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# CLEAN POWER PLAN

## Reducing Carbon Pollution From Existing Power Plants

Proposal Announced on  
June 2, 2014



# This Proposal Deals With the Largest Source of GHG Emissions in the U.S.

## U.S. GREENHOUSE GAS POLLUTION INCLUDES:



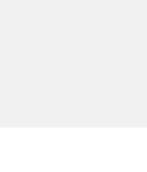
### CARBON DIOXIDE (CO<sub>2</sub>) 82%

Enters the atmosphere through burning fossil fuels (coal, natural gas, and oil), solid waste, trees and wood products, and also as a result of certain chemical reactions (e.g., manufacture of cement).



### FLUORINATED GASES 3%

Hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride are synthetic, powerful greenhouse gases that are emitted from a variety of industrial processes.



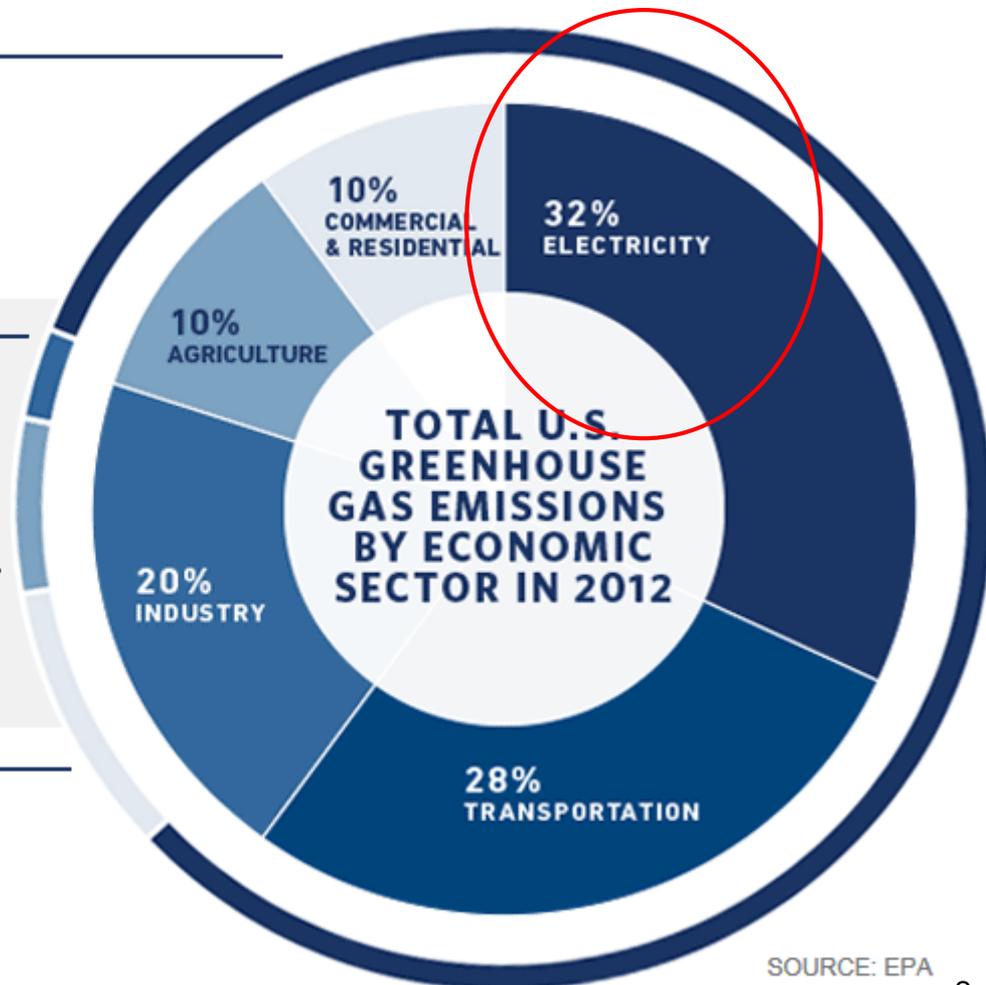
### NITROUS OXIDE (N<sub>2</sub>O) 6%

Emitted during agricultural and industrial activities, as well as during combustion of fossil fuels and solid waste.



