



# ECONOMIC OPPORTUNITIES OF CUTTING CARBON POLLUTION AND CLIMATE CHANGE IN MISSOURI



## THE IMPACT OF POLLUTION AND CLIMATE CHANGE ON MISSOURI

Recent incidents provide a reminder of the economic and public health impacts of extreme weather in Missouri. Although we cannot say that climate change is directly responsible for any individual event, climate change is already increasing our risks from these events.

- In 2011, Missouri power plants and major industrial facilities emitted nearly 95 million metric tons of carbon pollution—equal to the yearly emissions from more than 19.7 million cars.<sup>4</sup>
- Over the past 10 years, Missourians were affected by at least 15 disasters that each did more than \$1 billion in damage.<sup>5</sup>
- 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.<sup>6</sup>

- In 2012, Missourians endured intense heat that broke records at 107 locations in 41 counties.<sup>7</sup>
- That same year, hot, dry weather fanned the flames of 70 large wildfires.<sup>8</sup>
- And drenching rainstorms broke precipitation records in 17 counties.<sup>9</sup>
- 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.<sup>10</sup>
- 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.<sup>11</sup>



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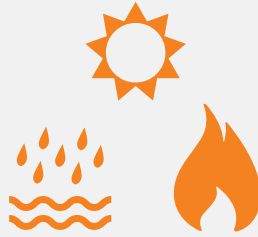
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## CLIMATE CHANGE: THE KEY ENVIRONMENTAL CHALLENGE OF OUR TIME



**RISING TEMPERATURES ARE A HEALTH CONCERN.** Asthma sickens about 111,000 Missouri children and 421,505 adults a year. Climate change, driven by rising pollution levels, leads to higher concentrations of ground-level ozone, a chief constituent of smog, which aggravates asthma.<sup>1</sup>



**IT IS DRIVING EXTREME WEATHER.** 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 (NCDC). 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.<sup>2</sup>

**\$1,100**  
PER TAXPAYER

**IT IS IMPOSING GRIEVOUS AND GROWING COSTS.** In 2012 alone, crop losses, flood damage, wildfires, and other climate-related disasters cost our country more than \$140 billion. The American public picked up the lion's share of the tab, to the tune of \$1,100 per taxpayer.<sup>3</sup>

## ...BUT WE CAN ADDRESS IT, WITH GREAT BENEFIT TO OUR FUTURE GENERATIONS AND ECONOMY

### MISSOURI LEADS ON CLEAN ENERGY, AND ECONOMIC OPPORTUNITY LIES AHEAD

Already, Missouri 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.<sup>12</sup>
- 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 hundreds of jobs.<sup>13</sup>
- Reductions in carbon pollution

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.<sup>14</sup> Its 73 wind turbines generate 146 MW of clean, renewable energy, nearly doubling the wind power capacity of Missouri when it came online after completion in 2009. 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
- 150 jobs created during the construction period

Missouri has already established a Renewable Energy Standard that requires 15 percent of the state's energy to come from renewable sources by 2021.<sup>15</sup> 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.<sup>16</sup>

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.<sup>17</sup>

*“We have to act with more urgency—because a changing climate is already harming western communities struggling with drought, and coastal cities dealing with floods. That’s why I directed my administration to work with states, utilities, and others to set new standards on the amount of carbon pollution our power plants are allowed to dump into the air. The shift to a cleaner energy economy won’t happen overnight, and it will require tough choices along the way. But the debate is settled. Climate change is a fact. And when our children’s children look us in the eye and ask if we did all we could to leave them a safer, more stable world, with new sources of energy, I want us to be able to say yes, we did.”*

—President Barack Obama, 2014 State of the Union Address

With those words, the president made it clear that **Missouri residents** and all Americans have an obligation to future generations to address the key environmental challenge of our time. The president has laid out a comprehensive National Climate Plan to curb pollution, expand clean energy, and make our communities more resilient. The plan also presents a tremendous economic opportunity for businesses, communities, states, and our country.

## **BENEFITS FOR MISSOURI FROM ACTING ON CARBON POLLUTION**

The carbon reductions are possible under a plan in which Iowa and other states and their power companies meet national carbon standards using flexible approaches to comply with state-specific limits on carbon pollution in a way that best fits their energy needs and resources. NRDC selected a respected firm, Synapse Energy Economics, to analyze the impact of its power plant plan on jobs, electricity rates, and GDP. Synapse found that **NRDC’s proposal could create 210,000 new jobs nationwide**, mainly in clean energy, while helping **Americans save an average of \$ .90** per month on their electricity bills and helping the economy.<sup>19</sup>

Because the bulk of investment in energy efficiency focuses on making our buildings and homes more efficient, such investment creates a lot 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.

## **THE PRESIDENT’S CLIMATE PLAN AIMS 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. Every year in the United States, these plants release about 2.4 billion tons of carbon pollution into the air, which is about 40 percent of our nation’s carbon footprint. Today, we limit the amount of arsenic, mercury, and soot these plants emit. But, astonishingly, there are no limits on carbon pollution. That is wrong and it must change. 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.

## **NRDC’S CARBON POLLUTION SOLUTION HELPS CURB CLIMATE CHANGE**

In December 2012, the Natural Resources Defense Council unveiled a proposal showing how the EPA can cut carbon pollution from the nation’s power plants 26 percent by 2020 and 34 percent by 2025.<sup>18</sup>

These carbon reductions would generate between \$25 billion and \$60 billion in benefits through avoided climate change impacts and avoided pollution-related illnesses and deaths. They would cost industry about \$4 billion, or just 1 percent of revenues. That means we could see up to \$15 in climate and health benefits for every \$1 invested. These reductions, at low cost with big gains, are achieved through a program that:

- **Sets carbon intensity-based emissions standards** for all large fossil-fueled power plants, taking into account differences in the emissions starting points among the states.
- **Allows states to choose what policies to implement** in order to meet the standards, including cleaning up existing power plants, shifting power generation to plants with lower emissions or none at all, and improving the efficiency of electricity use.
- **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.
- **Can be implemented** using the authority the EPA has now under the Clean Air Act.

## ENDNOTES

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