



# **Proposed Carbon Pollution Standard For New Power Plants**

**March 27, 2012**



# Overview

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## Summary of Today's Action

- On March 27 EPA proposed a carbon pollution standard for new fossil-fuel fired power plants
- Currently there are no national limits on the amount of carbon pollution new power plants can emit.
- The proposed standard would ensure that new power plants use modern technology to limit this harmful pollution.
- EPA's proposed standard is flexible, achievable and can be met by a variety of facilities using different fossil fuels, such as natural gas and coal.
- The proposed carbon pollution standard for new power plants is posted at: <http://www.epa.gov/carbonpollutionstandard>
- The comment period will be open for 60 days after publication of the rule in the Federal Register, and EPA will hold public hearings.

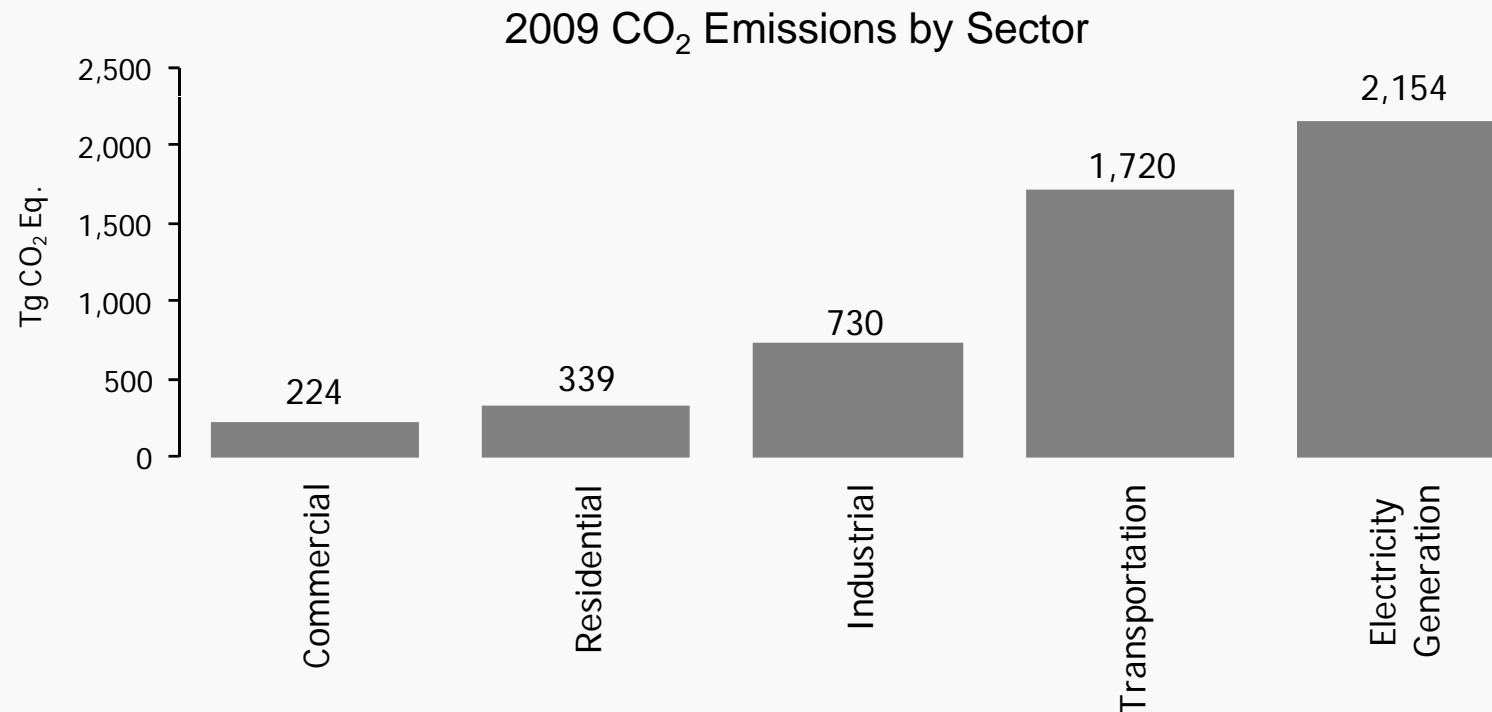


# Statutory Authority

- Clean Air Act (CAA) section 111(b) requires EPA to regulate new sources.
  - **Section 111(b) – Federal Program for New Sources**
    - The Administrator shall “establish Federal standards of performance” for “new sources within [the] source category.”
  - **“Standard of Performance”**
    - “A standard for emissions of air pollutants which reflects the degree of emission limitation achievable through the application of the best system of emission reduction, which (taking into account the cost of achieving such reduction and any non-air quality health and environmental impact and energy requirements) the Administrator determines has been adequately demonstrated.”



