

Testimony
EPA's Proposed Rule
“Standards of Performance for
Greenhouse Gas Emissions from New
Stationary Sources: Electric Utility
Generating Units”
Docket Number EPA-HQ-OAR-2013-0495

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My name is Mandy Warner and I am with Environmental Defense Fund (EDF), a non-partisan environmental organization with more than 750,000 members nationwide. EDF is dedicated to working towards innovative, cost-effective solutions to environmental problems, building on a foundation of rigorous science, economics, and law.

Thank you for the opportunity to testify today. The proposed carbon pollution standards for new fossil fuel power plants are an important step towards addressing the massive quantities of climate destabilizing pollution emitted from U.S. power plants, one of the largest sources of greenhouse gases (GHG) in the world. The standards will finally require new coal-fired power plants to begin addressing their dangerous carbon pollution. Currently, there are no national limits, at all, on the carbon pollution discharged from power plants.

These standards will help ensure that the United States protects our communities and families from carbon pollution. America has a vast array of solutions to power our businesses and homes with lower emitting sources of energy including renewable energy, microgrid technologies, and the more efficient use of energy. The proposed carbon pollution technology for new coal plants is being deployed around the world, and here in North America at plants in Canada, Mississippi, California, and at two plants in Texas. These vital clean air standards will provide long overdue and urgently needed protections for our health and climate while strengthening our made-in-the-U.S.A. clean energy economy.

Background

Climate change presents a clear and present danger to the U.S. and to the world. The World Meteorological Organization confirmed that 2013 tied for the 6th warmest year on record.ⁱ Last year also “marked the 37th consecutive year with a global temperature above the 20th century average.”ⁱⁱ And there were 7 climate disasters each costing more than \$1 billion, including several outbreaks of tornadoes in the Southeast, Midwest, and Plains; devastating floods in Colorado; and extreme drought in Western states.ⁱⁱⁱ Billion-dollar weather and climate events in the U.S. in 2012 cost more than \$115 billion.^{iv}

The U.S. Global Change Research Program has determined that if carbon pollution is not reduced, it is likely that American communities will experience increasingly severe climate impacts, including: rising levels of dangerous smog in some of our cities—which will lead to an increased risk of respiratory infections, more asthma attacks, and more premature deaths; increased risk of illness and death due to extreme heat; more-intense hurricanes and storm surges; increased frequency and severity of flooding; increases in insect pests and in the prevalence of diseases transmitted by food, water, and insects; reduced precipitation and runoff in the arid West; reduced crop yields and livestock productivity; and more wildfires and increasingly frequent and severe droughts in some regions.^v

U.S. Secretary of Defense, Chuck Hagel, said in November that “Climate change does not directly cause conflict, but it can add to the challenges of global instability, hunger, poverty, and conflict. Food and water shortages, pandemic disease, disputes over refugees and resources, more severe natural disasters – all place additional burdens on economies, societies and institutions around the world.”^{vi}

Innovative Approaches

Dozens of states across the nation have policies in place to harness the economic and environmental benefits of cleaner energy through renewable energy standards, energy efficiency standards, carbon pollution standards, and more. A [number of states](#) have adopted limits on the carbon pollution that can be discharged from new fossil fuel power plants and provide a strong foundation for federal protections. State pollution and clean energy standards are aligned with market forces—such as lower cost natural gas and increased cost competitiveness of renewables—that are already driving power companies to develop cleaner technologies. In 2012, wind power topped all other sources of added generation capacity, accounting for 43% of all new electric generation additions and \$25 billion in U.S. investment.”^{vii} In 2012, rooftop solar panels cost approximately 1 percent of what they did 35 years ago.^{viii}

