4. SUPPORTING THE DEVELOPMENT OF ADVANCED CARBON EMISSION REDUCTION TECHNOLOGIES FOR POWER GENERATION

BACKGROUND

Since 2009, an aggressive policy of de-carbonization has been pursued by the U.S. federal government. From the numerous regulations of the U.S. Environmental Protection Agency (EPA) to the signing of the "Paris Agreements," these policies are leading to an enormous and artificial reorganization of the electricity grid. However, this massive shift in electrical generation, which disproportionately affects coal-fired power plants, will not lead to a significant reduction in global carbon emissions. Instead, these policies will burden state economies and rate payers.

As a whole, the federal government's proposed de-carbonization policy has the potential to cost state and local governments, industry, and citizens up to $73.4 billion in compliance costs alone. States comprising the Southern Legislative Conference (SLC) are projected to see 175 units of coal-based electricity retired or converted due directly to EPA policies. The loss of reliable, affordable electricity also will impact some of the SLC states' most lucrative and highly sought-after jobs. More than 188,500 manufacturing jobs are threatened by the push to limit carbon emissions, while coal and mining industries across the country already have sustained job losses of more than 50,000 from 2008 to 2012.

Despite the federal government's push to artificially remove coal from the energy mix, over the next 50 years coal will continue to play a critical role in energy production throughout the world. This demand mainly will be fueled by developing economies, but the affordability and reliability of coal still plays an important role in the electricity generation in the United States and in other developed countries. In order to supply affordable, reliable electricity, reduce carbon emissions and grow economies throughout the world, policies that promote the adoption and deployment of carbon capture technology and carbon capture, utilization and storage technologies must be prioritized.

The current technologies of carbon capture and sequestration (CCS) and carbon capture, utilization and storage (CCUS) technologies applied to power generation have not been adequately demonstrated to prove that they can represent the least-costly approach to achieving carbon reductions. However, models suggest that the costs of meeting proposed emission limits are 138 percent less when existing CCS/CCUS technologies are deployed that can achieve the U.S. Department of Energy's cost and efficiency targets. Therefore, it is imperative to continue funding research, development and deployment of CCUS technologies scalable to power generation applications that can be demonstrated to achieve the necessary cost and performance expectations at commercial scale. For CCUS to become a viable, affordable, and very practical solution for fossil-fueled power generation, the research and development focus toward transformational technology development is imperative - i.e. revolutionary approaches to CO_2 separation and/or thermal efficiency improvement. Transformational technologies like chemical looping, oxygen-fueled combustion, and alternative power cycles rely on fundamentally different methods of producing energy, alternate fuel-to-energy conversion, or other means of energy production that inherently separate CO_2. However, currently, the research, development and demonstration funding and risk-mitigation incentives for the necessary development and adequate commercial demonstration of transformational CCS/CCUS remain insufficient.

Over the past nine years, the world has invested more than $1.9 trillion in renewable energy development compared to just $20 billion in CCS development. Without a correction to bring parity to these energy

policies, the CCS revolution will not happen. The future is not in continuing to spend trillions of dollars to develop new energies but in investing in new technologies to save our economically viable energies. Furthermore, policies that support the utilization of carbon dioxide in the marketplace must be prioritized. Incentivizing the use of CO_2 in enhanced oil recovery, chemical manufacturing or other industrial uses will spur more private development in CCS and additional growth in the marketplace.

By supporting policies to bring CCS/CCUS into greater prominence, SLC member states can meet carbon emission reduction goals responsibly; continue to provide affordable, reliable electricity; protect our economic goals; stimulate the marketplace to better utilize and develop applications for carbon dioxide; and provide policy parity for all energy sources.

RECOMMENDATIONS

The Southern Legislative Conference of The Council of State Governments urges policymakers at the federal level to bring parity to the energy policy of the United States by recognizing the critical role that capture and storage technologies will play in the world's attempt to reduce carbon emissions; work expeditiously on developing long-term policies that will ensure a positive business case for the deployment of capture, storage and utilization technologies, especially for secondary users of carbon dioxide; and establish strong policy measures to significantly increase research and development resources leading to adequately demonstrated, proven, commercially available transformational carbon capture and storage technologies for fossil fuel power generation that further reduce costs and increase efficiency.

The Southern Legislative Conference of The Council of State Governments calls on policymakers at the federal, state and local level – in partnership with the electricity generating industry – to work collaboratively on identifying storage sites that meet the necessary characterizations of successful capture and storage projects.

The Southern Legislative Conference of The Council of State Governments requests that a copy of this policy position be forwarded to the Southern Congressional delegation, secretary of the U.S. Department of Energy, the president of the United States, governors, and southern state energy, environmental and economic regulatory commissioners.