# EPA is focusing first on the largest emitters of carbon



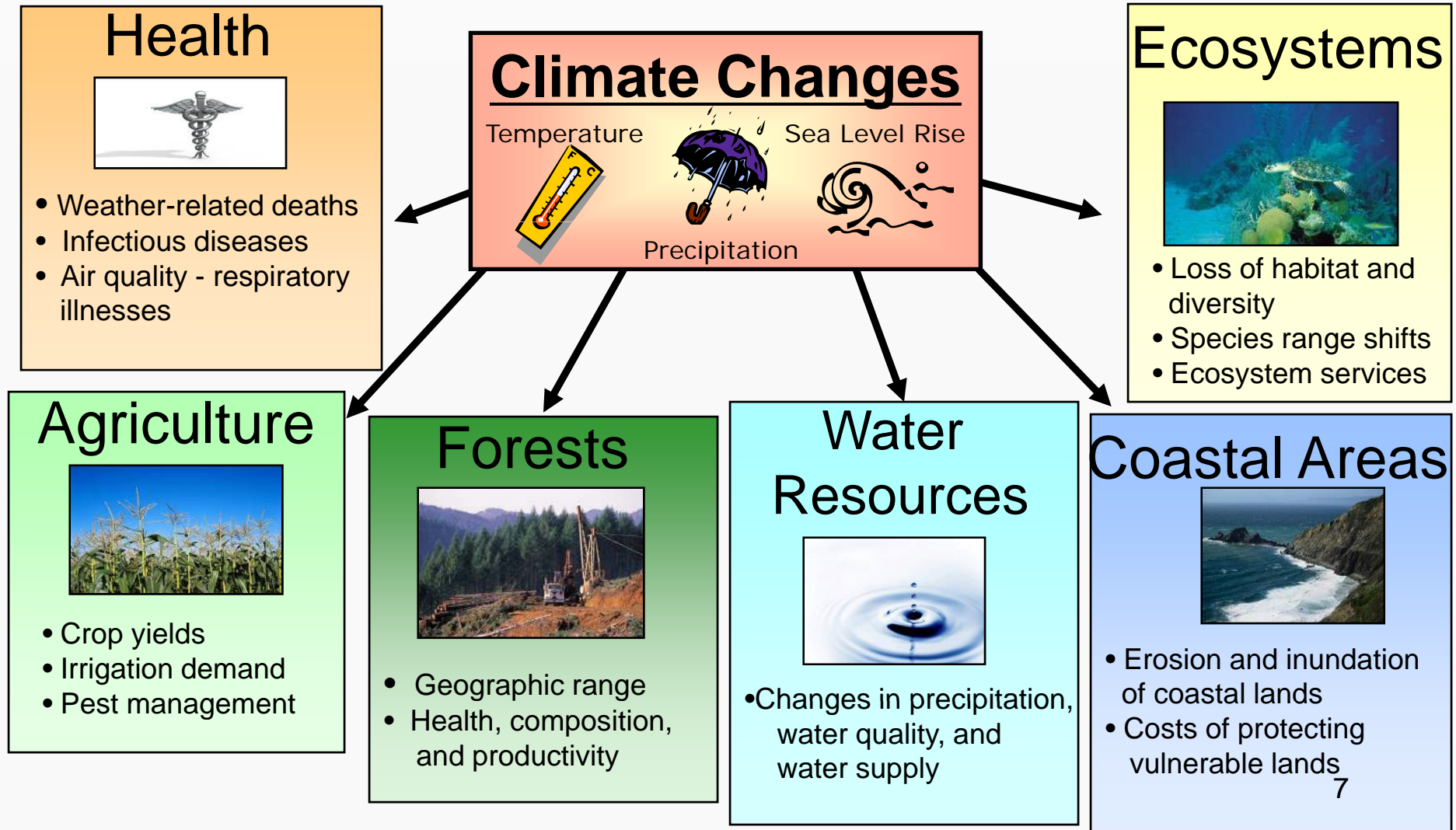


# Carbon pollution impacts public health and the environment

- Carbon pollution contributes to climate change. The scientific evidence of climate change is overwhelming and greenhouse gases endanger the health and welfare of the American people.
- The Earth's climate is changing in ways that can have serious consequences for public health and the environment.
- Examples of health effects:
  - Climate change will likely increase the number of people suffering from illness and injury due to more pollution, extreme heat, floods, storms, droughts, and fires.
  - The elderly, the very young, the disabled, and the poor are especially vulnerable as are people with heart disease or asthma.
  - Climate change may also cause more severe allergy symptoms because elevated CO<sub>2</sub> concentrations and a warmer climate promote the growth of molds, weeds, grasses and trees that cause allergic reactions.
- Examples of environmental effects:
  - Excess CO<sub>2</sub> in the atmosphere is causing oceans to warm and become more acidic, threatening coral reefs and food supplies for many types of marine life - from plankton to polar bears.
  - Also, climate change has likely already increased the size and number of forest fires, 6 insect outbreaks and tree deaths



