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Environmental Protection Agency

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The Southern Alliance for Clean Energy (“SACE”) respectfully submits these comments in response to the Environmental Protection Agency’s (“EPA”) request for input on its forthcoming carbon emission standards for existing electric generating units at coal-fired power plants.<sup>1</sup> SACE works throughout the Southeast to promote responsible energy choices that create climate change solutions and ensure clean, safe and healthy communities. The Southeast is home to roughly 270 coal-fired electric generating units, located at 82 power plants.<sup>2</sup> In 2012 alone, these Southeastern plants emitted over 366 million tons of carbon dioxide pollution into the atmosphere.<sup>3</sup> SACE welcomes EPA’s efforts to curb harmful carbon dioxide emissions from generating units at existing coal-fired power plants as well as from new coal-fired power plants.

SACE recognizes that this call by EPA for input is a unique opportunity to weigh in regarding these regulations before the drafting process has even begun and we appreciate the diversity of opinions that EPA is willing to receive in preparation for crafting a rule. We believe that compliance flexibility will be key, both in terms of creating a rule that stands up to industry challenge and in terms of achieving significant carbon dioxide emission reductions. We strongly recommend that EPA include demand-side management options, such as energy efficiency implementation, as well as renewable energy generation development, as compliance methods when issuing its proposed carbon emission standards for existing power plants. EPA must include maximum flexibility in its regulatory compliance

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<sup>1</sup> For simplicity, we refer to these upcoming standards as standards for “existing” power plants, but understand that these regulations will also apply to modified and reconstructed power plants as well as to existing power plants.

<sup>2</sup> SACE works within 8 Southeastern states – Tennessee, North Carolina, South Carolina, Georgia, Alabama, Florida, Mississippi and Kentucky.

<sup>3</sup> Carbon dioxide emissions data taken from EPA’s Air Markets Program Database, available at <http://ampd.epa.gov/ampd/>.

options and allow “outside the fence” solutions from credible and documented sources, which include renewable energy and energy efficiency options.

We understand that EPA has given no clear indication on how it will set carbon emission standards for existing plants (e.g. fleet-wide emissions cap or unit-by-unit emission cap) or how much compliance flexibility will be allowed in meeting these standards. We also understand that EPA will set a carbon emission standard for an existing generating unit and will provide guidance to states on how best to achieve carbon emission reductions. We believe that this guidance ought to instruct existing sources to use the Best System of Emission Reduction (“BSER”) to reduce carbon emissions in accordance with the applicable EPA emission standard and ought to be set at such levels so as to drive utilities to retire their oldest and dirtiest, most inefficient and heavy carbon dioxide-polluting coal plants. Traditionally, BSER has been interpreted as consisting of mainly supply-side solutions, such as boiler upgrades or other mechanical retrofits at a power plant. We believe that in order to meet the goals that President Obama set forth in 2009, namely to reduce carbon emissions to 17% below 2005 levels, EPA will need to think outside the box and beyond strictly supply-side emission reductions.

These regulations will serve as important precedent for controlling carbon emissions from existing power plants and will help drive additional coal retirements and carbon emission reductions. Thus, EPA should use these regulations as a first step towards push utilities to drastically reduce carbon emissions. By crafting emission standards that are technology forcing, EPA can help create market changes that allow for cleaner electric generation technology to gain a foothold in our nation’s economy.

In the U.S., the commercial, residential and industrial sectors account for over 50 percent of U.S. GHG emissions.<sup>4</sup> SACE believes that implementation of demand-side measures (“DSM”), especially energy-efficiency programs targeting these sectors, are the cleanest, cheapest and quickest ways to achieve carbon dioxide emission reductions. Energy efficiency has the co-benefit of reducing overall utility system costs while keeping energy dollars in the regional economy.

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<sup>4</sup> EPA, *Sources of Greenhouse Gas Emissions*, available at: <http://www.epa.gov/climatechange/ghgemissions/sources/electricity.html>

Energy efficiency is a vast resource that, if fully implemented, can reduce overall U.S. GHG emissions 30 percent below 2030 consumption levels.<sup>5</sup> In the Southeast the opportunity for savings is estimated to be substantially greater than elsewhere in the country due to the larger baseline energy use and lower levels of energy efficiency relative to other regions.<sup>6</sup> In fact, energy-efficiency policies are estimated to generate the highest savings potentials (as a percentage-of-consumption) in the South; a large portion of the total savings is estimated to be available in the South Atlantic region, especially Florida.<sup>7</sup> Economically achievable potential of electric utility energy efficiency was estimated by Georgia Institute of Technology and Duke University researchers at 9-12% in 2020; 13-18% in 2035.<sup>8</sup> Recognizing the myriad benefits realized through energy efficiency implementation, SACE strongly encourages EPA to include energy efficiency as one compliance tool when it issues its proposed carbon emission standards for existing power plants.

