

MISSOURI CAN CREATE 3,900 EFFICIENCY-RELATED JOBS, CUT ELECTRIC BILLS, AND CURB CARBON POLLUTION



“Earth’s climate is on a path to warm beyond the range of what has been experienced over the past millions of years. By making informed choices now, we can reduce risks for future generations and ourselves, and help communities adapt to climate change. People have responded successfully to other major environmental challenges such as acid rain and the ozone hole with benefits greater than costs, and scientists working with economists believe there are ways to manage the risks of climate change while balancing current and future economic prosperity.”

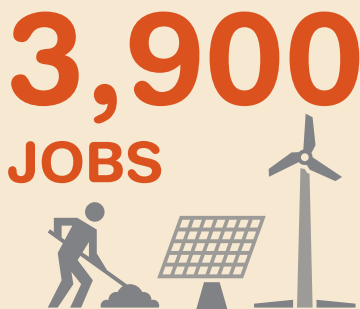
—“WHAT WE KNOW,” AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE, 2014

That sobering prospect and challenge from leading scientists makes it clear that **Missourians and all Americans** have an obligation to address climate change now, chiefly by reducing the carbon pollution fueling changes we’re already seeing. In doing so, we can reap substantial benefits to our economy while protecting future generations. Under the Clean Air Act, the U.S. Environmental Protection Agency is moving now to curb power plant carbon pollution, which makes up 40 percent of our nation’s total carbon footprint.

MISSOURI CAN ADDRESS CLIMATE CHANGE, WITH GREAT BENEFIT TO FUTURE GENERATIONS AND OUR ECONOMY



SETTING THE FIRST-EVER NATIONAL CARBON LIMITS...will cut Missouri’s dangerous carbon pollution by 20.2 million tons.¹



USING SMART STRATEGIES... can put more than 3,900 people to work in efficiency-related jobs in Missouri.



AND THAT WILL SAVE MISSOURI HOUSEHOLDS...\$181 million on their electric bills, or \$67 per average household.

All figures for 2020

WE MUST ACT NOW TO MEET THE ENVIRONMENTAL CHALLENGE OF OUR TIME



For more information, please contact:

Kelly Henderson
khenderson@nrdc.org
(202) 289-2401
 switchboard.nrdc.org/
blogs/khenderson

www.nrdc.org/policy
www.facebook.com/nrdc.org
www.twitter.com/nrdc

THE EPA'S PLAN TAKES AIM AT THE HEART OF THE PROBLEM

- Electric power plants are the largest source of the dangerous carbon pollution that is driving climate change and extreme weather.
- In 2011, the nation's 100 largest electric power companies, which account for 86 percent of electricity production and 88 percent of the industry's carbon pollution, released 2.1 billion tons of carbon pollution, according to reporting by the industry.²
- In Missouri, power plants released 87 million tons of carbon pollution in 2011, equal to the annual emissions of 18 million cars. That ranks 8th-highest in the nation, according to air emissions tracking from the 100 largest electricity providers.³
- Today we limit the amount of arsenic, mercury, and soot these plants emit. But there are no limits on carbon pollution. That is wrong, and it must change.

In response, the president has directed the U.S. Environmental Protection Agency to end the limitless dumping of carbon pollution from these power plants. The EPA has both the authority and the responsibility to reduce carbon pollution under the Clean Air Act, and it should move forward to help protect future generations. The EPA has proposed standards for future power plants and is scheduled to issue the first federal standards for existing power plants in June 2014.

NRDC'S CARBON POLLUTION SOLUTION: EMPOWER STATES TO CURB CLIMATE CHANGE

In December 2012, the Natural Resources Defense Council unveiled a proposal showing one way for the EPA to significantly cut carbon pollution from the nation's power plants—at low cost and with big benefits.⁴ This approach:

- **Allows states to tailor policies** to meet the standards, choosing among such actions as cleaning up existing power plants, shifting power generation to plants with lower emissions or none at all, and improving the efficiency of electricity use.
- **Sets carbon intensity-based emissions standards** for all large fossil-fueled power plants. Each state would have a different target; states relying more on coal would have a higher carbon target than those depending less on coal.
- **Charts a path to affordable and effective emissions reductions** by tapping into the ingenuity of the states and leveraging their existing efforts to reduce pollution and provide more clean energy options. This state-based approach has been used for decades to cut other pollutants.
- **Can be implemented now** using the authority the EPA has under the Clean Air Act.

