

**The Economic Effects on Michigan of the  
Energy Conversion Devices Development Facility**

Prepared by the Michigan Economic Development Corporation utilizing Regional  
Economic Models, Incorporated (REMI) software.

October 26, 2000

### Abstract

*Energy Conversion Devices is considering building a research and development facility in Rochester Hills, Michigan. This facility would work to develop and commercialize fuel cell and hydrogen storage technologies. The new facility would employ up to 82 people by the end of 2002. We estimate that by 2006, this location will have generated a total of 108 jobs in the state. Total state government revenues through 2006, net of MEGA costs and adjusted for inflation, would increase by \$2.2 million (2000 dollars) due to the location of the Energy Conversion Devices Development Facility.*

The purpose of this study is to estimate the potential economic and fiscal benefits to Michigan of Energy Conversion Devices locating a research and development facility in Rochester Hills. Investment activity would take place between 2001 and 2002, with an investment of \$26.2 million. The facility would employ an additional 82 people and would be at full production by 2002.

The estimates of the benefits attributable to the project 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 2001 to 2006, are shown in the attached table. The MEGA incentive package includes relief from 100 percent of the single business tax for the period 2001 to 2006 and a tax credit to the company equal to 100 percent of the state income tax rate on the payroll (gross wages) of employees hired at the facility for the period 2001 to 2006.

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 created from two sources, increased purchases from Michigan suppliers and spending by people who receive income due to the increased economic activity. In 2002, the first year of full operations, an additional 162 jobs are generated in the state. The total number of jobs (direct plus spin-off) for every direct job introduced constitutes the "employment multiplier." The employment multiplier for the expansion averages 1.82 over the period 2001 to 2006. Sectoral detail on the employment 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 Energy Conversion Devices were to locate in Michigan under the incentive program, state personal income in 2002 would be higher by \$8.9 million (in current dollars) than it would be without the facility, and in 2006, it would be \$8.4 million higher. Adjusted for inflation, these numbers in 2000 dollars would be \$8.6 million in 2002 and \$7.5 million in 2006.

The gain in economic activity results in higher government revenues. We estimate that in 2003, the first year of full operations without investment activity, the facility would generate \$659,000 in additional gross state revenue, and that the MEGA package would provide a \$346,000 incentive to Energy Conversion Devices. Thus, the new Energy Conversion Devices facility would increase state revenues in 2003 by \$313,000, net of MEGA costs.

Over the period 2001 to 2006, state government revenue is projected to increase by \$4.3 million (in current dollars) due to the new Energy Conversion Devices facility. The MEGA incentive package for Energy Conversion Devices is forecast to cost \$2.3 million over the period, resulting in a net increase in state government revenue of \$2.3 million. Adjusted for inflation, the total net increase in state government revenue from 2001 to 2006 would be \$2.2 million in 2000 dollars. These calculations do not include any revenue losses due to the property tax abatement or the investment tax credit. If the costs of the abatement and the tax credit were included, the net revenue gain to state government would be slightly less.

None of the 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.

**Energy Conversion Devices  
Economic and Fiscal Effects on Michigan - Net Benefits with the Incentive Package**

Economic/Fiscal Indicator	2001	2002	2003	2004	2005	2006	Total
Total Employment	251	162	133	123	116	108	
Manufacturing	19	2	-4	-6	-8	-9	
Non-Manufacturing	232	160	137	129	124	117	
Retail Trade	30	17	13	12	11	9	
Services	114	118	109	106	103	100	
Other	88	25	15	11	10	8	
In Current Dollars (Thousands):							
Personal Income	\$11,230	\$8,850	\$8,240	\$8,270	\$8,331	\$8,362	\$53,283
Gross State Revenue	898	708	659	662	666	669	4,262
Mega Cost	225	347	346	344	347	351	1,959
State Revenue Net of MEGA Cost*	\$673	\$361	\$313	\$318	\$319	\$318	\$2,303
Adjusted for Inflation (Thousands of 2000 Dollars):							
Personal Income	\$11,230	\$8,647	\$7,867	\$7,716	\$7,598	\$7,456	\$50,514
Gross State Revenue	898	692	629	618	607	597	4,041
Mega Cost	225	339	330	321	316	313	1,844
State Revenue Net of MEGA Cost*	\$673	\$353	\$299	\$297	\$291	\$284	\$2,197

\* These estimates do not include any state government revenue losses due to the Investment Tax Credit, the Renaissance Zone Credit or the property tax abatement.