



The Economics of Clean Energy in Michigan

Jobs, Savings, Investment, Competitiveness, and the Costs of Inaction

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Jobs

- There were 22,674 clean-energy jobs and 1,932 clean-energy businesses in Michigan as of 2007. This only counts direct jobs and not the many indirect jobs in industries that support the clean energy economy.
- The number of clean-energy jobs in Michigan grew by 10.7 percent between 1998 and 2007, while jobs overall shrank by 3.6 percent.
- Michigan will see \$4.8 billion in new public and private investment due to programs and incentives under the American Recovery and Reinvestment Act and American Clean Energy and Security Act. These investments will lead to 53,816 net new clean-energy jobs in Michigan—even assuming some potential job losses in the fossil fuel sector as workers transition into the clean energy economy.
- Michigan needs these good-paying, private sector jobs—the state’s unemployment rate was at 15.2 percent as of August 2009.
- Green jobs in Michigan were distributed among the following sectors in 2008:
 - Conservation and pollution mitigation: 69.9 percent
 - Environmentally friendly production: 4.6 percent
 - Training and support: 6.1 percent
 - Energy efficiency: 6.4 percent
 - Clean energy: 13 percent

Consumer energy bill savings

- The average American family's annual spending on oil, gas, and electricity increased by \$1,100 under the Bush administration's energy policies. But American electricity and fuel bills would go down under the consumer protection provisions in the ACES bill.
- Emissions allowances allocated in the ACES bill for state efficiency programs alone will save Michiganders \$1.9 billion between 2012 and 2020.
- The average household in Michigan will see a monthly savings of \$7.90 on their electricity bill by 2020 due to ACES' consumer protection and energy-efficiency provisions.
- Households in Michigan will also save \$15.00 on gasoline each month by 2020 due to lower oil prices and more fuel-efficient vehicles under ACES.

Investment and innovation

- The clean energy economy is already growing in Michigan. Private companies in Michigan invested \$55.1 million in clean energy from 2006 – 2008 through venture capital funds.
- An additional \$4.8 billion of public and private investment would flow into clean energy and energy efficiency in Michigan under the clean-energy investment provisions in the ACES bill and the ARRA stimulus package.
- Michigan's 1,932 clean-energy businesses patented 749 new clean-energy technologies in 2007 alone. Passing a strong clean-energy jobs bill this session is the best thing congress can do to unlock even more innovation and entrepreneurship across Michigan and the nation.
- Quantum Technologies of Sterling Heights, Michigan, develops and produces fuel cell technology for alternative fuel vehicles.

American competitiveness and energy independence

- The people of Michigan spent more than \$13 billion on imported crude oil in 2007 alone—more than \$1,300 per person.
- Without comprehensive clean-energy reform, Michigan taxpayers will spend \$840 million more over the next 10 years to subsidize wealthy oil and gas companies, and this is on top of their already record profits.

Costs of inaction

- The CBO predicted in May 2009 that climate change would cause decreases in future U.S. gross domestic product of between 3 and 5 percent, and global GDP of as much as 10 percent by the end of the century.
- If Great Lakes water levels decrease at expected rates, system connectivity along the Great Lakes-St. Lawrence route could decline by 25 percent, possibly causing an annual economic loss of almost \$1.5 billion in foreign trade for ports in Detroit, Muskegon, and Huron.
- Michigan farmers and related industries—which produce over \$63 billion for the state—will lose ground to soil erosion. Greater soil erosion will cause economic losses in the range of \$11.5 billion to \$20.7 billion.
- Rising temperatures will induce heat stress in Michigan’s dairy cows, harming the \$1 billion milk industry.
- Shorter winters will erode Michigan’s \$1 billion snowmobiling industry.
- Michigan’s \$3.3 billion hunting, angling, and wildlife-watching industry could lose \$240 million from the reduction in fish and game.
- More frequent and more powerful flooding will cause \$506 million in economic damages and job losses for nearly 9,700 Michigan workers.