



# The Economics of Clean Energy in Minnesota

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

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### Jobs

- There were 19,994 clean-energy jobs and 1,206 clean-energy businesses in Minnesota 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 Minnesota grew by 11.9 percent between 1998 and 2007, while jobs overall grew by only 1.9 percent.
- Minnesota will see \$2.7 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 30,263 net new clean-energy jobs in Minnesota—even assuming some potential job losses in the fossil fuel sector as workers transition into the clean energy economy.
- Minnesota needs these good-paying, private sector jobs—the state’s unemployment rate was at 8 percent as of August 2009.
- Green jobs in Minnesota were distributed among the following sectors in 2008:
  - Conservation and pollution mitigation: 49 percent
  - Environmentally friendly production: 19.1 percent
  - Training and support: 3.4 percent
  - Energy efficiency: 8.4 percent
  - Clean energy: 20.2 percent

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## 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 Minnesotans \$1.0 billion between 2012 and 2020—that's \$447 per household.
- Households in Minnesota will also save \$14.81 on gasoline each month by 2020 due to lower oil prices and more fuel-efficient vehicles under ACES.

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## Investment and innovation

- The clean energy economy is already growing in Minnesota. Private companies in Minnesota invested \$49.9 million in clean energy from 2006 – 2008 through venture capital funds.
- An additional \$2.7 billion of public and private investment would flow into clean energy and energy efficiency in Minnesota under the clean-energy investment provisions in the ACES bill and the ARRA stimulus package.
- Minnesota's 1,206 clean-energy businesses patented 218 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 Minnesota and the nation.
- Lumificient Technologies, based in Osseo, uses LED technology to design commercial lighting and displays.

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## American competitiveness and energy independence

- The people of Minnesota spent more than \$9.1 billion on imported crude oil in 2007 alone—more than \$1,743 per person.
- Without comprehensive clean-energy reform, Minnesota taxpayers will spend \$570 million more over the next 10 years to subsidize wealthy oil and gas companies, and this is on top of their already record profits.

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## 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.
- Climate change will impair system connectivity of the shipping industry on the Great Lakes by about 25 percent due to a projected drop in water level, causing a loss of \$850 million annually across the great lakes region.
- Increased heavy downpours will lead to more floods like the Red River 1997 flood, which forced 60,000 people to evacuate from Minnesota and North Dakota. The Duluth-Superior port will be threatened as water levels in Lake Superior fall by about seven inches, requiring more dredging for shipping routes.
- Every summer in Minnesota will be hotter than the most severe summer in the historical baseline. Minneapolis-St. Paul will experience nearly a month of days over 100°F, and the cities would face at least two heat waves per summer like the one that killed hundreds in Chicago in 1995. Minnesota's 81,000 farms will lose ground to droughts, agricultural pests, and scorching heat. Heat stress will reduce milk output from dairy farms.