



POWER SECTOR OPPORTUNITIES FOR REDUCING CARBON DIOXIDE EMISSIONS: MICHIGAN

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WHAT WILL CO₂ STANDARDS MEAN FOR MICHIGAN?

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 those standards, states will implement their own plans for achieving reductions. In this fact sheet, WRI examines existing tools Michigan can use to reduce power plant emissions.

HOW MICHIGAN CAN REDUCE POWER SECTOR EMISSIONS

According to new WRI analysis, in the near- to mid-term, Michigan can meet and possibly exceed future emissions standards for existing power plants.¹ The state has renewable energy (RPS) and energy efficiency standards in place that are already set to achieve significant reductions in CO₂ emissions from the power sector.

WRI analysis finds that Michigan can reduce its CO₂ emissions 33 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.

¹ 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 CO₂ emissions reductions in Michigan of 25 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 Michigan (see <http://pdf.wri.org/can_us_get_there_from_here.pdf>).

- CO₂ reduction opportunities using existing policies include:²
 - **Meeting the RPS through in-state generation.** Michigan's renewable energy standard requires 10 percent of the electricity sold in the state to come from renewable energy sources by 2015. *WRI analysis finds that by meeting the RPS through in-state renewable generation, Michigan will reduce its CO₂ emissions by 8 percent below 2011 levels in 2020.*
- CO₂ reduction opportunities using available infrastructure include:
 - **Increasing combined heat and power (CHP) capacity at commercial and industrial facilities.** Michigan has nearly 5 gigawatts of potential for new CHP (8 gigawatts including existing capacity) and is currently using about 38 percent of this potential. *WRI analysis finds that by achieving 25 percent of its remaining technical potential for CHP, Michigan can reduce its CO₂ emissions by 4 percent below 2011 levels in 2020.*
 - **Fully utilizing existing combined cycle natural gas (NGCC) capacity.** The capacity factor of Michigan's NGCC fleet was 24 percent in 2011. Increasing the capacity factor 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, Michigan can reduce its CO₂ emissions by 7 percent below 2011 levels in 2020.*

- **Increasing the efficiency of existing coal-fired power plants.** The efficiency of existing coal plants can be improved through refurbishment and improved operation and maintenance practices, among other options. *WRI analysis finds that by increasing efficiency in power plants, Michigan can reduce its CO₂ emissions by 1 percent below 2011 levels by 2020.*

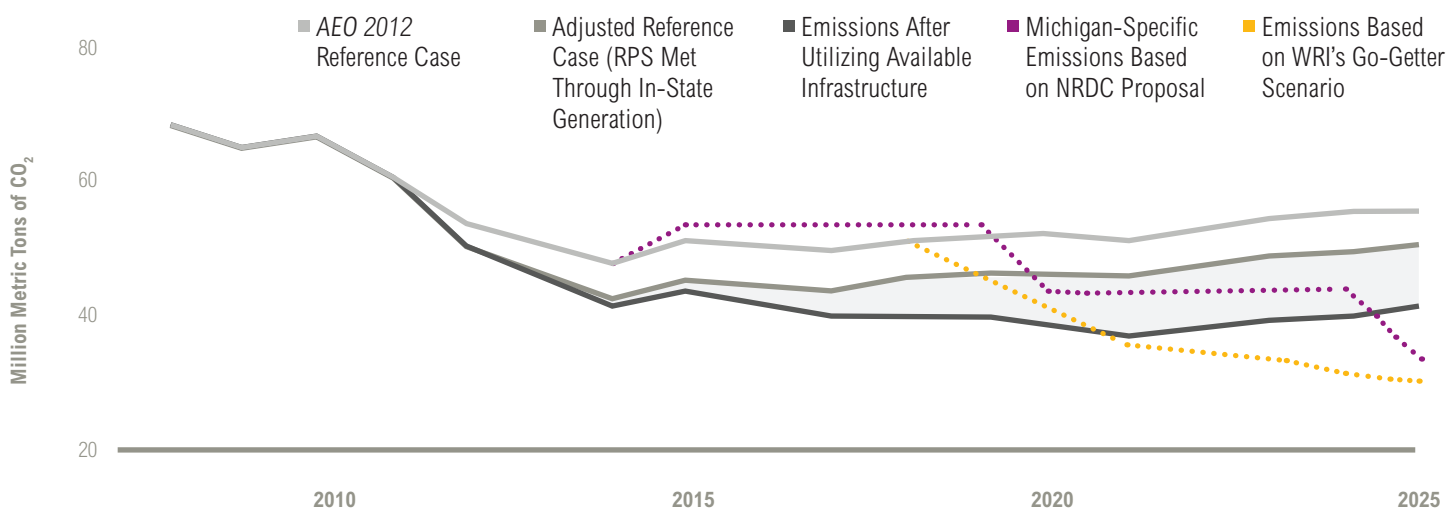
CONCLUSION

The President is using his executive authority as part of a national response to climate change. Building off its progress to date, Michigan is in a strong position to comply with upcoming EPA standards for existing power plants in the near- to mid-term. Weakening or repealing existing measures would make meeting emissions standards more difficult. 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 Michigan can take, see <http://wri.org/publication/power-sector-opportunities-for-reducing-carbon-dioxide-emissions-michigan>.

² Estimated CO₂ savings from the existing energy efficiency standards, which are incorporated in the reference case, are approximately 13 percent below 2011 levels in 2020.

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



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