



Regulating Greenhouse Gasses Under the Clean Air Act

ELI Summer Institute

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About NACAA

- ❑ National association of air pollution control agencies, located in Washington, D.C.
- ❑ 38 state agencies, Washington, D.C. and Territories
- ❑ 116 local agencies
- ❑ Air Pollution control agencies are given “primary responsibility” under the Clean Air Act for implementation

What I Will Cover

- ◆ Background on Greenhouse Gasses
- ◆ Litigation and Early Regulation (2007 – 2012)
- ◆ Obama's Climate Action Plan (2013 – 2016)
- ◆ The Trump Administration (2017)

Greenhouse Gasses (GHGs)

- ❑ GHGs are gasses that absorb infrared radiation and can trap heat in the atmosphere.
- ❑ Global warming potential (GWP) denotes the ability of a GHG to trap heat in the atmosphere relative to CO₂

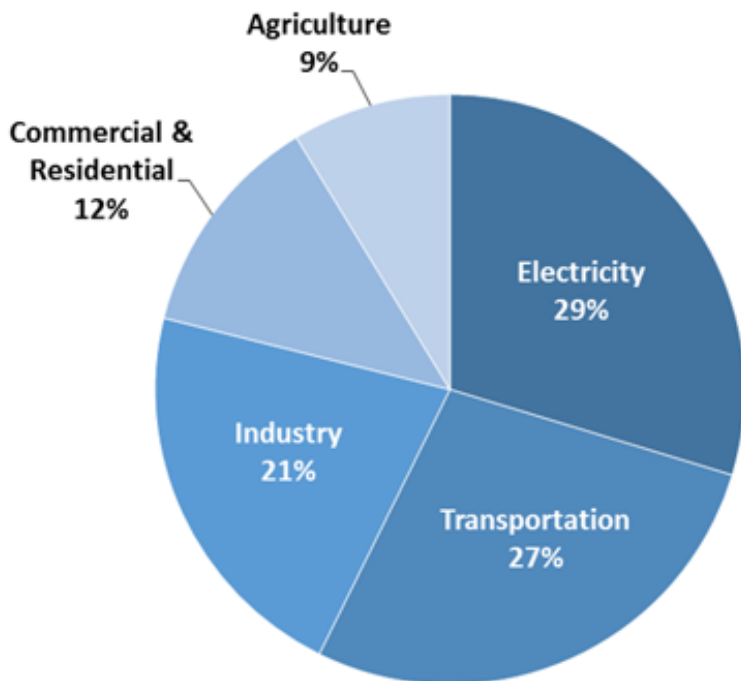
Gas	GWP
Carbon Dioxide (CO ₂)	1
Methane (CH ₄)	25
Nitrous oxide (N ₂ O)	298
Hydrofluorocarbons (HFCs)	124 to 14,800

U.S. GHG Emissions

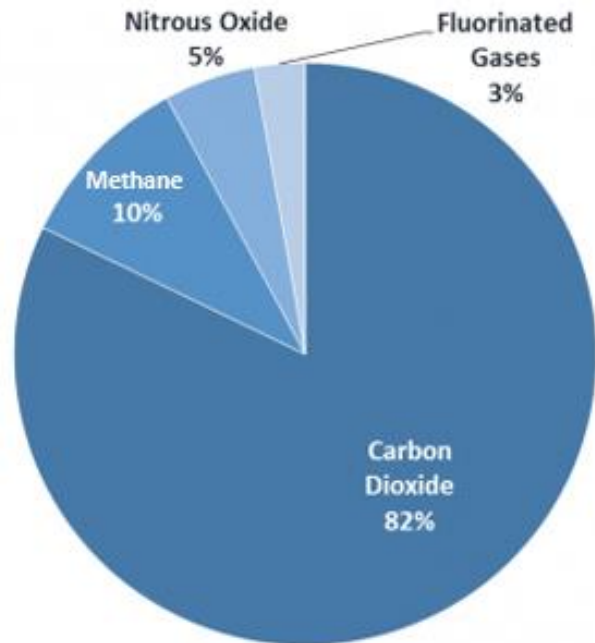
- ❑ Total U.S. GHG emissions were approximately 6,587 million metric tons (MMT) CO₂ equivalent in 2015
- ❑ That represents a 3.5 percent increase from 1990 but a 2.3 percent decrease from 2005 and a 11.5 percent decrease from 2007
- ❑ U.S. emissions peaked in 2007 at 7,349 MMT CO₂ equivalent, 15.5 percent above 1990 levels

