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Fact Sheet

POWER SECTOR OPPORTUNITIES FOR REDUCING CARBON DIOXIDE EMISSIONS: MINNESOTA

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President Obama announced the first-ever National Climate Plan for the United States in June 2013. Under the plan, the U.S. Environmental Protection Agency (EPA) will set carbon pollution standards for power plants. In September 2013, EPA introduced emissions standards for new power plants and is expected to announce standards for existing plants in 2014. Once EPA establishes those standards, states will develop and implement their own plans to achieve the necessary emissions reductions. In this fact sheet, WRI examines how Minnesota can use its existing policies and infrastructure to reduce power plant emissions.

WRI analysis finds that Minnesota can reduce its CO_2 emissions 31 percent below 2011 levels by 2020. These reductions would meet or exceed moderately ambitious EPA power plant emissions standards.

FUTURE STANDARDS

Although EPA has not yet announced what its power plant emissions standards will look like, WRI based its analysis on two hypothetical standards. Under these scenarios, Minnesota would be required to reduce its CO_2 emissions in the range of 24 to 30 percent below 2011 levels by 2020.[1]

1 One scenario comes from a Natural Resources Defense Council proposal, which would require Minnesota to reduce its CO_2 emissions 30 percent below 2011 levels by 2020. The second is based on the "go-getter" scenario from WRI's *Can the U.S. Get There from Here?*, which would achieve a 38 percent reduction from the power sector nationally between 2005 and 2020. For Minnesota, this is equivalent to a 24 percent reduction from 2011 levels.

FIVE WAYS TO REDUCE MINNESOTA's POWER SECTOR EMISSIONS:

CO_2 reduction opportunities *using existing policies* include:

- **Increasing renewable energy.** Minnesota's renewable energy standard requires some of the electricity from the state's utilities to come from renewables: 30 percent by 2020 for the state's largest utility, Xcel Energy, and 25 percent by 2025 for most other utilities. In addition, utilities must supply 1.5 percent of their sales from solar energy by 2020. *Meeting these requirements by adding renewable generation in-state will reduce CO_2 emissions by 5 percent below 2011 levels in 2020.*
- **Meeting energy efficiency targets.** Minnesota's existing efficiency standard requires utilities to implement programs that help save energy. *Meeting this standard could lower Minnesota's CO_2 emissions by 14 percent in 2020 compared to what emissions would be in the absence of the standard.*

CO_2 reduction opportunities *using available infrastructure* include:

- **Increasing use of existing natural gas plants.** Minnesota's most efficient natural gas plants—combined cycle (NGCC) units—generated much less electricity than they were capable of producing in 2011. *Running existing NGCC plants at 75 percent can reduce CO_2 emissions by 30 percent below 2011 levels in 2020.*
- **Increasing existing coal plant efficiency.** Existing coal plants could save energy by upgrading their equipment and making other operational improvements. *Increasing coal plant efficiency by 2.5 percent could reduce CO_2 emissions by 1 percent below 2011 levels by 2020.*
- **Using more combined heat and power (CHP).** Minnesota can build more CHP systems at existing facilities—which use waste heat to generate electricity more efficiently than the average power plant—at sites like universities, hospitals, and manufacturing facilities. *Increasing the use of CHP could help the state meet its energy efficiency targets.*

CONCLUSION

Minnesota has already put measures in place that will achieve significant CO_2 emissions reductions and has the opportunity to achieve greater reductions by building off of its progress to date. By meeting the requirements of its existing clean energy standards and taking advantage of available infrastructure and underutilized resources, Minnesota is in a strong position in the near-term to comply with ambitious EPA standards for existing power plants, should EPA pursue them.

For details on the measures Minnesota can take, see http://wri.org/publication/power-sector-opportunities-for-reducing-carbon-dioxide-emissions-minnesota.

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