BENEFITS TO MISSOURI AND THE UNITED STATES FROM ACTING ON POWER PLANT CARBON POLLUTION

NRDC selected a respected firm, ICF International, Inc., often used by industry and government to model impacts of regulations, to analyze the impact of its power plant plan on jobs and electricity bills. In a 2014 analysis conducted by ICF for NRDC and based on NRDC's policy designs and assumptions, it was found that the EPA could design carbon pollution standards to help the nation reduce carbon pollution 29 percent by 2020 and 38 percent by 2025, compared with 2012 levels.⁵

These carbon reductions would generate between \$28 billion and \$63 billion in benefits through avoided climate change impacts and avoided pollution-related illnesses and deaths.

NEW JOBS AND LOWER BILLS

In addition, this approach could help the country in 2020:

- Create 274,000 new efficiency-related jobs.
- Save U.S. household and business customers \$37.4 billion per year on their electricity bills, including:
 - Save U.S. household customers \$13 billion, or an average of \$103 per household.
 - Save U.S. business customers \$24.3 billion.
- Reduce U.S. carbon pollution by 531 million tons.⁶
- Stimulate significant growth in the energy efficiency industry.

In Missouri, the impacts would be substantial. Using the Clean Air Act in this way to reduce carbon pollution, the state could in 2020:

- **Create 3,900 jobs**—largely through investments in energy efficiency.
- **Save \$5.60 per month** on the average household customer's electricity bill.
- **Cut 20.2 million tons of carbon pollution**, equal to the annual emissions of 4.2 million cars.⁷
- **Save Missouri households \$15 million a month, or \$180 million annually**, on their electricity bills, NRDC estimates.
- **Save Missouri business customers \$183 million on their electricity bills.**
- **Stimulate significant growth** in the state's energy efficiency industry.

Because the bulk of investments in energy efficiency focus on making our buildings and homes more efficient, such investments create thousands of jobs that require a broad range of homegrown expertise, in industries that have been especially hard hit by the recent recession. There will be greater demand for electricians, heating/air-conditioning installers, carpenters, construction equipment operators, roofers, insulation workers, industrial truck drivers, construction managers, and building inspectors.

MISSOURI ALREADY LEADS ON CLEAN ENERGY

Already, Missouri's clean energy policies and growing energy efficiency and renewable energy industries have provided big benefits to the state:

- Missouri had 68,534 green jobs as of 2011.⁸
- By the end of 2014, the Missouri solar industry will have created more than 3,700 jobs and added \$415 million to the state's economy.⁹
- In early 2014, Clean Line Energy Partners announced plans for a high-voltage line to transfer 3,500 megawatts of wind power from Kansas to states to the east, crossing Missouri and creating approximately 2,800 jobs.¹⁰
- Missouri residents and businesses are on track to save hundreds of millions of dollars on their energy bills through utility-sponsored energy efficiency programs already in place, with savings set to scale up significantly going forward.

Missouri's large tracts of windy land and fertile soil, located relatively close to dense, energy-consuming urban centers, put the state in a prime position to become a national leader in renewable energy. Studies show that a local renewable energy industry in Missouri would create tens of thousands of jobs and provide substantial new sources of income for farmers.

By developing wind power, making biomass energy from agricultural waste, and growing dedicated energy crops to make advanced biofuels, Missouri can keep its energy dollars at home and even start exporting energy to other states.

The Farmers City Wind Power Project in Atchison County is an example of how renewable energy spurs the local economy.¹¹ Its 73 wind turbines generate 146 megawatts of clean, renewable energy, and when it came on line in 2009, it nearly doubled the wind power capacity of Missouri. Benefits of this project include:

- \$365,000 annually in lease payments to landowners, many of them farmers who are still able to grow soybeans and corn;
- up to \$1 million in annual local taxes paid; and
- 150 jobs created during the construction period.