U.S. GHG Emissions

Total U.S. Greenhouse Gas Emissions by Economic Sector in 2015



U.S. Greenhouse Gas Emissions in 2015



Source: Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2015, U.S. EPA (2017)

Massachusetts v. EPA (2007)

- ❑ In 1999, a group primarily comprised of NGOs filed a rulemaking petition asking EPA to regulate GHG emissions from automobiles under § 202(a)(1) of the CAA. EPA denied the petition in 2003. A group of states led by Massachusetts joined the petitioners in a lawsuit to challenge EPA's denial
- ❑ By the time the case made it to the Supreme Court, there were two big issues: (1) standing; and (2) EPA's discretion to decide not to decide the endangerment question
- ❑ On the issue of whether the agency can decide not to decide, the Supreme Court found that:
 - ◆ GHGs are an “air pollutant” under CAA § 302(g)
 - ◆ EPA's decision (action or inaction) must be based on a reasoned judgment regarding whether GHGs “cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare.”

Endangerment Finding (2009)

- The emission of six anthropogenic GHGs endanger public health and welfare by causing climate change:
 - ◆ Carbon dioxide (CO₂)
 - ◆ Methane (CH₄)
 - ◆ Nitrous oxide (N₂O)
 - ◆ Hydrofluorocarbons (HFCs)
 - ◆ Perfluorocarbons (PFCs)
 - ◆ Sulfur hexafluoride (SF₆)
- Combined emissions of these substances from motor vehicles contribute to harmful human health and welfare effects, including higher temperatures, more extreme weather events, sea level rise and greater demand for water

GHG Standards for Passenger Vehicles

□ Phase One (2010)

- ◆ Established GHG emission standards for light duty vehicles (LDVs) and trucks in MYs 2012 through 2016,
- ◆ Required fuel efficiency improvements from 30.1 MPG to 35.5 MPG by MY2016
- ◆ Expected CO₂ reductions of 950 million metric tons over the lifetime of the affected MY2012-2016 vehicles

□ Phase Two (2012)

- ◆ Extended GHG emissions standards to MYs 2017 through 2025
- ◆ Fuel efficiency requirements increase to 54.5 MPG by MY2025
- ◆ Includes a Midterm Evaluation (MTE) to assess the standards and, if necessary, revise them
- ◆ Expected CO₂ reductions of 2 billion metric tons over the program lifetime

CAA Cross-Triggering

- ❑ The PSD program applies to stationary sources in attainment areas with the potential to emit 250 tons per year (TPY) of “any air pollutant.”
- ❑ The Title V program applies to stationary source with the potential to emit 100 TPY of “any air pollutant.”
- ❑ **Timing Rule (2010)**
 - ◆ GHGs became air pollutants “subject to regulation” on January 2, 2011 when the LDV standards went into effect.
- ❑ **Tailoring Rule (2010)**
 - ◆ Under the 250 and 100 TPY thresholds, the number of covered Title V sources was estimated to increase from 15,000 to six million, and the number of annual PSD permits from 300 to 40,000
 - ◆ EPA proposed a 75,000 TPY CO₂e threshold for sources that would be subject to regulation solely based on their CO₂ emissions as well as a phased lowering of the threshold.

Utility Air Regulatory Group v. EPA (2014)

- ❑ EPA cannot “tailor” statutory emission thresholds
- ❑ EPA cannot require stationary sources to obtain Prevention of Significant Deterioration (PSD) and Title V permits based solely on their potential greenhouse gas (GHG) emissions
- ❑ Sources already subject to stationary source permitting requirements due to their emissions of conventional pollutants can be required to install best available control technology (BACT) for GHGs, if the source emits more than a de minimis amount of GHGs

AEP V. Connecticut (2011)

- ❑ A group including several states filed federal common law nuisance claims against five large power companies to cap their CO₂ emissions
- ❑ The Court found that the CAA displaces any federal common law right to sue
 - ◆ The CAA's definition of "air pollutant" and Section 111's language speak directly to regulation of carbon pollution from power plants
 - ◆ Congress delegated to EPA the decision whether and how to regulate CO₂ emissions from power plants



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The White House

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For Immediate Release

June 25, 2013

FACT SHEET: President Obama's Climate Action Plan

President Obama's Plan to Cut Carbon Pollution

Taking Action for Our Kids

We have a moral obligation to leave our children a planet that's not polluted or damaged, and by taking an all-of-the-above approach to develop homegrown energy and steady, responsible steps to cut carbon pollution, we can protect our kids' health and begin to slow the effects of climate change so we leave a cleaner, more stable environment for future generations. Building on efforts underway in states and communities across the country, the President's plan cuts carbon pollution that causes climate change and threatens public health. Today, we have limits in place for arsenic, mercury and lead, but we let power plants release as much carbon pollution as they want – pollution that is contributing to higher rates of asthma attacks and more frequent and severe floods and heat waves.