New clean air standards are a critical step in the right direction

These standards will provide power companies with regulatory certainty for prudent, long-term investments in cleaner, homegrown energy that puts Americans to work. We have heard all-familiar claims that some carbon pollution control technologies are not ready yet; similar claims were made and subsequently disproved about scrubbers and mercury controls. EPA’s finding that carbon pollution controls, carbon capture and storage, are adequately demonstrated for new coal-fired power plants is based on an extensive body of technical information. For example, EPA based its proposal on a 2009 study by the Pacific Northwest National Laboratory that concluded that CCS is technically viable and that “key component technologies of complete CCS systems have been deployed at scales large enough to meaningfully inform discussions about CCS deployment on large commercial fossil-fired power plants,”^{ix} as well as a series of DOE/NETL reports assessing the cost and performance of CCS at pulverized coal and IGCC plants.^x EPA also reviewed studies that attest to the availability of the separate components of CCS systems, including capture,^{xi} transportation,^{xii} and storage.^{xiii} The agency backed up these studies with examples of real-world application of the individual components of CCS, including AES’s Warrior Run and Shady Point power plants, which are coal-fired units that capture CO₂ with amine scrubbers;^{xiv} the Searles Valley Minerals soda ash plant, which employs the same

process;^{xv} the Dakota Natural Gas Company's synthetic natural gas production plant, which captures CO₂ to be used in enhanced oil recovery 200 miles away;^{xvi} AEP's Mountaineer Plant, which used chilled ammonia CO₂ capture technology, as well as a project by Alstom Power validating the technology;^{xvii} the Vattenfall plant, which uses oxy-combustion of coal;^{xviii} and Southern Company's Alabama Power Plant Barry, which captures and stores 90 percent of the CO₂ produced.^{xix} To demonstrate the viability of geologic sequestration, EPA noted four existing commercial CCS facilities in other countries, including the Sleipner gas processing unit in the North Sea, the Snøhvit LNG processing facility in the Barents Sea, the In Salah gas processing facility in Algeria, and the Weyburn enhanced-oil-recovery site in Canada.^{xx} It is also entirely consistent with what the head of the nation's largest coal-based power company said just a few years ago. American Electric Power's former CEO and president Mike Morris had this to say about the company's Mountaineer CCS project in 2011:

"We're encouraged by what we saw. We're clearly impressed with what we learned and we feel that we have demonstrated to a certainty that carbon capture and storage is in fact viable technology for the United States and quite honestly for the rest of the world going forward."^{xxi}

The technology EPA is relying on in setting these standards is available today and the time has come when we can no longer afford to build new, uncontrolled coal plants that release vast volumes of carbon pollution for fifty years or more, recklessly imperiling our health, our environment and our prosperity.

EPA's proposed limits on carbon pollution from fossil fuel power plants are essential to address climate change, to drive innovation in clean energy solutions, to ensure a steady flow of cost-effective and cleaner electricity to power our economy, and to protect the health and well-being of Americans, including the four million Americans who have weighed in to support these historic standards.

EDF will also be submitting further technical comments on the proposed rule. Thank you again for the opportunity to testify on behalf of critical clean air safeguards for our communities, our families and a stronger America.

ⁱ http://www.wmo.int/pages/mediacentre/press_releases/pr_983_en.html

ⁱⁱ National Oceanic and Atmospheric Administration, <http://www.ncdc.noaa.gov/sotc/>, (accessed February 3, 2014).

ⁱⁱⁱ NOAA, *Billion-Dollar Weather/Climate Disasters*, 2013 data, <http://www.ncdc.noaa.gov/billions/events>.

^{iv} NOAA, *Billion-Dollar Weather/Climate Disasters*, 2012 data, <http://www.ncdc.noaa.gov/billions/events>.

^v U.S. Global Change Research Program, <http://www.globalchange.gov/>.

