Subcommittee on Clean Coal and Carbon Management

*Perspectives from the Coal Utilization Research Council*

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Clean Coal and Carbon Capture & Sequestration (CCS) Technology Development in Perspective

- EPA CO2 regulations expected to be issued in early August, 2015
- Supreme Court remanded EPA’s mercury rule on June 29, 2015
- U.S. House of Representatives and U.S. Senate reviewing proposals to restrict EPA authority and funding and possible energy legislation
- Global climate meeting (Paris) December, 2015
- Lawsuits to be filed presumably to be decided by the Supreme Court
- National (presidential) elections in 2016
The Current Program Initiatives

• Federal R&D programs & Congressional initiatives to promote technology development & use – not enough

• Countering the “War on Coal” with message bills, lawsuits (likely resolved in 2019-2020), empowering states to “just say no” without a strong technology-based message – is not enough

- This is why the 21st Century Coal program has been drafted
  • Use Congressional interest (the Energy Committees) in comprehensive energy legislation as a vehicle to present a comprehensive coal technology based program
Why are we advocating this program?

- Preserve low cost electricity
- Ensure availability of future energy supply options
- Pursue CCS as a cost-effective way to address the global issue of climate change
Coal = Low Cost Electricity
Cost Per kWh & Percent of Coal Power Sector Generation

Source: Energy Information Administration, Electricity Data 2014

Notes: Natural gas includes combined cycle, combustion turbine and other gas-fired systems. Renewables includes conventional hydro and pumped storage.

2013 Capacity: http://www.eia.gov/electricity/annual/html/epa_04_03.html
2013 Generation: http://www.eia.gov/forecasts/aeo/section_elecgeneration.cfm
Global Electricity New Generation: Growth in Next 5 Years

New Power Plant Orders in GW per Year (Coal in Red)

Source: ALSTOM MACA 2014

Alstom Five Year Global Power Market Forecast Shows diversified mix with more than 300 GW of new Coal Plants over next 5 years
Increased Global Use of Fossil Fuel Will Result in More Emissions of CO\textsubscript{2}

In a time of fossil abundance, US leadership is crucial for delivering CO\textsubscript{2} mitigation technologies for fossil fuels

Source: EIA IEO 2013 Reference
What are the key elements of the program?

- **$1.0 B/yr for 10 years** -- advanced coal technology R,D,D&D program using the revised CURC/EPRI Technology roadmap; requires DOE technology development re-direction

- Newly authorized **large-scale pilot plant** program focused on **transformational** power-generation and next generation CO$_2$ capture technologies

- Focuses on **EXISTING AND NEW** coal-fueled plants by defining pathways to accelerated regulatory and permitting approvals & novel financial assistance for “steel in the ground” projects – now
Existing Fleet Needs
- Efficiency improvements
- Operational flexibility
- Possible CO₂ Retrofits

How Do We Address the Needs?
- NSR-related issues in efforts to increase efficiency and reduce emissions of CO₂
- Provide federal financial incentives to encourage application of technology designed to increase efficiency
21st Century Coal Program: New Plants – Ensuring Future Energy Supply Options

What is Needed to Construct New Coal Plants Today?

- Accelerated Permitting
- New Coal Plants without CCS (USC)
- New Coal Plants with CCS

How Can We Support New Coal Plant Construction?

- Consolidated permitting process and timing limitations to judicial challenges
- Standards that encourage construction of highly efficient coal plants (USC)
- Adequate and targeted federal financial incentives to address CCS costs today and Policy parity with other low carbon emission technologies
How do we get this job done?

• Build on the foundation CURC has established
• Expand Senate ally base to support the bigger 3 Part Plan – the 21st Century Coal Program
• What is required to be successful?
  • Industry & Unions (not just CURC-wide) support and advocacy (coal producers, users, equipment suppliers, organized labor)
  • Position for discussion in the up-coming presidential campaigns
  • Nationally recognized personalities (e.g. Bill Gates) calling for urgency to develop technologies