

**The Economic Effects on Michigan of the
Dow Chemical Administrative Relocation**

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

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Abstract

Dow Chemical is considering relocating their engineering, research and development and administrative service personnel from Connecticut to Midland, Michigan. The new facility would employ up to 350 people by the end of 2003. We estimate that by 2020, this location will have generated a total of 479 jobs in the state. Total state government revenues through 2020, net of MEGA costs and adjusted for inflation, would increase by \$24.2 million (2000 dollars) due the Dow Chemical Administrative Relocation.

The purpose of this study is to estimate the potential economic and fiscal benefits to Michigan of Dow Chemical locating a relocating engineering, research and development and administrative service personnel from Connecticut to Midland. Investment activity would take place 2001, with an investment of \$5.0 million. The facility would employ an additional 350 people and would be at full production by 2003.

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 2020, 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 2020, 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 2020.

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 2003, the first year of full operations, an additional 612 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 1.40 over the period 2001 to 2020. 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 Dow Chemical were to locate in Michigan under the incentive program, state personal income in 2003 would be higher by \$33.6 million (in current dollars) than it would be without the facility, and in 2020, it would be \$50.2 million higher. Adjusted for inflation, these numbers in 2000 dollars would be \$31.5 million in 2003 and \$32.3 million in 2020.

The gain in economic activity results in higher government revenues. We estimate that in 2002, the first year of full operations without investment activity, the facility would generate \$2.4 million in additional gross state revenue, and that the MEGA package would provide a \$1.2 million incentive to Dow Chemical. Thus, the new Dow Chemical facility would increase state revenues in 2002 by \$1.2 million, net of MEGA costs.

Over the period 2001 to 2020, state government revenue is projected to increase by \$61.6 million (in current dollars) due to the new Dow Chemical facility. The MEGA incentive package for Dow Chemical is forecast to cost \$31.0 million over the period, resulting in a net increase in state government revenue of \$30.6 million. Adjusted for inflation, the total net increase in state government revenue from 2001 to 2020 would be \$24.2 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.

**Dow Chemical Engineering & R&D Relocation
Economic and Fiscal Effects on Michigan - Net Benefits with the Incentive Package**

Economic/Fiscal Indicator	2001	2002	2003	2004	2005	2006	2007	2010	2015	2020	Total
Total Employment	697	601	612	563	525	488	466	433	444	479	
Manufacturing	11	-5	-15	-25	-32	-38	-42	-46	-41	-33	
Non-Manufacturing	686	606	627	588	557	526	508	479	485	512	
Retail Trade	75	63	63	55	49	43	40	36	39	45	
Services	500	474	500	481	466	452	443	428	430	445	
Other	111	69	64	52	42	31	25	15	16	22	
In Current Dollars (Thousands):											
Personal Income	\$28,930	\$29,970	\$33,600	\$34,420	\$34,670	\$34,610	\$34,760	\$36,410	\$42,210	\$50,230	\$770,530
Gross State Revenue	2,314	2,398	2,688	2,754	2,774	2,769	2,781	2,913	3,377	4,018	61,644
Mega Cost	1,132	1,157	1,252	1,260	1,298	1,364	1,375	1,496	1,741	2,035	30,961
State Revenue Net of MEGA Cost*	\$1,182	\$1,241	\$1,436	\$1,494	\$1,476	\$1,405	\$1,406	\$1,417	\$1,636	\$1,983	\$30,683
Adjusted for Inflation (Thousands of 2000 Dollars):											
Personal Income	\$28,303	\$28,697	\$31,488	\$31,568	\$31,116	\$30,388	\$29,856	\$29,258	\$30,355	\$32,348	\$605,760
Gross State Revenue	2,264	2,296	2,519	2,526	2,490	2,431	2,389	2,341	2,429	2,588	48,464
Mega Cost	1,107	1,108	1,173	1,156	1,165	1,198	1,181	1,202	1,252	1,310	24,260
State Revenue Net of MEGA Cost*	\$1,157	\$1,188	\$1,346	\$1,370	\$1,325	\$1,233	\$1,208	\$1,139	\$1,177	\$1,276	\$24,204

* 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.