### METHANE (CH<sub>4</sub>) 9%

Emitted during the production and transport of coal, natural gas, and oil as well as from landfills.



SOURCE: EPA

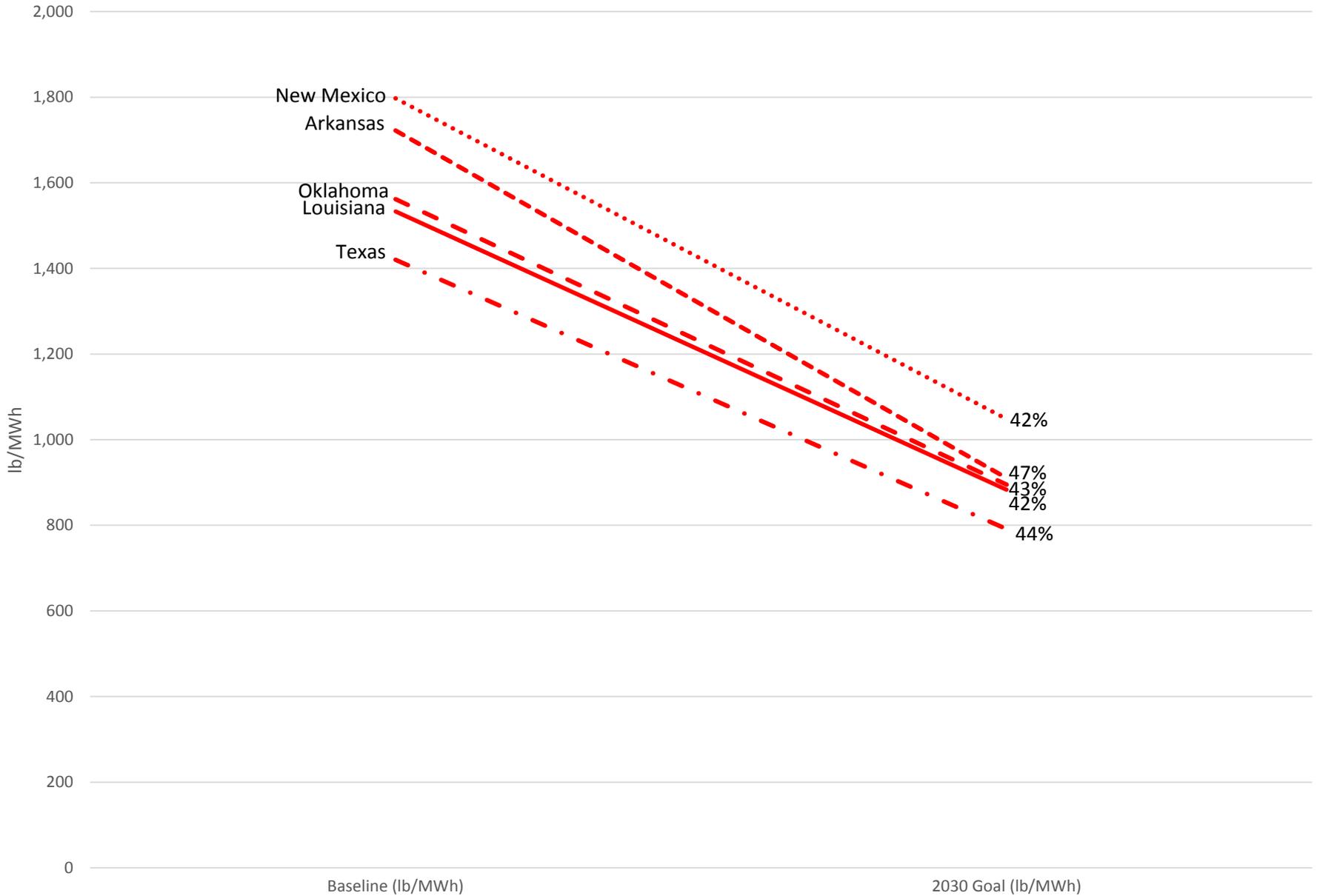


# EPA Establishes a Goal for Every State

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- EPA analyzed the practical and affordable strategies that states and utilities are already using to lower carbon pollution from the power sector.
- Proposed goals are based on a consistent national formula, calculated with state and regional specific information.
- The result of the equation is the state goal.
- Each state goal is a rate – a statewide number for the future carbon intensity of covered existing fossil-fuel-fired power plants in a state.
  - Encompasses the dynamic variables that ultimately determine how much carbon pollution is emitted by fossil fuel power plants.
  - Accommodates the fact that CO<sub>2</sub> emissions from fossil fuel-fired power plants are influenced by how efficiently they operate and by how much they operate.
- The state goal rate is calculated to account for the mix of power sources in each state and the application of the “building blocks” that make up the best system of emission reduction.
- States will need to meet an interim goal and a final goal.

# 111(d) - Comparison of Region 6 State Baselines and 2030 Targets



Building Block	Strategy EPA Used to Calculate the State Goal	Maximum Flexibility: Examples of State Compliance Measures
1. Make fossil fuel-fired power plants more efficient	Efficiency Improvements	Efficiency improvements Co-firing or switching to natural gas Coal retirements Retrofit CCS (e.g., WA Parish in Texas)
2. Use lower-emitting power sources more	Dispatch changes to existing natural gas combined cycle (CC)	Dispatch changes to existing natural gas CC
3. Build more zero/low-emitting energy sources	Renewable Energy Certain Nuclear	New NGCC Renewables Nuclear (new and up-rates) New coal with CCS
