOG Recovery), but are not yet developed



The West's Energy Challenges

Landscape

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- States are preparing for growth by developing advanced energy options, but it will take time and resources
- Cooperation is needed to research and develop the next generation of advanced fossil generation
- New transmission infrastructure needs to be built and existing transmission needs to be upgraded



The Western Carbon Challenge

Landscape

Challenges

- Energy
- **Carbon**
- IGCC

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Despite wide agreement that future fossil generation will have carbon capture ability, challenges exist...

- Bridging the gap between the present need for generation and the time that IGCC and other advanced fossil technologies are in commercial operation
- Finding the quickest and cheapest way to get to IGCC commercialized
- Is IGCC the best technology option to pursue in the West?



The IGCC Challenge in the West

Landscape

Challenges

- Energy
- Carbon
- **IGCC**

Initiatives

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- No IGCC plants with carbon capture ability have ever been built in the West
 - Will the technology work at altitude?
 - Do Western coal types work for IGCC?
- First experimental IGCC unit in the West will not be operational until 2013, first commercial unit will not be online until 2018
- Cost recovery for utilities is not certain



Initiatives Addressing the Challenges

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- Western Governors' Association Initiatives
- California and Wyoming Memorandum of Understanding
- NextGen Energy Council



WGA Current Initiatives

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- Global Climate Change Initiative
- Western Regional Air Partnership (WRAP)
- Clean and Diversified Energy
- Western Renewable Energy Generation Information System (WREGIS)
- Carbon Sequestration Partnerships
- Transportation Fuels Initiative
- Climate Change Impacts on Water



Global Climate Change Initiative

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➤ Western Governors have voiced their support for:

- Continued research on global climate change
- Carbon sequestration research and implementation
- Cost-effective, market-based policies to reduce greenhouse gases
- Consideration of state and regional GHG programs if/when a national regime is developed



Clean and Diversified Energy

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- **In 2004, the Governor's called for the analysis of the necessary policy recommendations that would**
 - Bring 30,000 megawatts of new clean energy online by 2015
 - Increase energy efficiency 20% by 2020
 - Meet transmission needs over the next 25 years
- **The Clean and Diversified Energy Advisory Committee (CDEAC) and 8 task forces were formed to develop consensus, incentive based policies to reach these goals**
 - Over 250 diverse stakeholders participated
 - Report presented to the governors in June 2006
 - The CDEAC made 51 incentive-based recommendations



Clean and Diversified Energy

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➤ **Report conclusions:**

- The governors can meet and likely exceed their 2015 and 2020 goals
- Achieving these goals will require a combination of state, regional and federal action

➤ **CDEAC recommendations included:**

- Demonstrate IGCC projects in Western state at altitude
- Provide incentives for carbon capture and sequestration demonstration projects
- Encourage federal tax credit extensions on renewables
- Reforms in the FERC Open Access Transmission Tariff to allow regional transmission planning expansion
- Encourage the elimination of rate pancaking
- Implement and update energy efficiency standards on appliances and buildings
- Support comprehensive integrated resource planning and procurement rules



States Leading the Way

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WGA is encouraging others to adopt the recommended policies and is tracking progress toward the governors' goals

- Gov. Owens (CO) – Signed legislation to encourage IGCC within the state; Xcel Energy has since announced plans to build a 350 MW IGCC plant
- Gov. Napolitano (AZ) – Issued an executive order on energy efficiency to with the aim of reducing GHGs to 2000 levels by 2012
- Gov. Huntsman (UT) -- Proposed legislation to set a 20% goal for energy efficiency in Utah by 2015
- Govs. Schwarzenegger (CA) and Freudenthal (WY) signed an MOU on developing IGCC with carbon sequestration and renewable energy in Wyoming
- Gov. Gregoire (WA) signed legislation that requires state schools and office buildings to be constructed in a manner that will conserve energy and minimize their environmental impact
- Gov. Schwarzenegger (CA) signed the Million Solar Roofs Legislation in August 2006



Western Renewable Energy Generation Information System (WREGIS)

Landscape

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- Formed in 2004 as a joint effort between WGA and the California Energy Commission
- Will issue, track, and verify regional renewable electricity generation and certificates
- Scheduled to come online in late 2007



Other WGA Initiatives

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Carbon Sequestration Partnerships

- WGA is assisting four regional carbon sequestration partnerships assessing sequestration technologies, repository potential, and best management practices

Future Transportation Fuels Initiative

- Resolution on Transportation Fuels for the Future – June, 2006
- Many states have taken the lead (Gov. Sebelius and the Governors' Ethanol Coalition, Gov. Schweitzer and committed companies in Montana)

Western States Water Council 2006 Report, “Water Needs and Strategies for a Sustainable Future”

- Makes recommendations on: water policy and growth strategies, infrastructure needs, preparation for climate change impacts, water rights,



California – Wyoming MOU

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California/Wyoming Pushing Advanced Fossil Generation Development:

- CA and WY have signed a MOU creating a joint task force to develop a commercial-scale IGCC coal project with carbon sequestration in Wyoming
- The Task Force is comprised of representatives from
 - Wyoming Clean Coal Working Group
 - California Energy Commission
 - California Public Utilities Commission



California – Wyoming MOU

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California – Wyoming MOU (cont.)

- Working with load serving utilities in CA and potential developers in WY
- MOU hopes to use federal funds to develop the first IGCC plant
- Hope is to produce a model plant and move toward widespread, large-scale commercial deployment



Wyoming – Calif. Partnership

Landscape

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Plans Set in Motion For Wyoming IGCC Plant

- Senator Thomas (WY) and Senator Feinstein (CA) Building Support Among Various Stakeholders to site an IGCC power plant in Wyoming that can also sequester carbon dioxide emissions
- Focusing on available funds from Section 413 from EPACT
- Section 413 of EPACT allows for a 50/50 cost share between a private company and the federal government



NextGen Energy Council

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What is the NextGen Energy Council?

- A new collaborative between Governors' reps and the private sector
- Works to accelerate construction of next generation energy facilities and other advanced clean energy technologies; also working on innovative approaches to encouraging greater economic uses for carbon dioxide
- Mission: “To support continuing efforts to improve the efficiency and environmental performance of all advanced coal technologies, with the ultimate goal of achieving near zero emissions at a competitive cost of electricity.”



NextGen Energy Council

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What will NextGen do?

Support public-private partnerships and federal policies that lead to the:

- Accelerated construction of advanced coal technologies
- Develop renewable-fossil hybrid power systems
- Encourage development of commercial markets for greater economic utilization of CO₂
- Encourage greater investment in energy transmission and distribution upgrades



QUESTIONS?