

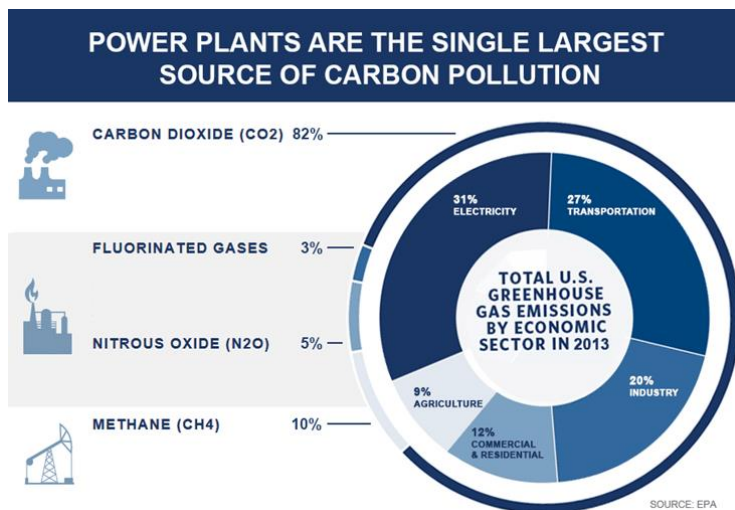
## Understanding the Clean Power Plan

Across the United States and around the world, climate change poses an increasingly dire threat to wildlife, communities, and public health. Changes to our climate are destroying critical wildlife habitat, causing habitat ranges to shift, increasing incidence of pests and invasive species, decreasing available food and water, changing the chemistry of the ocean, and increasing the rate of species' extinction.<sup>i</sup>



Large game, like Elk, benefit from the Clean Power Plan (USFWS)

On August 3, President Obama and the Environmental Protection Agency (EPA) took an historic step in addressing climate change by announcing the first ever curbs on carbon emissions from power plants: the Clean Power Plan.<sup>ii</sup> Power plants are the U.S.'s largest source of carbon pollution accounting for about a third of total climate-change-driving emissions in the United States. 2014 was the hottest year in recorded history, 14 of the 15 warmest years on record have all occurred in the first 15 years of this century, and already temperatures in the first half of 2015 have been warmer than normal.<sup>iii</sup> Reducing emissions from power plants is a game-changing next step to bring climate change under control and spur the transition to a clean energy future.



The carbon reductions from the Clean Power Plan will be equivalent to taking 70% of all U.S. cars off the road,<sup>iv</sup> or the annual electricity use of all the nation's homes.<sup>v</sup> The plan will also result in substantially increased investment in clean, renewable energy. These carbon pollution limits will help sustain our outdoor heritage, conserve wildlife habitat, protect our clean air and water, and create thousands of clean energy jobs.

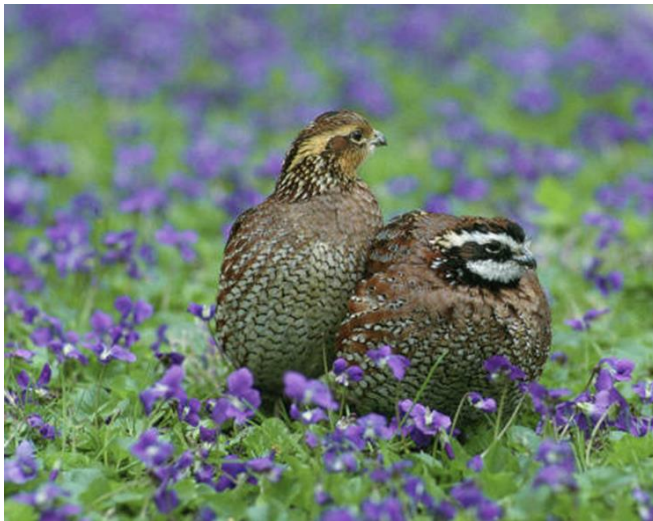
## What is the Clean Power Plan?