Obama's Climate Action Plan

- ❑ Designed to help meet a U.S. pledge to reduce GHG to 17 percent below 2005 levels by 2020
- ❑ Relied on a mix of agency and executive authorities to achieve its goals. CAA pieces included:
 - ◆ Reductions in CO₂ emissions from the power sector
 - ◆ Reductions in methane emissions
 - ◆ Additional GHG standards for heavy-duty vehicles
 - ◆ Reductions in HFC emissions

Section 111 of the Clean Air Act

Allows EPA to set performance standards for categories of stationary sources based their emission of specific air pollutants

□ **Section 111(b)** – applies to new, modified and reconstructed sources

- ◆ Can apply to any category of sources that “causes, or contributes significantly to, air pollution which may reasonably be anticipated to endanger public health or welfare”
- ◆ EPA establishes “federal standards of performance” for each source category
- ◆ Has been used more than 70 times

□ **Section 111(d)** – applies to existing Sources

- ◆ Use restricted to non-NAAQS air pollutants and cannot apply to some sources that are already regulated under the Clean Air Acts Air Toxics Program
- ◆ Can only apply to existing sources that would be subject to regulation under Section 111(b) if they were a new source
- ◆ Section 111(d) has been used on its own only six times

New Source Performance Standards for Power Plants

- Issued pursuant to CAA Section 111(b) and finalized on October 23, 2015; applies to new, modified and reconstructed coal- and natural gas-fired power plants

	New	Modified	Reconstructed
Coal-fired units	1,400 lbs CO ₂ /MWh based on partial application of carbon capture and storage	Future performance consistent with past performance measured from 2002 until the time of modification	1,800 lbs CO ₂ /MWh or 2,000 lbs CO ₂ /MWh depending on size
Natural Gas-fired units	1,000 lbs CO ₂ /MWh based on natural gas combined cycle technology	n/a	1,000 lbs CO ₂ /MWh

The Clean Power Plan

- ❑ Issued pursuant to CAA Section 111(d) and finalized on October 23, 2015; applies to existing coal- and natural gas-fired power plants
- ❑ Requires states to submit compliance plans to meet EPA CO₂ emission targets but offers significant flexibility regarding the form of the target and how to meet it
- ❑ Targets based on projected changes in the power sector:
 - ◆ Heat rate improvements at power plants
 - ◆ Generation shifting from affected coal-fired units to natural gas-fired units
 - ◆ New zero and low-emitting energy generation
- ❑ EPA estimates that CO₂ emissions from existing power plants will decrease 32 percent below 2005 levels by 2030 with the rule in place
- ❑ The rule was stayed by the Supreme Court on February 9, 2016

Methane Limits for Oil and Natural Gas Sector Sources

❑ **New Source Performance Standards**

- ◆ Limits for new, modified and reconstructed sources finalized pursuant to section CAA Section 111(b) on June 3, 2016
- ◆ Includes leak detection and repair requirements for oil and natural gas activities and equipment
- ◆ By 2025, EPA anticipates that the rule will achieve annual methane reductions of 11 million metric tons of CO₂ equivalent

❑ **Existing Source Performance Standards**

- ◆ To begin developing an existing source standard under CAA Section 111(d), EPA issued an information collection request to more than 15,000 oil and natural gas sector sources on November 20, 2016



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For Immediate Release

March 28, 2017

Presidential Executive Order on Promoting Energy Independence and Economic Growth

EXECUTIVE ORDER

PROMOTING ENERGY INDEPENDENCE AND ECONOMIC GROWTH

Executive Order 13783

- ❑ Revokes certain Obama Administration Policies
- ❑ Initiates a review process to “suspend, rescind or revise” certain Obama Administration policies
- ❑ Establishes a process to identify and review additional federal agency policies inconsistent with the executive order’s goals

EO 13783 by the Numbers

- ❑ The executive order takes direct aim at:
 - ❑ 5 regulatory actions and/or policies from EPA
 - ❑ 5 regulatory actions and/or policies issued by the Department of the Interior
 - ❑ 13 White House executive orders, policies or other guidance materials

Mobile Source GHG Standards

- ❑ Remain in effect, but future standards are under review
- ❑ Recall that MY2017 to 2025 standards (Phase 2) require a Midterm Evaluation (MTE)
- ❑ EPA signed an MTE determination on January 12, 2017 preserving the current emissions standards
- ❑ On March 15, EPA announced that it would reconsider the MTE
- ❑ EPA has until April 1, 2018 to complete a revised analysis

