

Michigan
Costs to the State under the Lieberman/Warner
Proposed Legislation to Limit Greenhouse Gas Emissions¹

This study analyzes the economic costs of the Lieberman/Warner Climate Security Act (S.2191 or L/W bill) at the state and household level for the citizens of Michigan. The L/W bill would enforce a nationwide cap and trade program for the emissions of greenhouse gases (GHGs). It would reduce GHG emissions covered by L/W to 4,886 MMTCO₂ by 2020 and then to 1,718 MMTCO₂ by 2050. CRA estimates this to be approximately a 27% reduction from 2005 levels by 2020 for those sectors of the economy covered by the bill, and a 74% reduction by 2050. Covered emissions are assumed to include all CO₂ emissions from combustion of fossil fuels in the United States, plus non-CO₂ GHG emissions included in the L/W cap. The price of carbon permits could reach \$74 per metric ton of CO₂ by 2020 and could increase to \$88 by 2030.²

Higher energy costs would reduce jobs

Michigan would lose 103,000 jobs in 2020 and 347,000 jobs by 2050 relative to the baseline forecast (in other words, what would happen without cap and trade or carbon tax legislation).

Household income falls as energy and other prices rise

Costs per household rise over time as emission caps become more difficult to meet. Relative to its current real spending power (year 2010), an average household in Michigan would lose \$1,803 per year in 2020, rising to \$3,414 by 2050.

Energy prices rise as the additional cost of carbon emissions directly impacts the prices paid by consumers for energy. Michigan consumers will have to pay 50% more for natural gas and 30% more for retail gasoline by 2020. By the year 2050, those prices will be twice those of the baseline. The wholesale price of electricity rises by 84% relative to the baseline in 2020. Households and businesses will pay more at the retail level.

Why do electricity prices rise?

Electricity prices rise between 2010 and 2020 for two primary reasons: 1) the L/W bill adds a cost for emitting CO₂, and 2) there is a related shift away from coal-fired generation (26% decrease by 2020) to higher cost natural gas-fired generation (935% increase by 2020). In the long term, however, natural gas-fired generation falls to 86% below the 2020 level as coal-fired generators equipped with carbon capture and storage replace more carbon-emitting natural gas.

Economic growth would slow

The loss in the gross state product (GSP) causes Michigan's economy to grow more slowly over time, falling to 2.7% below the baseline forecast in 2020. GSP will remain well below baseline levels after 2020 unless new, affordable GHG-control technologies become available over time.

Most industries suffer losses in production

The output of goods and services declines in most of Michigan's industries. One of Michigan's major industries, motor vehicles, will suffer losses because consumers will drive less in response to higher gasoline prices, which in turn will lead to a drop in demand for vehicles. This sector declines 0.6% by 2030 relative to the baseline. Energy intensive sectors lose 1.7% of output by 2020. The electricity sector experiences a 5% decline in output by 2020.

¹ These are preliminary results using the same MRN-NEEM model that Dr. Anne Smith used as the basis of her November 8, 2007 testimony to the Senate EPW Committee concerning the costs and impacts of S.2191. The results reported here reflect provisions of S.2191 as it was reported out of the EPW Committee; Dr. Smith's testimony was based on S.2191 as originally introduced. For more information on the model, see http://www.crai.com/pubs/pub_7748.pdf

² All dollar figures in this summary are presented in constant 2007 dollars.