The Clean Power Plan is a flexible program under the Clean Air Act to regulate harmful carbon pollution from power plants. Until now, power plants have had carte blanche to dump as much harmful climate-changing pollution into the air as they wanted. With the Clean Power Plan, sensible limits will be put on the amount of carbon pollution power plants can emit, just like limits exist on soot, sulfur dioxide, mercury, nitrogen oxides, and other harmful pollutants.

Authority for EPA to regulate carbon under the Clean Air Act is backed by two Supreme Court rulings. The first is *Massachusetts v. EPA*,<sup>vi</sup> which ruled that carbon is a pollutant regulated under the Clean Air Act. Then, in 2011, the Supreme Court ruled in *American Electric Power v. Connecticut*<sup>vii</sup> that EPA has authority to cut carbon pollution from the nation's power plants.

The Clean Power Plan, like the rest of the Clean Air Act, relies on a cooperative, flexible relationship between states and the federal government.

## What are the Benefits of the Clean Power Plan?



Nearly half of bird species, like northern bobwhite quails, are at risk from climate change (USFWS)

Climate change poses an unprecedented threat to the wildlife and wild places we cherish, and to the natural resources that we all depend on. Warming temperatures, extreme weather events, droughts, and sea level rise all lead to habitat loss and species decline. If we don't take decisive action now to reduce carbon pollution, one-third of all wildlife species will face increased risk of extinction in the lifetime of a child born today.<sup>viii</sup>

Climate change poses a direct threat to outdoor recreation, hunting, and fishing as droughts, wildfires, and higher temperatures impact fisheries and outdoor activities across the country. Many of America's

iconic species are threatened by climate change, including northern bobwhite, pintail, sage grouse, lesser scaup, and many more. Big game like moose, mule deer, elk, and pronghorn are particularly impacted by heat, drought, and an increase in parasites and disease due to climate change.<sup>ix</sup> Even small temperature increases in lakes, rivers, and streams can have dramatic impacts on fish such as salmon and trout.<sup>x</sup>

The Clean Power Plan will provide a host of benefits to people and wildlife beyond helping to avert climate disruption. For instance, the plan will reduce emissions of acid rain causing sulfur dioxide (SO<sub>2</sub>) by 90% and nitrogen oxides (NO<sub>x</sub>) by 72% by 2030, it will avoid up to 3,600

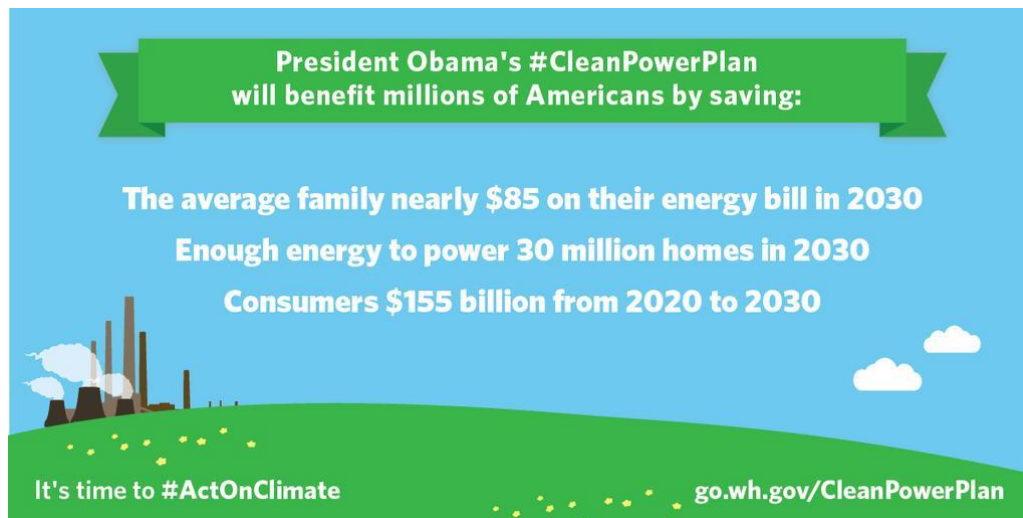


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premature deaths, and 90,000 asthma attacks in children.<sup>xi</sup> It will also reduce the amount of mercury emitted from coal plants.

