



# POWER SECTOR OPPORTUNITIES FOR REDUCING CARBON DIOXIDE EMISSIONS: NORTH CAROLINA

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MICHAEL OBEITER, KRISTIN MEEK, AND REBECCA GASPER

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## CONTACT

### **Michael Obeiter**

Senior Associate  
Climate and Energy Program  
mobeiter@wri.org

### **Kristin Meek**

Associate  
Climate and Energy Program  
kmeek@wri.org

### **Rebecca Gasper**

Research Associate  
Climate and Energy Program  
rgasper@wri.org

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## WHAT WILL CO<sub>2</sub> STANDARDS MEAN FOR NORTH CAROLINA?

President Obama announced a national climate plan in June 2013 and directed the U.S. Environmental Protection Agency (EPA) to set carbon pollution standards for the power sector. Once EPA establishes the standards, states will implement their own plans for achieving those reductions. In this fact sheet, WRI examines existing tools North Carolina can use to reduce power plant emissions.

## HOW NORTH CAROLINA CAN REDUCE POWER SECTOR EMISSIONS

According to new WRI analysis, in the near-term, North Carolina can meet and possibly exceed forthcoming emissions standards for existing power plants.<sup>1</sup> The state has a renewable energy and energy efficiency portfolio standard (REPS) in place, which has already achieved significant reductions in CO<sub>2</sub> emissions from the power sector.

**WRI analysis finds that North Carolina can reduce its CO<sub>2</sub> emissions 29 percent below 2011 levels by 2020 using existing state policies and infrastructure opportunities.** These reductions would meet or exceed relatively stringent EPA standards for existing power plants.

<sup>1</sup>EPA has not yet proposed a national emissions standard for existing power plants. To illustrate the possible stringency of the future standards, this analysis shows emissions reductions for two scenarios: (1) the Natural Resources Defense Council's proposed standards for existing power plants, which would require CO<sub>2</sub> emissions reductions in North Carolina of 16 percent below 2011 levels in 2020 (See <http://www.nrdc.org/air/pollution-standards/files/pollution-standards-report.pdf>); and (2) WRI's go-getter scenario for national power sector emissions applied to North Carolina (see <http://www.wri.org/publication/can-us-get-there-from-here>).

- CO<sub>2</sub> reduction opportunities using existing policies include:
  - **Reductions from the REPS:** North Carolina’s Renewable Energy and Energy Efficiency Portfolio Standard requires 12.5 percent of the electricity sold by each utility to come from renewable energy sources by 2021. Utilities may meet up to 25 percent of these requirements using energy efficiency measures through 2020, and up to 40 percent starting in 2021. *WRI analysis finds that by meeting the REPS through in-state renewable generation, North Carolina will reduce its CO<sub>2</sub> emissions by 6 percent below 2011 levels in 2020.*

- CO<sub>2</sub> reduction opportunities using available infrastructure include:
  - **Increasing combined heat and power (CHP) capacity at commercial and industrial facilities.** North Carolina has nearly 5 gigawatts of potential for new CHP (6.5 gigawatts including existing capacity) and is currently using about 24 percent of this potential. *WRI analysis finds that achieving 25 percent of the remaining technical potential can help North Carolina meet requirements under the REPS program.*

- **Fully utilizing existing combined cycle natural gas (NGCC) capacity.** The operating capacity of North Carolina’s NGCC fleet was 38 percent in 2011. Increasing the operating capacity of all existing units to 75 percent would reduce the state’s reliance on coal. *WRI analysis finds that by fully using existing combined cycle natural gas capacity, North Carolina can reduce its CO<sub>2</sub> emissions by 17 percent below 2011 levels in 2020.*
- **Increasing the efficiency of existing coal-fired power plants.** Existing coal plants’ efficiency can be improved through refurbishment and improved operation and maintenance practices, among other options. *WRI analysis finds that by increasing efficiency in power plants, North Carolina can reduce its CO<sub>2</sub> emissions by 1 percent below 2011 levels by 2020.*

## CONCLUSION

The President is using his executive authority as part of a national response to climate change. North Carolina is in a strong position to comply with upcoming EPA standards for existing power plants in the near term. Through federal and state-level actions, the United States can meet its commitment to reduce emissions 17 percent below 2005 levels by 2020.

*For more details on the measures North Carolina can take, see <http://wri.org/publication/power-sector-opportunities-for-reducing-carbon-dioxide-emissions-north-carolina>.*

Figure 1 | **North Carolina Carbon Dioxide Reduction Opportunities for Power Sector Compliance Under The Clean Air Act**