An even larger wind energy project (the largest in the state to date), sponsored by Kansas City Power and Light, will bring 200 megawatts of wind power on line by the end of 2015 in Holt County, Missouri. This project will bring \$400 million of investment to the state and create 300 jobs during the construction period.¹²

Missouri has already established a Renewable Energy Standard that requires 15 percent of the state's energy to come from renewable sources by 2021.¹³ A 2008 University of Missouri–St. Louis study predicted that the Renewable Energy Standard would create 9,591 jobs and generate \$2.86 billion in economic activity in the state over the next 20 years.¹⁴

Missouri is increasingly turning to energy efficiency as an economic policy to save consumers money, create jobs, and foster energy sustainability through investment in a clean, local resource that reduces emissions and boosts in-state energy expertise. Missouri state agencies, local governments, utilities, and nongovernmental organizations are already investing in energy efficiency and have made notable progress in recent years.¹⁵

Since the passage of Missouri's Energy Efficiency Investment Act in 2009, Missouri's largest utilities have developed plans to help their customers save hundreds of millions of dollars on energy bills while creating local jobs, improving the comfort and quality of life in Missourians' homes.¹⁶

THE IMPACT OF POLLUTION AND CLIMATE CHANGE IN MISSOURI AND THE UNITED STATES SHOWS WHY WE NEED TO ACT NOW

Rising temperatures are a health concern

Asthma sickened about 20 million adults and more than 7 million children in the United States in 2013.¹⁷ Climate change, driven by rising carbon pollution, leads to higher concentrations of ground-level ozone, or the pollutant smog, which aggravates asthma.

Extreme weather is becoming more common

In 2012, there were 3,527 monthly weather records broken for heat, rain, and snow in the United States, according to information from the National Climatic Data Center. That's even more than the 3,251 records smashed in 2011—and some of the newly broken records had stood for 30 years or more.¹⁸

And it is imposing growing and grievous costs

Nationally, in 2012 alone, crop losses, flood damage, wildfires, and other climate-related disasters cost our country more than \$140 billion. Taxpayers picked up the lion's share of the tab, to the tune of \$1,100 each.¹⁹

Missouri's share is significant

In 2012, an estimated \$1.8 billion in federal taxes paid by Missouri residents went to clean up after extreme weather, according to Natural Resources Defense Council calculations.

Extreme Weather and Pollution Are Affecting Missourians Now

Although we cannot say climate change is responsible for any individual event, climate change is already making itself felt:

- Over the past 10 years, Missourians have been affected by at least 15 weather disasters that each did more than \$1 billion in damage.²⁰
- In 2011, hazardous weather in Missouri killed 180 people, injured 1,897, and caused an estimated \$3.26 billion in damage to property and crops.²¹
- In 2012, Missourians endured intense heat that broke records at 107 locations in 41 counties.²²
- That same year, hot, dry weather fanned the flames of 70 large wildfires.²³
- And drenching rainstorms broke precipitation records in 17 counties.²⁴

- Climate change will worsen smog and cause plants to produce more pollen pollution, increasing respiratory health threats, particularly for people with allergies and asthma. Some 115 Missouri counties have ragweed pollution; residents of at least 8 are exposed to both unhealthy smog levels and ragweed. All 5 counties in the St. Louis region fail to meet ozone standards.²⁵
- Poor air quality is sending people to the hospital. In Missouri, there were more than 7,700 hospital admissions for asthma in 2011, with an average cost of more than \$14,300 for each stay.²⁶

THE LONGER WE DELAY TAKING SUBSTANTIAL STEPS TO CURB CARBON POLLUTION, THE WORSE THESE CHANGES WILL BECOME. TO PROTECT OUR CHILDREN AND FUTURE GENERATIONS FROM CATASTROPHIC CLIMATE CHANGE, WE MUST ACT NOW.

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