# Expected Impacts of Climate Change





## Proposed Carbon Pollution Standard for New Sources

- Proposes output-based emission standard of 1,000 pounds of CO<sub>2</sub> per megawatt-hour (lb CO<sub>2</sub> /MWh gross)
- Applies to new
  - Fossil fuel-fired boilers,
  - Integrated Gasification Combined Cycle (IGCC) units, and
  - Natural Gas Combined Cycle (NGCC) units
- New combined cycle natural gas power plants could meet the standard without add-on controls.
- New coal or petroleum coke power plants would need to incorporate carbon capture and storage technology (CCS).
  - The proposal includes an alternative 30-year compliance period to allow these new plants to incorporate CCS at a later date to reach compliance
- Some states already limit emissions of greenhouse gases from new power plants.
  - Washington, Oregon, and California
- Some states already have CCS requirements.
  - Montana and Illinois





## Flexibilities for New Coal-fired Power Plants

- New power plants that use Carbon Capture and Storage (CCS) would have the option to use a 30-year average of CO<sub>2</sub> emissions to meet the proposed standard, rather than meeting the annual standard each year.
- Provides flexibility for new power plants to phase in CCS technology
  - Plants that install and operate CCS right away would have the flexibility to emit more CO<sub>2</sub> in the early years as they learn how to best optimize the controls
  - Plants could wait to install or operate CCS for up to 10 years to take advantage of lessons learned from other early installations.
- For example, a new power plant could emit more CO<sub>2</sub> for the first 10 years and then emit less for the next 20 years, as long as the average of those emissions met the standard.
  - Because CO<sub>2</sub> is long-lived in the atmosphere, the 30-year averaging period is not expected to have a different impact on climate compared to a continuous emission rate limit or an annual emissions limit.
- This would also allow for CCS to become even more widely available, which should lead to lower costs and improved performance over time.



## Transitional Sources

- EPA is proposing that sources with the necessary construction permits will not have to comply with this standard, even if they have not yet begun construction, provided that they begin construction within 1 year of the proposal's publication
- EPA is also proposing that sources looking to renew permits and that are part of a Department of Energy (DOE) demonstration project would also not be required to comply with this standard, provided that they begin construction within 1 year of the proposal's publication



# Modifications and Reconstructions

- EPA is not proposing a standard for “modified” power plants.
- The EPA’s current regulations define a “modification” under NSPS as a physical or operational change that increases the source’s maximum achievable hourly rate of emissions.
- Pollution control projects are specifically exempted from the NSPS modification definition.
- Most projects that EPA anticipates might increase the hourly rate of CO<sub>2</sub> emissions are pollution control projects.
- We don’t have enough information about projects besides pollution control projects that would likely constitute “modifications” under our current regulations, so we do not have adequate information on which to base a proposed standard of performance.
- EPA is not proposing a standard for reconstructions, also due to lack of information.



## Legal Background

- In April 2007, the U.S. Supreme Court ruled, in Massachusetts v. EPA, that GHGs meet the definition of “air pollutant” in the CAA. This decision clarified that the authorities and requirements of the CAA, including section 111, apply to GHG emissions.
- As a result of this decision, the EPA obtained a voluntary remand from the U.S. Court of Appeals for the District of Columbia Circuit (the “Court”) to reconsider the EPA’s actions in a 2006 rulemaking for EGUs under CAA section 111, in which the EPA had promulgated standards for criteria air pollutants, but had declined to regulate GHG emissions.
- In part in response to threatened litigation over the EPA’s failure to act on the remand, the EPA agreed to propose today’s action to regulate GHG emissions from new fossil fuel-fired EGUs.



## Public Process for Proposed Rule

- In 2011, EPA held several listening sessions
  - EPA obtained important information and feedback from key stakeholders and the public
  - Each listening session included a round table discussion and public comments.
- EPA also solicited written comments.
- EPA considered all this information when drafting this proposal.



## Public Process – Next Steps

- The EPA will accept comment on this proposed rule for 60 days following publication in the Federal Register. Comments on the proposed standard should be identified by Docket ID No. EPA-HQ-OAR-2011-0660.
- 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: 202-566-1741.
  - 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 also plans to hold public hearings on this proposal. The dates, times, and locations of the public hearings will be available soon.
  - They will be published in the Federal Register and also listed on <http://www.epa.gov/carbonpollutionstandard>