4. Use electricity more efficiently	Demand-side energy efficiency programs	Demand-side energy efficiency programs Transmission efficiency improvements Energy storage



# States Choose How to Meet the Goals

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- Demand-side energy efficiency programs.\*
- Generating electricity from low/zero-emitting facilities.\*
- Expanding use of existing NGCC units.\*
- Transmission efficiency improvements.
- Energy storage technology.
- Working with utilities to consider retiring units that are high emitting.
- Energy conservation programs.
- Retrofitting units with partial CCS.
- Use of certain biomass.
- Efficiency improvements at higher-emitting plants.\*
- Market-based trading programs.
- Building new renewables.
- Dispatch changes.
- Co-firing or switching to natural gas.
- Building new natural gas combined cycle units.

\* Measures EPA used in calculating the state goals



# Benefits and Costs

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- Nationwide, by 2030, this rule would help reduce CO<sub>2</sub> emissions from the power sector by approximately 30% from 2005 levels.
  - Also by 2030, reduce by over 25% pollutants that contribute to the soot and smog that make people sick.
- These reductions will lead to public health and climate benefits worth an estimated \$55 billion to \$93 billion in 2030.
- Proposal will avoid an estimated 2,700 to 6,600 premature deaths and 140,000 to 150,000 asthma attacks in 2030.
- Health and climate benefits far outweigh the estimated annual costs of meeting the standards.
  - Estimated at \$7.3 billion to \$8.8 billion in 2030.
- Proposal protects children and other vulnerable Americans from the health threats posed by a range of pollutants.
- Move us toward a cleaner, more stable environment for future generations.
- Ensures an ongoing supply of the reliable, affordable power needed for economic growth.



