

# NORTH CAROLINA CAN CREATE 6,702 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 **North Carolina residents 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.

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



SETTING THE FIRST-EVER NATIONAL CARBON LIMITS... will cut North Carolina’s dangerous carbon pollution by 4.1 million tons.<sup>1</sup>



USING SMART STRATEGIES... can put 6,702 people to work in efficiency-related jobs in North Carolina.



AND THAT WILL SAVE NORTH CAROLINA HOUSEHOLDS... a \$363 million, or \$86 per average household.

All figures for 2020

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



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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.<sup>2</sup>
- In North Carolina, power plants released 67 million tons of carbon pollution in 2011. That ranks 13th-highest in the nation, according to air emissions tracking from the 100 largest electricity providers.<sup>3</sup>
- 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.<sup>4</sup> 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 NORTH CAROLINA 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.<sup>5</sup>

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.<sup>6</sup>
- Stimulate significant growth in the energy efficiency industry.

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

- **Create 6,702 new jobs**—largely through investments in energy efficiency.
- **Save \$7.20 per month** on the average customer's electricity bill.
- **Cut 4.1 million tons of carbon pollution.**
- **Save North Carolina residents \$30 million a month, or \$363 million a year**, on their electricity bills in 2020.
- **Save North Carolina business customers \$350 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.

## NORTH CAROLINA ALREADY LEADS ON CLEAN ENERGY

Already, North Carolina's clean energy policies and growing energy efficiency and renewable energy industries have provided big benefits to the state. These include:

- The creation or retention of more than 4,000 jobs between 2007 and 2012.<sup>7</sup>
- The generation of \$1.4 billion in new investments in the state's economy.<sup>8</sup>
- Expected savings of \$173 million in energy bill savings for homeowners and businesses by 2026.<sup>9</sup>

These policies have helped to make North Carolina one of the fastest-growing states in the country in terms of clean energy jobs. More than 10,000 such jobs were announced in 2012 alone, ranking North Carolina second in the nation.<sup>10</sup> Job-creating projects are being announced in every part of the state, in renewable and energy efficiency industries alike. Since the beginning of 2013, Strata Solar has announced nearly 800 jobs in solar farm construction across the state.<sup>11</sup> In 2012, multinational power company ABB invested \$90 million in its Huntersville-based high-voltage transmission cable plant, which employs about 135 workers and supplies materials to a smart grid project.<sup>12</sup>

Environmental Entrepreneurs, a national community of business leaders who promote sound environmental policies that build economic prosperity, tracks clean energy job announcements. To see North Carolina's profile in comparison with the other states, visit [www.cleanenergyworksforum.org](http://www.cleanenergyworksforum.org).

More jobs are being announced all the time, and even more will come as the state ramps up its energy efficiency efforts. Right now, the state's level of investment in energy efficiency is below the national average.<sup>13</sup> However, North Carolina utilities have expanded energy efficiency programs in recent years, and the state's Renewable Energy and Energy Efficiency Portfolio Standard (REPS) is driving further efficiency.

Enacted in 2007 with overwhelming bipartisan support, and still popular with voters, the REPS requires the state's investor-owned utilities to get 12.5 percent of the electricity they distribute from clean sources—such as solar, wind, and energy efficiency—by 2021. Energy efficiency technologies can currently contribute up to 25 percent of the requirement, and after 2021 they are expected to contribute up to 40 percent.<sup>14</sup>

Benefits from North Carolina's REPS have been well documented. The standard has helped contribute \$1.7 billion in clean energy revenue to the state's economy. It has also significantly increased local and state government revenue, driven job and economic growth in the state, saved homeowners and businesses considerably on their energy bills, and reduced pollution.<sup>15</sup>

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 public health and the environment. They will help put North Carolina in a strong position to meet carbon reduction targets under NRDC's proposal—a possible model for expected EPA carbon standards—and, from the mountains to the coast, help keep North Carolina beautiful.

### Case Study: Johnson Controls Already Driving Efficiency Job Growth in North Carolina

In 1883, when Warren Johnson invented the thermostat, few could have predicted that it would serve as the foundation of a company that would grow to become Johnson Controls, Inc., a 170,000-employee company driving energy savings at a global scale. Through its Building Efficiency business, Johnson Controls reaches more than a million customers, from almost 700 offices in more than 150 countries. Since 2000, Johnson has achieved more than 19 million metric tons of carbon reduction through guaranteed energy savings projects, saving customers \$7.5 billion through more efficient equipment, heating, cooling, refrigeration, and other technologies.

In North Carolina, Johnson Controls has completed projects saving its customers more than \$42 million, helping add nearly 900 jobs to the state's economy. One savings-generating project that Johnson Controls is currently working on is a \$25 million lighting retrofit on 13 University of North Carolina campuses. Johnson Controls plans to use energy-efficient LED (light-emitting diode) lamps developed by Durham-based Cree Inc.<sup>16</sup>

A North Carolina bill passed in 2007 that requires state-owned buildings to slash their electricity use per square foot to 70 percent of their 2002–03 levels is helping to drive the project, which will result in annual savings of at least \$3.5 million.<sup>17</sup>

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

### Rising temperatures are a health concern

Asthma sickened about 195,625 children and 650,215 adults in North Carolina in 2013.<sup>18</sup> 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.<sup>19</sup>

## 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.<sup>20</sup>

## North Carolina's share is significant

In 2012, an estimated \$2.4 billion in federal taxes paid by North Carolinians went to clean up after extreme weather, according to Natural Resources Defense Council calculations.

## Extreme Weather and Pollution Are Affecting North Carolinians Now

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

- In 2012, North Carolinians endured intense temperatures that set 40 new heat records, drenching rainstorms that set 13 new precipitation records, and 19 large wildfires that burned up forests and fields.<sup>21</sup>
- In 2010, an estimated 1.7 million people lived in 19 North Carolina counties where average summertime temperatures set records.<sup>22</sup>

- Climate change is expected to expose residents of Asheville and Raleigh to twice as many dirty air days, and the increase in Wilmington will be even greater.<sup>23</sup>
- Climate change will worsen smog and cause plants to produce more pollen, increasing respiratory health threats, particularly for people with allergies and asthma. Residents in 93 counties in the state encounter excessive ragweed pollution, residents in 24 counties breathe unhealthy smog levels, and those in at least 23 counties suffer from both. Rising carbon pollution is linked to rising levels of smog.<sup>24</sup>
- North Carolina has been declared a disaster area 14 times since 2000 due to severe storms and flooding.<sup>25</sup>
- Drought has increased in North Carolina by 12 to 14 percent since 1970.<sup>26</sup>

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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