Overall, the plan will have public health and climate benefits worth an estimated \$34 billion to \$54 billion, far exceeding the costs.<sup>xii</sup> Additionally, the plan will save consumers \$85 on their electric bills in 2030, with electric bill savings totaling \$155 billion over the decade leading up to 2030.<sup>xiii</sup>



## How Is the Final Plan Different from the Proposed Plan?

The plan contains some notable improvements over the proposal issued in June of 2014:

- *More pollution reduction.* The final plan achieves more overall carbon pollution reduction than the proposed plan, 32% by 2030 instead of 30%.
- *More renewable energy.* The final plan places stronger emphasis on developing renewables, setting in place measures to speed the transition to renewables sources of energy by providing states with incentives and trading mechanisms that will result in 28% of our electricity coming from sources like solar and wind by 2030. The earlier proposal would have only resulted in 22% renewable generation by 2030 and would have resulted in higher reliance on natural gas.
- *More flexibility.* States have more time and flexibility to comply, with compliance starting in 2022 and a “glide path” for compliance that makes it easier for states to ramp up renewable generation. States may either choose to comply with a “rate-based” goal measured in pounds of carbon dioxide per megawatt hour from plants, or a “mass-based” goal measured in short tons of carbon emitted.
- *Fairer standards.* New standards are fairer than the old standards and based on regional grid patterns, ensuring that like power plants are treated alike.<sup>xiv</sup>



## How Does the Clean Power Plan Work?

To set the targets for carbon reductions for states, EPA first looked at three regions - the Eastern Interconnection, Western Interconnection and Electric Reliability Council of Texas. Then, for each region, EPA relied on three building blocks (described below) to determine the “best system for emissions reductions.”

EPA applied the three building blocks to all of the coal and all of the natural gas plants in each region to come up with performance rates. The performance rates were then applied to all affected units in each state to come up with the goals for each state. Each state’s goal is different based upon the mix of effected sources in the state.<sup>xv</sup>

Thus, the goals for each state vary depending on the mix of generating fuels in the state while power plants are treated equally, creating a fair playing field.

## Building Blocks to Cleaner Energy

The three building blocks EPA used to determine performance rates are:

(1) *Improving the performance of existing plants.* EPA assumed the following performance, or heat-rate, improvements for existing coal plants: 2.1% for the Western Interconnection; 4.3% for the Eastern Interconnection; and 2.3% for the Electric Reliability Council of Texas.

(2) *Shifting to increased reliance from dirtier coal plants to cleaner natural gas plants.* This block assumes a phased-in increased use of existing natural gas combined cycle plants to 75% of net summer generating capacity.

(3) *Promoting increased use of non-emitting renewable energy sources.* This block looks to historical renewable energy deployment from 2010-2014 to determine achievable reductions in the future, thus looking at technology to guide goals, not political will as the proposal did by looking to existing state policies. The result has been more ambitious goals around renewables that have closer alignment to what can be achieved.<sup>xvi</sup>



Even small increases in water temperature from climate change impact fish like salmon (BLM)

While the final rule, unlike the proposed rule, does not include a building block based for energy efficiency gains, it does encourage states to use energy efficiency as a compliance mechanism.

