

Renewable Energy Question 13: What affect did Michigan’s requirement that renewable energy be built in a defined geographic area have? What job growth is attributable to that requirement? What cost, reliability, and environmental impacts are attributable?

Executive Summary

Section 29 of Public Act 295 (PA 295) requires that most of the renewable energy needed to meet the requirements of the act be constructed and/or sourced from within Michigan. This requirement has yielded economic and environmental benefits to the state.

1. The renewable energy investments of Consumers Energy and DTE Energy to date have created approximately 2,500 jobs, the large majority of which are temporary construction jobs.
2. Communities hosting renewable energy facilities receive increased revenues in industrial personal property taxes. These revenues benefit, among other entities, schools and libraries. Ongoing royalty payments to project participants also contribute additional community benefits and economic activity.
3. Renewable energy manufacturers, suppliers, and service providers have developed in Michigan and created jobs to meet the growing demand for renewable energy. It is estimated that there are over 200 companies now in Michigan’s renewable energy supply chain.
4. The owned and contracted renewable energy projects of Consumers Energy and DTE Energy, once fully operational, will displace 4–5 million tons of CO₂ annually.
5. These economic benefits do not represent a “net” calculation—that is, they do not factor in the jobs and economic benefits that would have otherwise been created if these expenditures had been made elsewhere in Michigan or saved by utility customers. Any economic benefit resulting from Michigan’s current renewable portfolio standard (RPS) does not imply that an increase in the target would result in comparable benefits in the future.

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1. The renewable energy investments of Consumers Energy and DTE Energy to date have created approximately 2,500 jobs, the large majority of which are temporary construction jobs.

As major construction projects, renewable energy investments (particularly wind energy) bring business and also help create jobs in support sectors and with local suppliers of such materials as concrete, rebar, and cable.

DTE Energy’s investments have been primarily driven by the development and construction of three wind parks, one constructed per year through 2013. The Gratiot Wind Park, constructed in 2011, provided over \$30 million in direct payments to Michigan construction contractors and material/equipment suppliers. The development and construction of the company’s wind parks in Huron and Sanilac counties in 2012 contributed over \$60 million in direct payments into Michigan’s economy for construction materials and equipment. The third wind project, Echo Wind Park, also located in Huron County and to be constructed this year, has already contributed over \$7 million in direct payments to Michigan contractors and will increase to \$60 million throughout the year. In addition to these direct investments in Michigan communities, DTE Energy’s renewable energy projects have created approximately 1,050 construction, operations, and services jobs. This is about

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1.5 jobs per megawatt of installed renewable capacity. Additionally, an estimated \$2 million was paid directly to local suppliers, primarily located within each local community, for expenditures on food, lodging, and expenses.

Consumers Energy's renewable energy investments, including those owned by the company or by third-party developers, resulted in approximately 1,250 temporary and 50 permanent jobs.

2. Communities hosting renewable energy facilities receive increased revenues in industrial personal property taxes. These revenues benefit, among other entities, schools and libraries. Ongoing royalty payments to project participants also contribute additional community benefits and economic activity.

DTE Energy estimates that its renewable energy portfolio (including projects developed by third parties under contract with DTE Energy) will contribute over \$10 million annually in local tax revenue for 20 years. Additionally, this portfolio will provide over \$7.5 million in annual royalty payments to landowner participants. Consumers Energy estimates that for its wind projects that are owned by the utility (not including third party renewable energy contracts) the annual local tax revenue will be \$5.5–\$6 million and annual landowner royalty payments are expected to be \$5.1–\$5.9 million once all planned projects are operational.

3. Renewable energy manufacturers, suppliers, and service providers have developed in Michigan and created jobs to meet the growing demand for renewable energy. It is estimated that there are over 200 companies now in Michigan's renewable energy supply chain.

Examples of companies in the renewable energy supply chain include:

- VenTower, a wind turbine tower manufacturer, located its North American headquarters in Michigan and is now producing towers for projects located in multiple states.
- Barton Malow and Aristeo, two energy, procurement, and construction companies located in Michigan, have each constructed multi-million dollar wind energy developments for DTE Energy. For Barton Malow, wind energy was an entirely new business line that was created due to PA 295's renewable portfolio standard.
- Heritage Sustainable Energy, based in Traverse City, was a start-up renewable energy developer when it constructed for DTE Energy the first wind energy project in the state under Public Act 295. Heritage has gone on to develop nearly 150 MWs of renewable energy in the state.

4. The owned and contracted renewable energy projects of Consumers Energy and DTE Energy, once fully operational, will displace 4–5 million tons of CO₂ annually.

Renewable energy investments resulting from Michigan's 10% RPS is expected to produce environmental benefits in the form of emission reductions. Assuming wind energy displaces fossil generation, the investments by Consumers Energy and DTE Energy are expected to displace about 4–5 million tons of CO₂ annually—the equivalent of removing approximately 850,000 cars off the

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road.¹ As discussed in Renewable Energy Question 7, however, the environmental impacts of renewable energy are not always straightforward to quantify.

- 5. These economic benefits do not represent a “net” calculation—that is, they do not factor in the jobs and economic benefits that would have otherwise been created if these expenditures had been made elsewhere in Michigan or saved by utility customers. Any economic benefit resulting from Michigan’s current RPS does not imply that an increase in the target would result in comparable benefits in the future.**

The net impact of future renewable requirements will be a function of many variables, the values of which are currently unknown, such as state and federal tax treatment, federal emissions policy and requirements, commodity prices, the cost of alternative methods of generating electricity, and many others.

The net environmental benefits will also depend on a number of factors, including whether the alternatives to renewable generation are energy efficiency, natural gas, coal, or nuclear generation.

There are several studies on the estimated economic impacts of Michigan’s renewable requirements, both current and hypothetical future requirements. These studies include: (1) The Net Costs of a 25% Renewable Energy Mandate in Michigan, Anderson Economic Group, October 18, 2012; (2) Projected Job and Investment Impacts of Policy Requiring 25% Renewable Energy by 2025, Michigan State University Land Policy Institute, August 10, 2012; and (3) The Projected Economic Impact of Proposal 3 and Michigan’s Renewable Energy Standard, Mackinac Center—Beacon Hill Institute, September 21, 2012. Note that these studies use different assumptions, data inputs, and methodologies to estimate economic impacts, and not all of the studies look at net impacts.

¹ The estimate of 850,000 cars is based on the U.S. EPA’s Greenhouse Gas Equivalencies Calculator available at: www.epa.gov/cleanenergy/energy-resources/calculator.html.