^{vi} <http://www.edf.org/blog/2013/12/01/defense-secretary-hagel-reaffirms-climate-change-sustainability-are-central-military>

^{vii} <http://energy.gov/articles/energy-dept-reports-us-wind-energy-production-and-manufacturing-reaches-record-highs>

^{viii} <http://energy.gov/sites/prod/files/2013/09/f2/Revolution%20Now%20--%20The%20Future%20Arrives%20for%20Four%20Clean%20Energy%20Technologies.pdf>

^{ix} Standards of Performance for Greenhouse Gas Emissions from New Stationary Sources: Electric Utility Generating Units, 79 Fed. Reg. 1430, 1471 (Jan. 8, 2014) (presumably referring to JJ Dooley, CL Davidson & RT

Dahowski, An Assessment of the Commercial Availability of Carbon Dioxide Capture and Storage Technologies as of June 2009 (2009), *available at* http://www.pnl.gov/main/publications/external/technical_reports/PNNL-18520.pdf).

^x *Id.*; *see generally* DOE/NETL, Cost and Performance of PC and IGCC Plants for a Range of Carbon Dioxide Capture (2011), *available at* <http://www.netl.doe.gov/energy-analyses/pubs/Gerdes-08022011.pdf>.

^{xi} *Id.* at 1471-72(citing Report of the Interagency Task Force on Carbon Capture and Storage 29 (2010), *available at* <http://www.epa.gov/climatechange/Downloads/ccs/CCS-Task-Force-Report-2010.pdf>).

^{xii} *Id.* at 1472(citing JJ Dooley et al., Carbon Dioxide Capture and Geologic Storage: A Key Component of a Global Energy Technology Strategy to Address Climate Change (2006), *available at* http://www.epa.gov/air/caaac/coaltech/2007_02_battelle.pdf).

^{xiii} *Id.* at 1472-74(citing, *inter alia*, Intergovernmental Panel on Climate Change, Special Report on Carbon Dioxide Capture and Storage (2005), *available at* http://www.ipcc.ch/pdf/special-reports/srccs/srccs_chapter5.pdf; Sally M. Benson & David R. Cole, *CO₂ Sequestration in Deep Sedimentary Formations*, 4 *Elements*, 325 (2008), *available at* http://www.geo.arizona.edu/~reiners/geos195K/CO2Sequestration_Benson_ELEMENTS.pdf; Report of the Interagency Task Force on Carbon Capture and Storage 29 (2010), *available at* <http://www.epa.gov/climatechange/Downloads/ccs/CCS-Task-Force-Report-2010.pdf>; Weon Shik Han et al., *Evaluation of Trapping Mechanisms in Geologic CO₂ Sequestration: Case Study of SACROC Northern Platform, a 35-year CO₂ Injection Site*, 310 *Am. J. of Sci. Online* 282 (2010) *available at* <http://www.ajsonline.org/content/310/4/282.abstract>; Margaret Sewell, Frank Smith & Dominique Van Gent, *Western Australia Greenhouse Gas Capture and Storage: A Tale of Two Projects* (2012), *available at* <http://cdn.globalccsinstitute.com/sites/default/files/publications/39961/ccsinwareport-opt.pdf>; DOE/NETL, Best Practices for: Monitoring, Verification, and Accounting of CO₂ Stored in Deep Geologic Formations – 2012 Update (2012), *available at* http://www.netl.doe.gov/technologies/carbon_seq/refshelf/BPM-MVA-2012.pdf; U.S. Geological Survey Geologic Carbon Dioxide Storage Resources Assessment Team, National Assessment of Geologic Carbon Dioxide Storage Resources – Results: U.S. Geological Survey Circular 1386 (2013), *available at* <http://pubs.usgs.gov/circ/1386/>).

^{xiv} *Id.* at 1474.

^{xv} *Id.*

^{xvi} *Id.*

^{xvii} *Id.* at 1474-75.

^{xviii} *Id.* at 1475.

^{xix} *Id.*

^{xx} *Id.* at 1472 n. 201; *see also* JJ Dooley, CL Davidson & RT Dahowski, An Assessment of the Commercial Availability of Carbon Dioxide Capture and Storage Technologies as of June 2009 (2009), *available at* http://www.pnl.gov/main/publications/external/technical_reports/PNNL-18520.pdf.

^{xxi} <http://www.morningstar.com/earnings/PrintTranscript.aspx?id=28688913>