## Flexibility for State Compliance

The Clean Power Plan gives states a huge amount of flexibility to achieve compliance. First states may choose between two types of plans set up under rate based or mass based targets:

- An “emissions standards plan” where the state places all compliance requirements directly on coal and gas plants. Under this plan all requirements are federally enforceable.
- A “state measures plan” where the state applies a mixture of measures that may apply to effected plants or other entities. Only measures applicable to power plants would be federally enforceable, though states must include a federally enforceable backstop in case target aren’t met.<sup>xvii</sup>

The plan offers other flexible means that states can use to meet their goals:

- States may trade credits with other states to achieve reductions, meaning that extra savings in one state can be traded to another state to count towards reductions in the receiving state. This can be done without a formal interstate agreement like the Regional Greenhouse Initiative, so long as the states have similar compliance plans for accounting purposes, making trades easier for states to achieve.
- States now have more time to comply (2022 instead of 2020) and stepped periods for compliance between 2022 and 2030 that states can use to gradually build in reductions.
- States can use energy efficiency, transmission upgrades that are more efficient, and other demand side solutions to achieve compliance by reducing energy use and, therefore, generating output.
- There is a reliability safety valve states can use in emergency cases where the plan might impact reliability (though this safety valve is unlikely to have to be used).
- The plan contains a Clean Energy Incentive Plan that awards states with credits for investing in renewables and energy efficiency for low-income costumers before the compliance period begins (2020-21).<sup>xviii</sup>



Moose rely on cold winters and a strong Clean Power Plan ([Matthew Paulson](#))

States must submit a final plan for implementation by September 6, 2016, or an initial submittal with an extension request (which can be granted for up to two years), to be approved by EPA. A state’s failure to submit an acceptable plan results in EPA putting in place a federal plan for the state.<sup>xix</sup>

With the plan, in a mere decade and a half, renewable energy generation will surpass coal generation, firmly putting us on the path to a renewable, clean energy future. And that is something lovers of wildlife can celebrate!

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<sup>i</sup> IPCC. 2013. *Summary for policymakers. In: Climate Change 2013: The Physical Science Basis*. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press, Cambridge, UK and New York, NY.

For more information on how climate change is impacting wildlife, please see the following National Wildlife Federation reports:

- [Wildlife in Hot Water: America's Waterways and Climate Change](http://www.nwf.org/wildlifeinhotwater), available at, <http://www.nwf.org/wildlifeinhotwater>;
- [Wildlife in a Warming World: Confronting the Climate Crisis](http://www.nwf.org/News-and-Magazines/Media-Center/Reports/Archive/2013/01-30-13-Wildlife-In-A-Warming-World.aspx), available at, <http://www.nwf.org/News-and-Magazines/Media-Center/Reports/Archive/2013/01-30-13-Wildlife-In-A-Warming-World.aspx>; [Shifting Skies](http://www.nwf.org/News-and-Magazines/Media-Center/Reports/Archive/2013/06-18-13-Migratory-Birds-in-a-Warming-World.aspx);
- [Migratory Birds in a Warming World](http://www.nwf.org/News-and-Magazines/Media-Center/Reports/Archive/2013/06-18-13-Migratory-Birds-in-a-Warming-World.aspx), available at, <http://www.nwf.org/News-and-Magazines/Media-Center/Reports/Archive/2013/06-18-13-Migratory-Birds-in-a-Warming-World.aspx>;
- [Swimming Upstream: Freshwater Fish in a Warming World](http://www.nwf.org/News-and-Magazines/Media-Center/Reports/Archive/2013/09-04-13-Freshwater-Fish-Climate-Change-Report.aspx), available at, <http://www.nwf.org/News-and-Magazines/Media-Center/Reports/Archive/2013/09-04-13-Freshwater-Fish-Climate-Change-Report.aspx>;
- [Nowhere to Run: Big Game Wildlife in a Warming World](http://www.nwf.org/sportsmen/climate-change/big-game-in-a-warming-world.aspx), available at, <http://www.nwf.org/sportsmen/climate-change/big-game-in-a-warming-world.aspx>;
- [Wildlife Legacy: Climate Change and the Next Generation of Wildlife](http://www.nwf.org/News-and-Magazines/Media-Center/Reports/Archive/2014/05-06-2014-Wildlife-Legacy-Climate-Change-and-the-next-Generation-of-Wildlife.aspx), available at, <http://www.nwf.org/News-and-Magazines/Media-Center/Reports/Archive/2014/05-06-2014-Wildlife-Legacy-Climate-Change-and-the-next-Generation-of-Wildlife.aspx>;
- [Ticked Off: America's Outdoor Experience and Climate Change](http://www.nwf.org/News-and-Magazines/Media-Center/News-by-Topic/Global-Warming/2014/08-19-14-New-Report-Summer-Pests-like-Ticks-Mosquitos-and-Toxic-Algae-Worsened-by-Climate-Change.aspx), available at, <http://www.nwf.org/News-and-Magazines/Media-Center/News-by-Topic/Global-Warming/2014/08-19-14-New-Report-Summer-Pests-like-Ticks-Mosquitos-and-Toxic-Algae-Worsened-by-Climate-Change.aspx>.

