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National Coal Council Releases New Study for Secretary of Energy "Fossil Forward – Revitalizing CCS: Bringing Scale & Speed to CCS Deployment"

WASHINGTON, DC ~ The National Coal Council (NCC) today released a new study in response to a request by Secretary of Energy Ernest Moniz. The study, entitled "Fossil Forward – Revitalizing CCS: Bringing Scale & Speed to CCS Deployment," provides an industry assessment of the progress made by DOE and others regarding the cost, safety and technical operation of carbon capture utilization and storage (CCS/CCUS). It offers recommendations to Secretary Moniz on how to advance the deployment of CCS/CCUS at commercial scale. The study was approved by the NCC membership during a webcast meeting on Thursday, January 29th, 2015.

NCC Chair, Jeff Wallace (Vice President Fuel Services, Southern Company) noted that "In order to meet U.S. economic, energy and environmental goals, power generators are being called upon to enhance the environmental performance of fossil fueled power plants. For coal, that enhanced environmental performance requires the application of CCS/CCUS technology. NCC's Fossil Forward study addresses critical RD&D and investment needs that must be addressed to advance CCS/CCUS technologies."

Discussing the value and timeliness of the NCC study, NCC Coal Policy Committee Chair, Fred Palmer (Senior Vice President Government Affairs, Peabody Energy) commented on the valuable role coal plays in power generation and economic development both globally and in the U.S. "Cities cannot be built without coal. Increasing demand for electricity cannot be met without coal. Energy poverty cannot be eliminated without coal. CCS is the only large scale technology that can mitigate CO2 emissions from fossil fuel use for electricity generation and key industrial sectors." In presenting the study to the membership at the January 29th meeting, NCC Study Chair, Amy Ericson (US Country President, ALSTOM) summarized the key findings and recommendations by noting that while DOE is indisputably a world leader in the development of CCS technology, the DOE CCS/CCUS program has not yet achieved critical mass. "While there have been some successes, there is a need for a substantial increase in the number of large-scale demonstration projects for both capture and storage technologies before either system approaches commercialization."

Among the principal recommendations in the study:

- In order to achieve CCS deployment at commercial scale, policy parity for CCS with other low carbon technologies and options is required.
 - > Policy parity for CCS in funding, extending tax credits and other subsidies provided to renewable energy sources will facilitate creation of a robust CCS industry in the U.S., benefitting the American people and leading to the development of lower cost, near zero emission energy technology.
- Technology and funding incentives must be significantly better coordinated to be effective.
 - > A plan is needed to ensure a total of 5-10 GW of CCS/CCUS demonstration projects are in operation in the U.S. by 2025. Federal incentives, including feed in tariffs, tax credits, production credits, loan guarantees and "contracts for difference," must be reviewed for their combined adequacy and effectiveness in supporting CCS deployment.
- DOE program goals need far greater clarity and alignment with commercial technology and financing approaches used by industry.
 - > A DOE-industry task force should be convened to clearly define the role and objectives of individual projects in achieving broad program goals, to achieve a better understanding of industry technology and investment goals, and to prioritize projects in light of limited budgets and the need to advance CCS technologies to Technology Readiness Level 9.
- Funding for CCS RD&D is limited and must be enhanced and focused.
 - > While "priming the pump" with early stage funding for promising technology concepts is important, budgetary constraints and the need to move more quickly to advance largescale CCS projects dictates a need for DOE to cull its support for technologies that show a clear promise of meeting or exceeding the Department's CCS performance goals.

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- Public acceptance continues to be a major hurdle.
 - > There is a need to accelerate DOE's efforts in CCS/CCUS public engagement, education and training activities, especially those targeting counties and states with demonstration projects and regions with potential infrastructure sites.
- Control of GHG emissions is an international issue in need of international initiatives.
 - In addition to maintaining existing CCS/CCUS international collaborative efforts, such as the Carbon Sequestration Leadership Forum (CSLF) and the U.S.-China Clean Energy Research Center (CERC), international partnerships in commerce should also be pursued. Fostering CCS/CCUS demonstrations projects in developing nations could provide a low-cost means to increase global knowledge and acceptance of commercial scale CO₂ storage.

NCC Executive Vice President & COO, Janet Gellici noted that the NCC has a long history of studies supporting development and deployment of CCS/CCUS technologies. "The NCC's Fossil Forward study is the 9th report the Council has prepared for the Secretary on carbon management technologies since the year 2000. We have consistently supported the use of efficiency enhancements for the existing coal fleet, the use of DOE-industry-international partnerships to advance technology RD&D, and the need for financial incentives especially for first-of-a-kind and early mover projects."

The NCC study Technical Study Chair was Carl Bozzuto, ALSTOM Power. Lead Authors included Holly Krutka, Shenhua Group; Pamela Tomski, Global CCS Institute; Shannon Angielski, Coal Utilization Research Council (CURC); and Jeff Phillips, EPRI.

The National Coal Council was chartered in 1984 under the Federal Advisory Committee Act (FACA) to advise, inform and make recommendations to the U.S. Secretary of Energy on matters related to coal policy and technology. Council members are appointed by the Secretary of Energy and serve at no compensation. A list of Council members is available from the NCC office at info@NCC1.org or 202-756-4524.

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MEDIA NOTE: A copy of the NCC study can be accessed at http://www.nationalcoalcouncil.org/newsletter/Bridging_the_CCS_Chasm.pdf

A fact sheet is attached.