

National Coal Council Calls for Increased Funding to Accelerate Development of Promising Carbon Dioxide Management Technologies

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The National Coal Council (NCC) today released "Technologies to Reduce or Capture and Store Carbon Dioxide Emissions," a study that outlines the promising technologies that are being developed to manage carbon dioxide in the face of sustained growth in global coal demand.

"America and the world will continue to increase coal use over the coming decades, and this study analyzes the promising technologies being developed to manage carbon dioxide," says Georgia Nelson, Chair of the National Coal Council. "History shows that the right research, the right technologies and the right timetables have led to extraordinary improvements in regulated emissions from using coal. That same recipe is essential for tackling long-term carbon concerns."

According to the report:

- Coal must continue its vital and growing role in energy production in the United States, supplying the energy for more than 50 percent of the nation's electricity production;
- Reducing carbon dioxide emissions presents a significant technological challenge, but the coal industry has a proven record of successfully meeting such challenges;
- It is imperative that research, development and demonstration efforts move forward quickly on a portfolio of technologies to reduce or capture carbon dioxide emissions; and
- Public-private support for technologies to reduce or capture and store carbon dioxide is critical to the United States energy independence and energy security interests.

"Last year, the National Coal Council identified enormous societal and economic benefits from converting America's most abundant energy resource into clean electricity, natural gas, transportation fuels, ethanol and hydrogen," said National Coal Council Study Chair Mike McCall. "This year, our report demonstrates that America can continue to increase its coal use while meeting long-term carbon dioxide challenges through increased efficiency of new advanced combustion and gasification plants, retrofitting existing units to increase efficiency, and development and deployment of new carbon capture and storage technologies."

The study recommends efficiency upgrades at existing plants; development of new, higher-efficiency supercritical, ultrasupercritical and integrated gasification combined cycle plants, and development of promising carbon capture and sequestration technologies. It calls on significant additional private-public partnerships to accelerate the commercialization of these technologies.

The year-long study was conducted by National Coal Council members following a request by U.S. Secretary of Energy Samuel Bodman. The Council identified a number of conclusions and developed a suite of proposed policy, fiscal and legislative recommendations to address the conclusions. The implementation of these proposals would strengthen the nation's energy security and accelerate the research, development and deployment of technologies to manage carbon dioxide.

The National Coal Council is a private, nonprofit advisory body chartered by the U.S. Secretary of Energy in 1984 under the Federal Advisory Committee Act. Members of the National Coal Council are appointed by the Secretary of Energy and reflect diverse interests from business, industry, academia and other groups. Upon final publication, the study may be downloaded at NationalCoalCouncil.org.

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NCC STUDY EXCERPTS

"A framework for mitigating greenhouse gas emissions has to address the energy discussion seriously. The nation will increase its energy consumption dramatically by 37 percent over the next 25 years. Renewable energy, along with end-use energy efficiency and demand side management, will continue to play an important and growing role in electricity production. However, renewable energy sources such as wind, solar and biomass simply cannot meet the projected electricity production needs of the economy and provide the reliability the nation requires. The bulk of the country's near-term electricity demand will continue to be fueled by coal, nuclear and natural gas. Coal will continue to supply about half the nation's electricity well into this century."

"National security is another serious concern about the energy future of this nation. Coal is domestically available in large quantities, can be safely and securely transported around the country, is less subject to foreign market pressures in terms of cost or availability, and its use has become increasingly cleaner with innovation and technology development. Any serious discussion of coal's role in the future of a carbon-constrained world must include the fact that while its use has doubled over the past 35 years, emissions such as SO₂ and NO_x have markedly decreased. According to the U.S. EPA's Annual Trends Report, this country's air is the cleanest it has been since the end of World War II."

"Coal is not the only source of greenhouse gas emissions, nor is it the only source for electricity in the nation. Any framework for mitigating greenhouse gas emissions must involve the full energy spectrum. Given the projected energy growth, the country will need every ton of coal, cubic foot of natural gas, pellet of uranium, wind turbine, solar panel and Btu it can produce. Increased efficiency will also need to provide a significant and meaningful contribution."

"The framework for mitigating greenhouse gas emissions is simple conceptually -- but difficult in terms of marshaling the requisite financial commitments, resolving legal and regulatory uncertainties, and instituting appropriate risk-sharing mechanisms."

Necessary actions include:

- Near Term: Efficiency improvements at existing plants should be expedited. This can be achieved both technically and economically, but regulatory barriers must be addressed including modifying the NSR process. In such cases, NSR will not be triggered for plant efficiency improvements that reduce CO₂ emissions with no subsequent increase in SO₂ or NO_x emissions.
- Mid Term: Advanced clean coal technologies such as IGCC and ultra-supercritical combustion must be given public policy support in the form of cost and permitting incentives and financial support for initial demonstrations so they can succeed in the marketplace. Sure-footed and steady progress on the FutureGen project is very important.
- Long Term: Technology for CCS, including storage sites and related infrastructure, must be developed in the next 10 years. Several major CCS projects must be started as soon as possible in order to achieve commercialization within the next 15 years. Oxygen firing technologies

are designed specifically for carbon capture and will not develop independently of storage and infrastructure.

"Ideally, all this is done in the context of public-private partnerships to more quickly bring these technologies to a state of commercial deployment."

"Within the next 15 years, a suite of carbon capture technologies and storage facilities must become commercially available and affordable. When this happens, the coal-based electricity generation industry will be able to retrofit these technologies at existing plants where appropriate and will be able to build them into the new plants that will be needed. Also, when these technologies become available in the marketplace, other nations using coal can access them at reasonable cost."

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