

**The Economic Effects on Michigan of the
Mitsubishi Heavy Industries Climate Control, Inc.
Facility Location Decision**

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Abstract

Mitsubishi Heavy Industries Climate Control, Inc., is considering establishing an engineering and technical center in a newly constructed speculative building in Sterling Heights. This facility would bring research and development capabilities to Michigan that are currently undertaken in Japan, and provide engineering support for contracts with Big 3 automakers. The facility would employ an additional 75 people by 2008. We estimate that by 2014, this location will have generated a total of 115 jobs in the state. Total state government revenues through 2014, net of MEGA costs and adjusted for inflation, would increase by \$4,444,000 (2003 dollars) due to the location of Mitsubishi Heavy Industries Climate Control, Inc.

The purpose of this study is to estimate the potential economic and fiscal benefits to Michigan if Mitsubishi Heavy Industries Climate Control, Inc., establishes an engineering and technical center in a newly constructed speculative building in Sterling Heights (SIC 3585). This facility would bring research and development capabilities to Michigan that are currently undertaken in Japan, and provide engineering support for contracts with Big 3 automakers. Investment activity would take place between 2004 and 2009, with an investment of \$7.4 million. The facility would employ an additional 75 people by 2008.

The estimates of the benefits include the total number of jobs created in Michigan (by major industry, including spin-off jobs), and the associated personal income and state government revenue. Benefits net of the MEGA incentive package, from 2004 to 2014, are shown in the attached table. The MEGA incentive package includes a tax credit to the company for the period 2005 to 2014 equal to 100 percent of the state income tax rate on the payroll (gross wages) of employees hired at the facility as a result of the project.

The total employment effects, reported in the first line of the table, include the direct jobs created at the facility itself plus spin-off jobs. The spin-off jobs are generated from two sources, increased purchases from Michigan suppliers and spending by people who receive income due to the increased economic activity. The investment activity is expected to generate a total of 7 jobs in 2004 and 60 jobs in 2005; almost all of these jobs are temporary. In 2010, the first year of full operations without investment activity, an additional 129 jobs are generated in the state. We estimate that by 2014, this location will have generated a total of 115 additional jobs in the state. The total number of jobs created (direct plus spin-off) for every direct job introduced constitutes the "employment multiplier." The employment multiplier for the location averages 1.6 over the period 2010 to 2014. Sectoral detail on the employment gains is also shown in the table.

Personal income is shown in the next section of the table. Personal income is defined as the income of Michigan residents from all sources, after deduction of contributions to social

insurance programs but before deduction of income tax and other personal taxes. As shown in the table, if Mitsubishi Heavy Industries Climate Control, Inc., were to locate its operations in Michigan under the incentive program, state personal income in 2010 would be higher by \$12.1 million (in current dollars) than it would be without the location, and in 2014 it would be \$13.3 million higher. Adjusted for inflation, these numbers in 2003 dollars would be \$8.3 million in 2010 and \$8.5 million in 2014.

The gain in economic activity results in higher state government revenues. We estimate that in 2010, the first year of full operations without investment activity, the new facility would generate \$930,000 in additional gross state government revenue, and that the MEGA package would provide a \$219,000 incentive to Mitsubishi Heavy Industries Climate Control, Inc.. Thus, the Mitsubishi Heavy Industries Climate Control, Inc., location would increase state government revenues in 2010 by \$711,000, net of MEGA incentive costs.

Over the period 2004 to 2014, gross state government revenue is projected to increase by \$8,474,000 (in current dollars) due to the location of Mitsubishi Heavy Industries Climate Control, Inc. The MEGA incentive package for Mitsubishi Heavy Industries Climate Control, Inc., is forecast to cost \$1,969,000 over the period, resulting in a net increase in state government revenue of \$6,505,000. Adjusted for inflation, the total net increase in state government revenue from 2004 to 2014 would be \$4,444,000 in 2003 dollars.

None of these estimates include the nonmeasurable effects that would produce additional economic and fiscal benefits for Michigan, such as the intangible advantages of influencing other location and expansion decisions.

**Economic and Fiscal Effects on Michigan of the Mitsubishi Heavy Industries Climate Control, Inc., Facility Location
Net Benefits with the Incentive Package**

Economic/Fiscal Indicator	2004	2005	2006	2007	2008	2009	2010	2014	Total 2004-2014
Total Employment	40	126	100	93	144	135	129	115	—
Manufacturing	15	35	50	50	75	75	75	75	—
Nonmanufacturing	25	91	50	43	69	60	54	40	—
Retail Trade	6	17	14	13	19	18	17	15	—
Services	10	25	23	20	32	28	25	18	—
Other	9	49	13	10	18	14	12	7	—
In current dollars (thousands):									
Personal income	2,200	7,000	7,200	7,400	11,300	11,700	12,100	13,300	110,200
Gross state revenue	169	538	554	569	869	900	930	1,023	8,474
MEGA cost	0	82	127	131	203	209	219	269	1,969
State revenue net of MEGA cost*	169	456	427	438	666	691	711	754	6,505
Adjusted for inflation (thousands of 2003 dollars):									
Personal income	1,899	5,190	5,215	5,243	8,050	7,927	8,267	8,508	75,067
Gross state revenue	146	399	401	403	619	610	636	654	5,773
MEGA cost	0	61	92	93	144	141	150	172	1,329
State revenue net of MEGA cost*	146	338	309	310	475	469	486	482	4,444

*These estimates do not include any state government revenue losses due to the Investment Tax Credit.