Along with energy efficiency measures, SACE encourages EPA to include development and operation of renewable energy generation sources as another method of compliance with its carbon standards for existing coal-fired power plants. With electrical demand static or decreasing, increasing reliance on cleaner sources of energy, such as wind- or solar-powered generation, will decrease states' dependence on coal-fired power plants and the states' overall carbon dioxide emissions.

According to estimates from the U.S. Department of Energy's National Renewable Energy Laboratory (NREL), the technical potential for photovoltaic (PV) and wind energy in the southeastern states is enormous and could supply several times the actual electricity needs of the region. The technical potential for wind is over 600 gigawatts (GW), most of which could come from offshore development. The technical potential for PV is over 18,000 GW. Although the highest solar potential is through utility-scale urban and rural

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<sup>5</sup> National Academies of Science, *Real Prospects for Energy Efficiency in the United States*, [June 2010]

<sup>6</sup> Priya Sreedharan, PhD, *Recent Estimates of Energy Efficiency Potential in the U.S.*, Energy and Environmental Economics, July 2012.

<sup>7</sup> Marilyn Brown, *Estimating the Energy-Efficiency Potential in the Eastern Interconnection*. . April 2013, available at: <http://info.ornl.gov/sites/publications/files/Pub40408.pdf>.

<sup>8</sup> Brown, Gumerman, et. al, *Energy Efficiency in the South*, April 2010.

development, nearly 200 GW's of potential is attributed to rooftop solar.<sup>9</sup> A separate NREL report estimated that nearly every southeastern state could meet between 10%-20% of their electricity needs with rooftop PV.<sup>10</sup> In the regionally-focused study, *Myths + Facts About Electricity in South*<sup>11</sup>, the analysis shows that investments in coordinated energy efficiency and renewable energy over the next two decades could meet incremental growth in electricity demand and eliminate the need to expand fossil-fueled electricity generation.

Additionally, if natural gas replacement is one of the technologies of choice for utilities in complying with these carbon emission standards, there must be an unambiguous and clearly documented analysis of the impacts of methane leakage from natural gas extraction sites to ensure that natural gas replacement represents a net-benefit in climate pollution reduction. It is critically important that the relationship between carbon emissions and methane emissions is maintained and captured within the carbon emission standards for existing power plants.

Existing regulations and practices in the oil and gas industry currently allow for the unnecessary release of methane. According to EPA's most recent U.S. Greenhouse Gas Inventory, which is considered a conservative estimate, the oil and gas industry leaked or released approximately 8.4 million metric tons of methane in 2011. We expect this rate to increase with increased production and use of natural gas. Reducing these pollutants is cost-effective opportunity to both prevent smog and protect the climate. Off-the-shelf technology, with a short pay back, currently exists that can reduce leaks from these sources and should be required as part of regulations that address greenhouse gas emissions. Because of the significant effect of methane on climate disruption and because of the continued uncertainty surrounding the amount of methane leakage occurring nationwide, controlling methane emissions should be a high priority for EPA as it addresses our nation's contribution to carbon pollution and climate change. EPA should continue to look for and support "outside the fence" technologies that will help decarbonize our energy grid.

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<sup>9</sup> National Renewable Energy Laboratory (NREL). U.S. Renewable Energy Technical Potentials: A GIS-Based Analysis. NREL/TP-6A20-51946. July 2012.

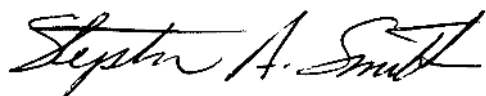
<sup>10</sup> NREL. Southeast Regional Clean Energy Policy Analysis. Revised. NREL/TP-6A20-49192. Revised April 2011.

<sup>11</sup> Brown, Gumerman, et. al, *Myths and Facts About Electricity in the U.S. South.*, September 2011, available at: <http://www.spp.gatech.edu/faculty/workingpapers/wp64.pdf>.

Along with methane leakage from natural gas extraction, landfills are the third largest source of methane emissions in the United States. The President's Climate Action Plan states, "curbing emissions of methane is critical to our overall effort to address global climate change." The climate impact of methane is much larger than previously reported. The latest data on methane's contribution is over 75% higher than previously reported. Methane now represents over 40% of the total net drivers of climate change. The recently released IPPC report updated the 100-year global warming potential of methane to 34 times as potent as CO2 when climate-carbon feedbacks are included and 84 times more potent over 20 years. This is a 36% increase over the last report, and a 62% increase over the methane GPW value of 21 that is still widely used.

Thank you for taking the time to consider SACE's comments regarding EPA's upcoming regulation of carbon emissions from existing coal-fired power plants as part of the agency's larger work addressing greenhouse gas emissions. We look forward to engaging with EPA further around these significant regulations and will continue working within the Southeast to promote cleaner, healthier forms of energy and to reduce our states' production of harmful carbon pollution.

Sincerely,

A handwritten signature in black ink, reading "Stephen A. Smith". The signature is fluid and cursive, with the first name "Stephen" and last name "Smith" clearly legible.

Dr. Stephen A. Smith  
Executive Director, Southern Alliance for Clean Energy