

A CLEANER, MORE EFFICIENT POWER SECTOR IN KENTUCKY

We have a moral obligation to leave our children a planet that's not polluted or damaged. By taking action now to combat climate change, including developing homegrown clean energy and cutting energy waste, we can help protect our kids' health, cut carbon pollution, and begin to slow the effects of climate change so we leave a cleaner, safer environment for future generations.

We are already feeling the dangerous and costly effects of a changing climate across the nation. In the past three decades, the percentage of Americans with asthma has more than doubled, and climate change is putting those Americans at greater risk of landing in the hospital. And extreme weather events – from more severe droughts and wildfires in the west to more powerful hurricanes and record heat waves – are affecting communities across the country. Now is the time to act. We have already made progress by moving to cleaner sources of energy and improving the energy efficiency of our cars, trucks, and buildings.

The Clean Power Plan, a key part of the President's Climate Action Plan, cuts harmful carbon pollution from the power sector that's fueling climate change. By setting the first-ever national standards to limit carbon pollution from power plants, the largest single source of U.S. carbon pollution, it will improve the health of Americans across the country, create clean energy jobs, and help households and businesses save on their energy bills. The final plan takes into account the more than 4 million comments received from states and stakeholders across the country, creating strong but achievable standards for power plants that provide flexibility and choices for states and utilities on how to achieve their clean energy future.

The Clean Power Plan Will Improve the Health of Kentucky Residents

We know climate change will put vulnerable populations at greater risk – including the elderly, our kids, and people already suffering from burdensome allergies, asthma, and other illnesses. According to the Centers for Disease Control and Prevention, 9.5 percent of Kentucky's adult population suffers from asthma. The sooner we act, by taking responsible steps to cut carbon pollution from existing power plants, the more we can do to prevent impacts that affect all Americans – especially the most vulnerable.

In 2013, 85 million metric tons of carbon pollution were emitted from power plants in Kentucky — equal to the yearly pollution from nearly 18 million cars. In addition to reducing a portion of this carbon pollution, EPA's guidelines will also cut other forms of air pollution like soot and smog. Overall, these reductions will provide significant health benefits.

Since the Clean Air Act was implemented more than 40 years ago, the EPA has continued to protect the health of communities, in particular those vulnerable to the impacts of harmful pollution, while growing the economy. In fact, since 1970, air pollution has decreased by nearly 70 percent while the economy has tripled in size. The Clean Power Plan builds on this progress, while providing states the flexibility to have clean, reliable, and affordable electricity.

Reducing Carbon Pollution Lowers Risks and Costs for Kentucky

Kentucky is part of the U.S. National Climate Assessment's Southeast Region. The findings in the National Climate Assessment underscore the need for urgent action to combat the threats from climate change, protect American citizens and communities today, and build a sustainable future for our kids and grandkids. According to the third U.S. National Climate Assessment Highlights report, regional and state-specific impacts include:

- *Temperature:* Temperatures across the Southeastern region are expected to increase in the future, with major consequences, including significant increases in the number of hot days (95°F or above) and decreases in freezing events. All told, Kentucky is expected to experience as many as 30 more days above 95°F by the end of the century, for a total of 60 hot days per year. Higher temperatures contribute to the formation of harmful air pollutants and allergens—and associated impacts on public health.
- *Water Availability:* Decreased water availability, exacerbated by population growth and land-use change, will continue to increase competition for water and affect the region's economy and unique ecosystems. While change in projected precipitation for this region has high degree of uncertainty, there is still a reasonable expectation that there will be reduced water availability due to the increased evaporative losses resulting from rising temperatures alone.
- *Agriculture:* Summer heat stress is projected to reduce crop productivity, especially when coupled with increased drought. A 2.2°F increase in temperature would likely reduce overall productivity for corn, soybeans, rice, cotton, and peanuts across the South. Heat stress would similarly affect dairy and livestock production; optimal temperatures for milk production are between 40°F and 75°F, and additional heat stress could shift dairy production northward. Additionally, a 10 percent decline in livestock yield is projected across the Southeast with a 9°F increase in temperatures (applied as an incremental uniform increase in temperature between 1990 and 2060), caused mostly as a result of warmer summers.
- *Forestry:* Climate change increases forest disturbances caused by insects and pathogens, due to factors such as increased tree stress, shifting phenology, and altered insect and pathogen lifecycles. The overall extent and virulence of some insects and pathogens are on the rise (for example, Hemlock Woolly Adelgid in the Southern Appalachians). Due to southern forests' vast size and the high cost of management options, adaptation strategies are limited, except through post-epidemic management responses.

Kentucky is Already Reducing Carbon Pollution and has Many Tools to Meet its Clean Power Plan Goals

Kentucky has already reduced its power sector carbon pollution by 9 percent since 2008. Mayors in seven cities in Kentucky have joined the Mayors Climate Protection Agreement, committing to take action in their communities to reduce greenhouse gas emissions. In 2014, there were approximately 1,200 people employed in the wind and solar industries in Kentucky.

Kentucky, like all states, will have flexibility to meet EPA's goal by using the energy sources that work best for it and by cutting energy waste. To date, all 50 states have demand-side energy efficiency programs, 37 have implemented renewable portfolio standards or goals, and 10 have adopted market-based greenhouse gas emissions programs. EPA's rule builds on progress already underway in each state and provides guidelines for states to develop plans to meet their carbon pollution reduction goals. It lets states work alone to develop plans or work together with neighboring states to develop multi-state plans, creating thousands of good jobs for Americans who are making our electricity system cleaner and our homes and businesses more energy efficient.

Cutting Carbon Pollution and Saving on Energy Bills in Kentucky

Through the President's leadership, and the initiative of the state of Kentucky, local communities, and the private sector, a number of common sense measures to combat carbon pollution in Kentucky are already in

place. EPA's flexible guidelines for power plants will continue driving cost-effective measures to reduce carbon pollution in Kentucky, building off of recent progress:

- ***Increasing the Deployment of Clean Energy:*** Since President Obama took office, the United States has more than doubled its use of renewable energy from wind, solar, and geothermal sources, including tripling wind energy generation and increasing solar generation by more than twenty times. In Kentucky, renewable energy generation from these sources has increased by 27 percent since 2009. The Administration has supported tens of thousands of renewable energy projects throughout the country, including 27 in Kentucky, generating enough energy to power more than 600 homes. Furthermore, the U.S. produces more natural gas than ever before – and nearly everyone's energy bill is lower because of it.
- ***Improving Energy Efficiency:*** Using less energy to power our homes and businesses is critical to building a clean and secure energy future. President Obama has made essential investments in research and development to advance energy efficiency, and set new standards to make the things we use every day more efficient. Since October 2009, the Department of Energy and the Department of Housing and Urban Development have jointly completed energy upgrades for more than 1.5 million homes across the country, saving many families more than \$400 on their heating and cooling bills in the first year alone. Already, local communities are taking initiative. As part of the President's Better Buildings Challenge, the Kentucky Community and Technical College System, which comprises 16 colleges operating on 68 campuses, committed to reducing energy intensity 20 percent by 2020 in 7 million square feet of buildings.