<sup>ii</sup> See <http://www2.epa.gov/cleanpowerplan/clean-power-plan-existing-power-plants>.

<sup>iii</sup> <http://www.epa.gov/airquality/cpp/fs-cpp-overview.pdf>.

<sup>iv</sup> <http://www2.epa.gov/sites/production/files/2014-06/documents/20140602fs-important-numbers-clean-power-plan.pdf>.

<sup>v</sup> [http://switchboard.nrdc.org/blogs/ddoniger/understanding\\_the\\_epas\\_clean\\_p.html/](http://switchboard.nrdc.org/blogs/ddoniger/understanding_the_epas_clean_p.html/)

<sup>vi</sup> <http://www.supremecourt.gov/opinions/06pdf/05-1120.pdf>.

<sup>vii</sup> <http://www.supremecourt.gov/opinions/10pdf/10-174.pdf>.

<sup>viii</sup> IPCC. 2013. [http://www.ipcc.ch/pdf/assessment-report/ar4/wg2/ar4\\_wg2\\_full\\_report.pdf](http://www.ipcc.ch/pdf/assessment-report/ar4/wg2/ar4_wg2_full_report.pdf)

<sup>ix</sup> NWF. 2013. *Nowhere to Run: Big Game Wildlife in a Warming World*. [http://www.nwf.org/~media/PDFs/Global-Warming/Reports/NowheretoRun-BigGameWildlife-LowResFinal\\_110613.ashx](http://www.nwf.org/~media/PDFs/Global-Warming/Reports/NowheretoRun-BigGameWildlife-LowResFinal_110613.ashx)

<sup>x</sup> Eby, Lisa, et. Al. 2014. Evidence of Climate Induced Range Contractions in Bull Trout *Salvelinus confluentus* in a Rocky Mountain Watershed. PLOS one.

<sup>xi</sup> <http://www2.epa.gov/sites/production/files/2014-06/documents/20140602fs-important-numbers-clean-power-plan.pdf>.

<sup>xii</sup> Id. Costs are estimated to be \$8.4 billion.

<sup>xiii</sup> Id.; [http://switchboard.nrdc.org/blogs/ddoniger/understanding\\_the\\_epas\\_clean\\_p.html/](http://switchboard.nrdc.org/blogs/ddoniger/understanding_the_epas_clean_p.html/).

<sup>xiv</sup> See <http://www.epa.gov/airquality/cpp/fs-cpp-key-changes.pdf>.

<sup>xv</sup> <http://www.epa.gov/airquality/cpp/fs-cpp-state-goals.pdf>.

<sup>xvi</sup> <http://www.epa.gov/airquality/cpptoolbox/technical-summary-for-states.pdf>

<sup>xvii</sup> <http://www.epa.gov/airquality/cpptoolbox/technical-summary-for-states.pdf>

<sup>xviii</sup> <http://www.epa.gov/airquality/cpptoolbox/technical-summary-for-states.pdf>

<sup>xix</sup> <http://www.epa.gov/airquality/cpp/fs-cpp-proposed-federal-plan.pdf>