# OHIO CAN CREATE 8,600 EFFICIENCY-RELATED JOBS, CUT ELECTRICITY 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 **Ohioans 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.

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

**32**
**MILLION TONS LESS POLLUTION**

**SETTING THE FIRST-EVER NATIONAL CARBON LIMITS…** will cut Ohio's dangerous carbon pollution by 32 million tons.[1]

**8,600**
**JOBS**

**USING SMART STRATEGIES…** can put 8,600 people to work in efficiency-related jobs in Ohio.

**$903**
**MILLION IN SAVINGS FOR HOUSEHOLD AND BUSINESS CUSTOMERS**

**AND THAT WILL SAVE OHIO HOUSEHOLDS…** $399 million on their electric bills, or $82 per average household.

All figures for 2020

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

NRDC

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## 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 Ohio, power plants released 120 million tons of carbon pollution in 2011, equal to the annual emissions of 25 million cars. That ranks 4th-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 FOR OHIO 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 standards, 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 Ohio, the impacts would be substantial. Using the Clean Air Act in this way to reduce carbon pollution, the state could in 2020:

- **Create 8,600 new jobs**—largely through investments in energy efficiency.
- **Save $6.80 per month** on on the average household customer's electricity bill.
- **Cut 32 million tons of carbon pollution per year**, equal to the annual emissions of 6.7 million cars.
- **Save Ohio households $33 million a month, or $399 million a year**, on their electricity bills.
- **Save business customers $504 million on their electricity bills.**
- **Stimulate 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.

## OHIO ALREADY LEADS ON CLEAN ENERGY

Ohio's clean energy policies and growing energy efficiency and renewable energy industries have provided big benefits to the state These include:

- $230 million in energy bill savings for homeowners and businesses.[7]
- Nearly 24,000 new jobs in research and development, manufacturing, construction, engineering, administration, and other fields.[8]
- $600 million in new investments in the state's economy.[9]
- Reductions in carbon pollution.[10]

Ohio's clean energy industries and workforce are growing fast, putting the state in a strong position to leverage industry innovation and cost-effectively bring carbon pollution down to the level called for in NRDC's proposal. Ohio's efficiency sector has more than 400 companies and organizations and employs 9,600 workers in every region of the state.[11]

New jobs are being announced every day. In fact, a total of more than 1,900 clean energy jobs have come on line since the beginning of 2012, at facilities such as GE's appliance factories in Bucyrus and Circleville and Nordex's wind farm in Sandusky.[12]

Also:

- The Wyandot Solar Facility in Upper Sandusky was completed in 2010 by developer Juwi Solar Inc. This photovoltaic project has the capacity to generate 10 megawatts of electricity, enough to power more than 1,000 Ohio homes.
- Another 10-megawatt plant, the Napoleon Solar Project, was completed in 2012 by BNB Renewable Energy Holdings. Like Wyandot, this photovoltaic project has enough electric capacity to power more than 1,000 homes.[13]

Environmental Entrepreneurs, a national community of business leaders who promote sound environmental policies that build economic prosperity, tracks clean energy job announcements. To see Ohio's profile in comparison with the other states, visit www.cleanenergyworksforus.org.

Ohio's strong energy efficiency and alternative energy portfolio standards, established in 2008, are helping to create jobs and drive economic growth in the state, while saving homeowners and businesses considerably on their energy bills and reducing pollution. These standards require Ohio utilities to provide 12.5 percent of electricity from renewable resources by 2025 and to help customers reduce energy use by 22 percent.

Additional investments in energy efficiency improvements and other clean energy technologies will help customers cut their energy bills even further, create thousands of additional jobs in the state, and reduce load on coal-fired power plants that harm Ohio communities' health and the environment. They will help Ohio to meet carbon reduction targets under NRDC's proposal—a possible model for expected EPA carbon standards—and ensure the state's ongoing prosperity.

### Case Study: Brewer-Garrett

Brewer-Garrett is one of hundreds of companies already driving energy efficiency job growth in Ohio by helping local schools, manufacturing facilities, and commercial buildings manage their energy use. The company specializes in energy services, HVAC services, integrated facilities services, design/build, and commissioning in emerging energy technologies.

"Money is tight in Ohio," says energy service sales consultant Dan Mitchell. "Where do you save money? How do you make improvements?"

In Brewer-Garrett's case, significant energy bill savings can be achieved through energy efficiency performance contracting. Brewer-Garrett guarantees that a client aiming to increase a building's energy efficiency will see large enough savings to make money from its initial investment, sometimes within as little as two years.

Brewer-Garrett, which employs 160 analysts, engineers, contractors, and other professionals, offers not only audits and consulting, but also the engineering expertise to see an energy efficiency project through in its entirety. It is "a turnkey solution," says Mitchell, that helps clients unlock energy savings to reduce local pollution and energy bills. The company's completed projects have cumulatively saved 96 million kilowatt-hours of electricity annually, equivalent to taking nearly 13,000 cars off the road.[14]

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

### Rising temperatures are a health concern

Asthma sickened about 269,369 children and 870,021 adults in Ohio in 2013.[15] 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 U.S., according to information from the National Climatic Data Center. That's even more than the 3,251 records smashed in 2011—and some of those records had stood for 30 years or more.[16]

### 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.[17]

### Ohio's share is significant

In 2012, an estimated $4.2 billion in federal taxes paid by Ohioans went to clean up after extreme weather, according to Natural Resources Defense Council calculations.

## Extreme Weather and Pollution Are Affecting Ohioans Now

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

- In 2012 in Ohio, 55 heat records were broken, 10 precipitation records were broken, and there was 1 large wildfire.[18]
- Climate change is expected to cause Cleveland to have 11 more days per summer that exceed EPA air quality standards, and Columbus is expected to see a 28 percent decrease in the number of clean air days per summer.[19]
- Four cities in Ohio are ranked among the 20 most polluted in the country.[20]
- Climate change will worsen smog and cause plants to produce more pollen pollution, increasing respiratory health threats, particularly for people with allergies and asthma. Seventy-two counties have ragweed pollution, 28 counties have unhealthy smog levels, and the residents of about 25 counties suffer from both.[21]
- The Federal Emergency Management Agency has issued disaster declarations in Ohio 19 times since 2000 due to severe storms and flooding.[22]
- Combined sewer overflows due to flooding are a health risk for nearly 90 Ohio communities.[23]

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.

**ENDNOTES**


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