Power Plant Rules

❑ **Clean Power Plan**

- ◆ Remains stayed under the Supreme Court order
- ◆ Under review pursuant to EO 13783 as EPA determines whether to “suspend, revise or rescind” the rule
- ◆ Draft rule submitted for White House review on June 3, 2017
- ◆ D.C. Circuit litigation remains on hold as EPA reconsiders its legal position

❑ **Power Plant New Source Performance Standards**

- ◆ Currently in effect
- ◆ Under review pursuant to EO 13783
- ◆ D.C. Circuit litigation on hold as EPA reconsiders its legal position

Oil and Gas Sector Methane Rules

□ **New Source Performance Standards Rule**

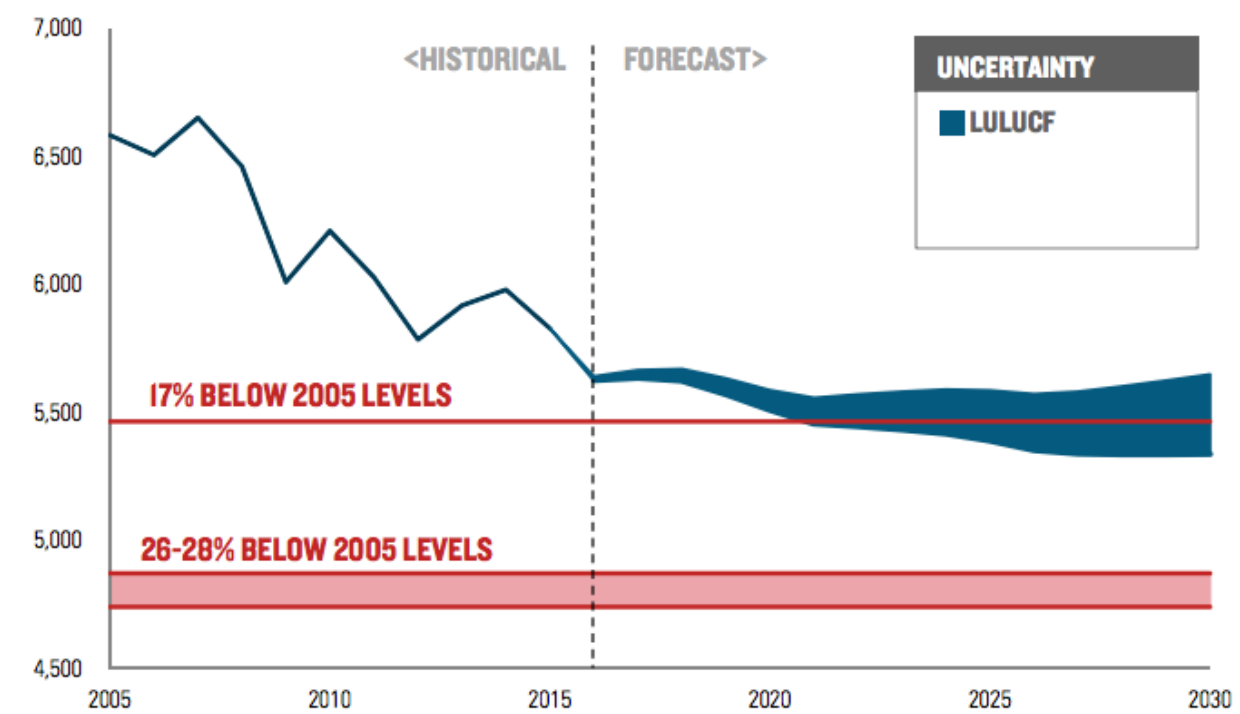
- ◆ Remains in effect; the D.C. Circuit rejected EPA's attempt to immediately stay the rule for 90-days
- ◆ Under review pursuant to EO 13783
- ◆ EPA began a rulemaking to stay the rule for two-years on June 16, 2016

□ **Existing Source Performance Standards**

- ◆ No longer under development
- ◆ Information collection request withdrawn on March 2, 2017 in response to an industry request

GHG Emissions Projections

Figure 2: Net US GHG emissions under current policy
MMt CO₂e



Source: EPA, Rhodium Group analysis.

What to Watch

- ❑ Federal Action
 - ◆ Further implementation of EO 13783
 - ◆ Review of the endangerment finding?
 - ◆ Further legal challenges
- ❑ State and Local Action
 - ◆ U.S. Climate Alliance – 13 States
 - ◆ Mayors National Climate Action Agenda
- ❑ Market-driven Emission Reductions

For Further Information

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