

## **EPA FACT SHEET: Reducing Carbon Pollution From Power Plants**

### **Details About the Proposal for New Sources**

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On Sept. 20, 2013, the U.S. Environmental Protection Agency (EPA) announced its first steps under President Obama's Climate Action Plan to reduce carbon pollution from power plants. Power plants are the largest stationary source of carbon pollution in the United States: about one third of all greenhouse gas pollution in the U.S. comes from the generation of electricity by power plants.

In the Clean Air Act, Congress recognized that the opportunity to build emissions controls into a source's design is greater for new sources than for existing sources, so it laid out different approaches to set the two types of standards. Today EPA is proposing carbon pollution standards under for power plants built in the future and is kicking off the process of engagement with states, stakeholders, and the public to establish carbon pollution standards for currently operating power plants.

The proposed standards for new power plants are the first uniform national limits on the amount of carbon pollution that future power plants will be allowed to emit. The proposed standards are in line with investments in clean energy technologies that are already being made in the power sector. The proposal ensures that the nation will continue to rely on a diverse mix of energy sources, including efficient natural gas, advanced coal technology, nuclear power, and renewable energy like wind and solar.

Standards for currently operating plants are set through a federal-state partnership that includes federal guidelines and state plans to set and implement performance standards. Reflecting the significant differences between currently operating sources and those not yet built, the standards that will be developed for currently operating sources are expected to be different from, and less stringent than, the standards proposed today for future sources. Over the coming months, EPA will be engaging with states and a diverse set of partners, including the power sector, environmental groups, and the public, to identify innovative, pragmatic approaches that build on the leadership that many states have already shown to cut carbon pollution from the power sector.

#### **SECTION 111 AND CARBON POLLUTION**

- The Clean Air Act lays out distinct approaches for addressing new and existing sources under Section 111: a federal program for new sources and state programs for existing sources.
- Section 111 (b) is the federal program to address new, modified and reconstructed sources by establishing standards of performance.
- Section 111 (d) is a state-based program for existing sources. EPA establishes guidelines. States then design programs to fit their particular mix of sources and policies and get the

needed reductions.

- EPA plans to engage in extensive outreach to stakeholders on the various options and best approaches before making a proposal for carbon pollution guidelines for existing power plants.
- Over the coming months, EPA will be engaging with states and a diverse set of partners, including the power sector, environmental groups and the public, to identify innovative, pragmatic approaches that build on the leadership that many states have already shown to cut carbon pollution from the power sector.

#### **NEW PROPOSAL FOR FUTURE POWER PLANTS REFLECTS TRENDS AND COMMENTS**

- After considering more than 2.5 million comments from the public about the April 2012 proposal and also considering recent trends in the power sector, EPA is changing some aspects of its approach to the carbon pollution standards for new power plants.
- Together, the changes are detailed enough that a new opportunity for public comment is appropriate. Therefore, EPA is issuing a new proposal and, in a separate action, withdrawing the April 2012 proposal.
- The changes laid out in the new proposal are consistent with the millions of comments that generally support limits on carbon pollution from power plants because they retain the overall level of protection from the 2012 proposal. At the same time, the changes accommodate numerous technical and specific concerns expressed by industry and other commenters.
- Because these standards are in line with current industry investment patterns, these standards are not expected to have notable costs and are not projected to impact electricity prices or reliability.
- U.S. Department of Energy, EPA and industry projections indicate that, due to the economics of coal and natural gas, among other factors, new power plants that are built over the next decade or more would be expected to meet these standards even in the absence of the rule.
- EPA will take comment on this proposal for 60 days after publication in the Federal Register. The agency will also hold a public hearing.
- EPA will finalize these standards in a timely manner.

#### **PROPOSED STANDARDS FOR NEW SOURCES**

- EPA is proposing to set separate standards for natural gas-fired stationary combustion turbines and for fossil fuel-fired utility boilers and integrated gasification combined cycle

(IGCC) units.

- The rule will apply only to new fossil fuel-fired electric utility generating units (EGUs). For purposes of this rule, fossil fuel-fired EGUs include utility boilers, IGCC units and certain natural gas-fired stationary combustion turbine EGUs that generate electricity for sale and are larger than 25 megawatts (MW).
- The rule does not apply to any existing EGUs.
  - A source that commenced construction prior to publication of this proposal is an existing source.
- The rule does not apply to units undergoing modifications or to reconstructed units.
- The rule also does not apply to:
  - Liquid oil-fired stationary combustion turbine EGUs
  - New EGUs that do not burn fossil fuels (e.g., those that burn biomass only)
  - Low capacity factor EGUs that sell less than 1/3 of their power to the grid

#### **Natural gas-fired stationary combustion turbines**

- The proposed limits are based on the performance of modern natural gas combined cycle (NGCC) units. EPA is proposing two standards for natural gas-fired stationary combustion units, depending on size. These standards are:
  - 1,000 pounds of CO<sub>2</sub> per megawatt-hour (lb CO<sub>2</sub>/MWh-gross) for larger units (>850 mmBtu/hr)
  - 1,100 lb CO<sub>2</sub>/MWh-gross for smaller units (≤850 mmBtu/hr)
- New natural gas-fired stationary combustion turbines can meet the proposed standard without the need for add-on control technology.