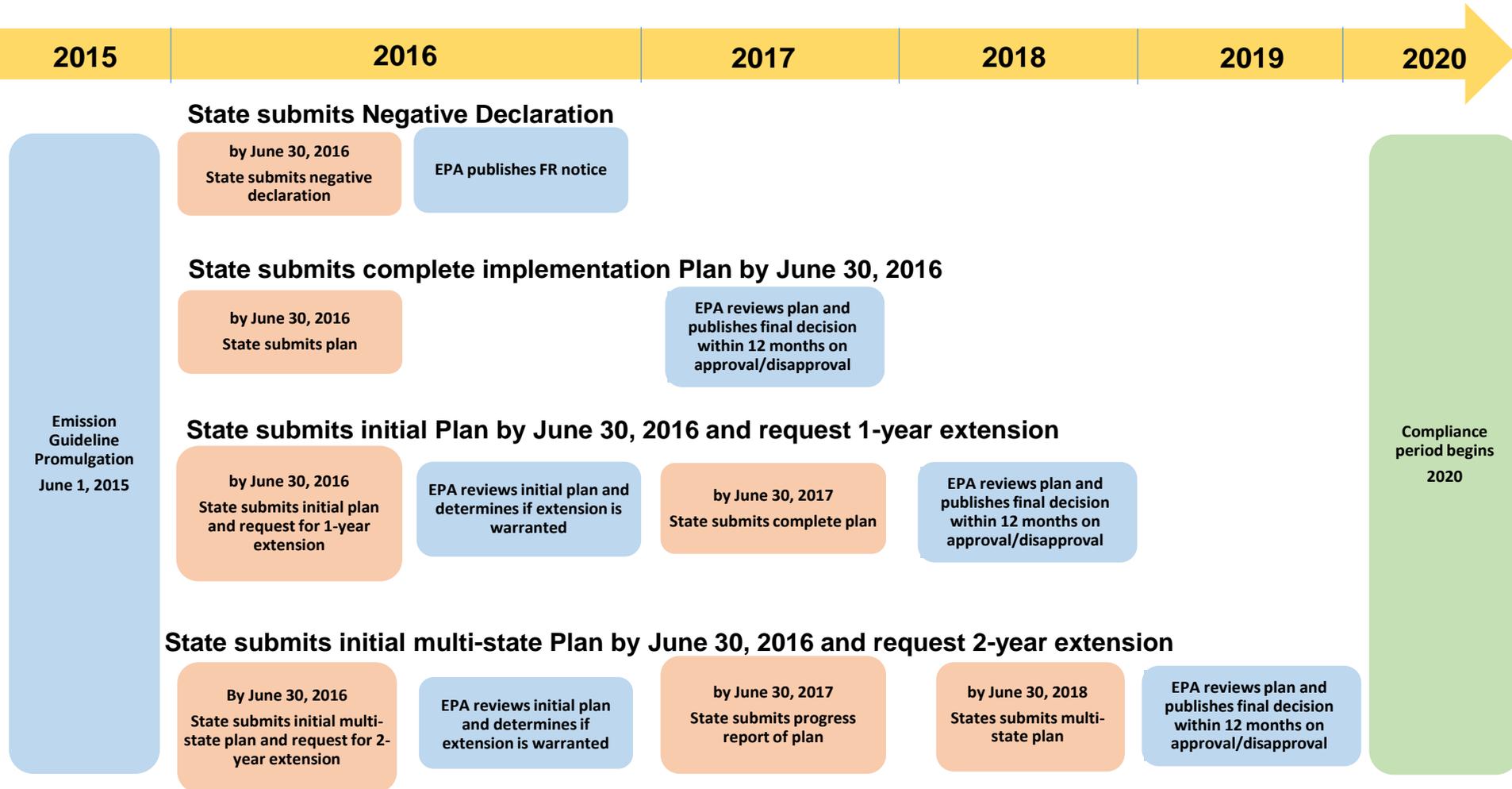
# Next Steps

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- The proposed rule, as well as information about how to comment and supporting technical information, are available online at:  
<http://www.epa.gov/cleanpowerplan>
- EPA held 4 public hearings during the week of July 28<sup>th</sup> in Denver, Atlanta, Pittsburgh and Washington, D.C. Over 2700 individuals attended the public hearings, with 1322 making oral comments for the record.
- There is a 165-day public comment period on the proposal. Submit comments by December 1, 2014.
- Comments on the proposal should be identified by Docket ID No.  
EPA-HQ-OAR-2013-0602.



# Proposed Implementation Timeline





# Questions?

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