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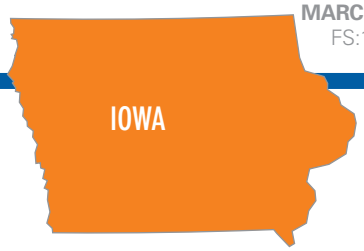

ECONOMIC OPPORTUNITIES OF CUTTING CARBON POLLUTION AND CLIMATE CHANGE IN IOWA

THE IMPACT OF POLLUTION AND CLIMATE CHANGE IN IOWA

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

- Iowa ranks among the most coal-dependent state in per capita spending, with $590 million per year spent on coal imported from outside the state, which costs each Iowan $193.[4]
- In 2011, Iowa's power plants and major industrial facilities emitted 44 million metric tons of carbon dioxide, ranking the state 21st nationally in terms of carbon pollution.[5]
- In 2012 in Iowa, excessive heat broke records in 35 counties, and heavy rainfall broke precipitation records in 28 counties.
- Climate change is already taking a toll on communities and the state's economy. From 2008 to 2012, tornadoes, floods and damage to crops caused economic losses exceeding $5.6 billion in Iowa, according to the Climate Science Program at Iowa State University.[6]
- Iowa has been declared a disaster area 21 times since 2000 due to severe storms, winter snowstorms, tornadoes, and flooding.[7]

NRDC

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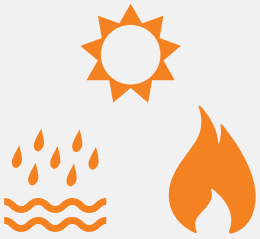
CLIMATE CHANGE: THE KEY ENVIRONMENTAL CHALLENGE OF OUR TIME

RISING TEMPERATURES ARE A HEALTH CONCERN. In Iowa, asthma sickened 41,694 children and 193,727 adults in 2011, according to the American Lung Association.[1] Climate change, driven by rising pollution levels, leads to higher concentrations of ground-level ozone, a chief component of smog, which aggravates asthma.



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.[2]

$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.[3]

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

IOWA LEADS ON CLEAN ENERGY, AND ECONOMIC OPPORTUNITY LIES AHEAD

Already, Iowa's clean energy policies and growing energy efficiency and renewable energy industries have provided big benefits to the state. And there are tremendous economic opportunities that lie ahead from cutting carbon pollution.

In 1983 Iowa approved one of the country's earliest renewable-generation laws, requiring its major utilities to own or contract a specific amount of renewable energy.

- In 1983 Iowa approved one of the country's earliest renewable-generation laws, requiring its major utilities to own or contract a specific amount of renewable energy.
- The goal has been significantly expanded in the years since. Today, one quarter of Iowa's energy comes from wind power, the highest proportion in the nation.[8]
- Iowa boasted 43,000 green energy jobs in 2011, according to the Bureau of Labor Statistics.[9]
- The pace of green job growth continues. Siemens Energy received a 1,050-megawatt wind turbine order in December 2013 from MidAmerican Energy Co., the largest single energy supplier in the state, which provides electric service to 734,000 customers and natural gas service to 714,000 customers in Iowa, Illinois, Nebraska, and South Dakota. The wind project will employ more than 800 people.[10]
- New jobs are emerging: Alcoa Development Works recently hired more than 300 workers in Davenport to help meet demand for its lightweight aluminum parts for fuel-efficient vehicles.[11]

Wind energy, in particular, is booming in Iowa.

- The wind power already installed in Iowa will prevent more than 8.7 million metric tons of carbon dioxide from being emitted annually, the equivalent of taking 1,550,000 cars off the road. In 2012, wind power provided 24.5 percent of Iowa's electricity. Enough electricity is produced by wind in the state to power more than 1.3 million average Iowa homes.[12]

Wind Projects in Iowa

- Installed wind capacity: 5,133 megawatts (MW). Iowa ranks third in the nation for total MW installed.
- Wind projects online: 100
- Wind capacity added in 2012: 814.2 MW
- Wind capacity added in 2011: 646.7 MW

"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 **Iowa 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.

Wind Generation Potential

- According to data from the National Renewable Energy Laboratory, Iowa's onshore wind potential at 80 meters hub height is 570,714 MW. This ranks Iowa seventh nationally in terms of wind resources.
- Iowa's potential wind power is capable of meeting more than 44 times the state's current electricity needs.
- Total direct and indirect jobs support in 2012: 6,001 to 7,000. This ranks Iowa third nationally in the number of wind-related jobs.
- Capital investment: More than $9.8 billion.

Des Moines area trails, parks, and other environmental offerings accounted for more than 5,200 green jobs in 2010, according to the report "A Greener Greater Des Moines." Those are among the findings of the environmental section of Capital Crossroads, an effort to plan future development in central Iowa. "Central Iowa's natural resources have served as critical contributors to the region's economy and quality of life for over a hundred years," said Robert Riley, CEO of Feed Energy and the co-leader of the panel that developed the report. "We lead the nation in wind energy, agricultural, ethanol, and biodiesel production," Riley said. "We strive to draft good policies that enable growth and innovative development in a sustainable fashion."[13]

BENEFITS FOR IOWA 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 conform to 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.[15]

In Iowa, the impacts would be substantial. By using the Clean Air Act to slash carbon pollution, Iowa could:

- **Create 5,100 new jobs**, largely through investments in energy efficiency.
- **Save an average Iowa $1.06 per month** on his or her electricity bill.
- **Stimulate significant growth** in the state's energy efficiency industry.

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. Each 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. Under the Clean Air Act, the EPA has both the authority and the responsibility to reduce carbon pollution, and it should move forward to help protect future generations.[14]

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. 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 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.

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