#### **Fossil fuel-fired utility boilers and integrated gasification combined cycle units**

- The proposed limits for fossil fuel-fired utility boilers and IGCC units are based on the performance of a new efficient coal unit implementing partial carbon capture and storage (CCS). This approach ensures that any new fossil fuel-fired utility boiler or IGCC EGU will use modern, available technology to minimize emissions.
- EPA is proposing two limits for fossil fuel-fired utility boilers and IGCC units, depending on the compliance period that best suits the unit. These limits require capture of only a portion of the CO<sub>2</sub> from the new unit. These proposed limits are:
  - 1,100 lb CO<sub>2</sub>/MWh-gross over a 12-operating month period, or
  - 1,000-1,050 lb CO<sub>2</sub>/MWh over an 84-operating month (7-year) period

- The longer compliance period option provides flexibility by allowing sources to phase in the use of partial CCS. The owner/operator can use some or all of the initial 84-operating month period to optimize the system. EPA is soliciting comment on what the standard should be within the proposed range.
- Current and planned implementation of CCS projects, combined with the widespread availability and capacity of geological storage sites, makes it clear that the technology is feasible.
  - In the US, a coal gasification plant has been capturing approximately 50 percent of its CO<sub>2</sub> and providing it for EOR use for more than 10 years. Another coal gasification project with CCS is over 75 percent complete. Two more IGCC projects – both of which include CCS – are in advanced stages of development.
  - In addition, several states have adopted measures to address emissions of CO<sub>2</sub> from the power sector. These approaches include flexible market-based programs like California’s Assembly Bill 32 and the Regional Greenhouse Gas Initiative (RGGI) in the Northeast, and specific GHG performance standards for new power plants in California, Oregon, New York, and Washington.
- EPA proposes to verify that captured CO<sub>2</sub> is geologically sequestered by building on Greenhouse Gas Reporting Program rules already in place. The proposal also complements existing underground injection control requirements which serve to protect underground sources of drinking water.

### **Standards for projects that were permitted by April 2012**

- Several power plant projects were fully permitted but had not yet commenced construction at the time that EPA issued its April 2012 proposal, and EPA had proposed to treat these as “potential transitional sources.”
- In this new proposal, EPA is not continuing that distinction.
- However, EPA is aware of one project that would have fit that distinction that is presently under development and is not designed to meet the proposed standard. We are taking comment on whether the proposed standard or an alternate standard would be appropriate for that project.
- EPA anticipates addressing the issue in a later proposal, if necessary.

### **BACKGROUND**

- On April 2, 2007, in a landmark decision in *Massachusetts v. EPA*, the Supreme Court determined that greenhouse gases, including carbon dioxide, are air pollutants under the Clean Air Act and EPA must determine if they threaten public health and welfare.

- On Dec. 15, 2009, the EPA Administrator found that the current and projected concentrations of greenhouse gases endanger the public health and welfare of current and future generations.
- On Dec. 23, 2010, EPA announced a proposed settlement agreement to issue rules that would address GHG pollution from certain fossil fuel-fired EGUs. This agreement addressed, in part, EPA's September 2007 remand of its February 2006 final decision not to set standards for utility boilers.
- In early 2011, EPA held several listening sessions to gain important information and feedback from key stakeholders and the public before initiating the rulemaking process for the Carbon Pollution Standard for new power plants. Each listening session included a round table discussion and public comments. EPA also solicited written comments. EPA considered these comments when drafting the 2012 proposal and the new proposal.
- EPA received and reviewed more than 2.5 million public comments on the April 2012 proposed Carbon Pollution Standard – the most comments ever for a proposed EPA regulation. The proposed standard was published in the Federal Register on April 13, 2012. EPA also held two public hearings in Chicago and Washington D.C. Today, EPA is withdrawing that proposal.
- In June 2013, President Obama directed EPA to reduce carbon pollution from power plants as part of a Climate Action Plan. This plan reinforced EPA's commitment to cutting harmful pollution, protecting the U.S. from the impacts of climate change, and leading an international effort to address a changing climate. The President directed EPA to issue a new proposal for new power plants by Sept 20, 2013 and to finalize these standards in a timely manner. In addition, EPA is to issue proposed carbon pollution standards, regulations, or guidelines, as appropriate, for modified, reconstructed and existing power plants by June 1, 2014 and finalize those by June 1, 2015.

## HOW TO COMMENT

- EPA will accept comment on this new proposal for 60 days after publication in the Federal Register.
- Comments submitted in response to the April 2012 proposed rule will not be associated with this new proposal. Commenters who submitted public comments concerning any aspect of the previous proposal will need to consider the applicability of those comments to this current proposal and submit them again, even if the comments are exactly or substantively the same as those previously submitted.
- Comments on the proposed standard should be identified by Docket ID No. EPA-HQ-OAR-2013-0495. All comments may be submitted by one of the following methods:

- [www.regulations.gov](http://www.regulations.gov): Follow the on-line instructions for submitting comments.
  - E-mail: Comments may be sent by electronic mail (e-mail) to [a-and-r-Docket@epa.gov](mailto:a-and-r-Docket@epa.gov).
  - Fax: Fax your comments to: 202-566-9744.
  - Mail: Send your comments to: Air and Radiation Docket and Information Center, Environmental Protection Agency, Mail Code: 2822T, 1200 Pennsylvania Ave., NW, Washington, DC, 20460.
  - Hand Delivery or Courier: Deliver your comments to: EPA Docket Center, Room 3334, 1301 Constitution Ave., NW, Washington, DC, 20460. Such deliveries are only accepted during the Docket's normal hours of operation, and special arrangements should be made for deliveries of boxed information.
- EPA will hold a public hearing on this proposal. The date, time, and location of the public hearing will be available soon. This information will be published in the Federal Register and also posted on <http://www2.epa.gov/carbon-pollution-standards>