

The Economic and Fiscal Impact of a New Coal Power Plant in Midland, Michigan

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INTRODUCTION

On June 6, 2007, LS Power Development, LLC, a power industry development, investment, and asset management company, and Dynegy, Inc., a wholesale power and power services provider, announced that it had identified a site in Midland, Michigan for the development of a \$1.5 billion 750-megawatt coal-fired power plant. The two companies would develop the site through a joint venture called Mid-Michigan Energy.

The purpose of this report is to provide an analysis of the net fiscal impact of this power plant on the City of Midland's government, and the net economic impact the project would have on Midland, Bay, and Saginaw counties. We define net fiscal and net economic impact below. Anderson Economic Group has extensive experience in conducting economic and fiscal impact studies. We follow a careful methodology that relies on a conservative and realistic definition of impact that includes both the benefits and the costs of the proposed development. We also briefly discuss electricity prices and the structure of the tri-county area economy. This analysis is based on information available in August 2007 and may be revised in the future.

Overall, the proposed power plant would have a positive fiscal impact on the City of Midland, and a positive impact on employment and earnings in Midland, Saginaw, and Bay Counties. The construction of the plant will create an average of 1,500 jobs in each of the 4 years of construction, peaking at 2,631 in 2011, and will cause over \$381 million in additional earnings in Midland, Saginaw, and Bay Counties between 2009 and 2013. Once construction is complete, we estimate that the plant's operation will generate 241 new jobs in the tri-county region, with total new earnings in the region of \$13.9 million. Finally, we esti-

mate there will be a net positive fiscal impact on the City of Midland of \$3.4 million once the plant is operational, and that there will be a positive fiscal impact of between \$1.2 and \$3.4 million in each full year of construction (after the partial year of construction in 2009 when the impact is positive but smaller).

NET IMPACT DEFINED

We define net impact as the difference between the results of two scenarios.¹ The first is the “without the development” scenario, where the proposed power plant is not built, and the value of the development site remains what it is today, growing by some nominal rate each year. The second is the “with the development” scenario, where Mid-Michigan Energy builds and operates the proposed 750 megawatt power plant in Midland.

AEG has completed a number of other impact assessments, which often are recognized afterwards as the most reliable and timely available.² Our analysis uses a consistent, conservative methodology that avoids double-counting of costs or benefits, properly accounts for the shifting and substitution of economic activity, and does not unnecessarily inflate the impact by using excessive “multipliers.”³ Unfortunately, many economic impact reports do not follow a consistent methodology nor a conservative approach, and we caution against comparing the results from this analysis with “impact” assessments.

REGIONAL EMPLOYMENT IMPACT

There are at least three ways in which the proposed power plant could affect employment in the tri-county region. First, Mid-Michigan Energy will hire workers to build and operate the plant. Second, Mid-Michigan Energy will pur-

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1. We use the term “net impact” in conjunction with both fiscal impact analysis (examining government revenue and expenditures) and economic impact analysis (examining indicators of the health of the economy such as employment and earnings).
 2. Previous AEG reports on similar topics include:
Critical Review: Northeast Blackout Likely to Reduce US Earnings by \$6.4 Billion, East Lansing, MI: Anderson Economic Group, August 19, 2003; the estimated impact included in this report was later corroborated by a completely independent analysis produced several months later, and the estimate has been included in numerous DoE and US Government publications.
Lost Earnings Due to the West Coast Port Shutdown - Preliminary Estimate, Lansing, MI: Anderson Economic Working Paper, October 7, 2002; this analysis, which produced an estimate of economic impact many times smaller than that commonly cited in news media reports at the time, was later corroborated by academic research in the US, and was also used by the Australian government in assessing risks of disruptions of maritime ports.
The Economic Benefits of Michigan State University, Michigan State University, May 2007. This report uses a more conservative method for calculating economic impact than is commonly used for colleges, and directly considers the likely substitution effects of university payroll and purchases.
These are available on the Anderson Economic Group web site at: <http://www.andersoneconomicgroup.com>.
 3. The basis for this methodology is stated in the book *Business Economics and Finance* written by one of this report’s authors, Patrick Anderson. See Patrick L. Anderson, *Business Economics and Finance*, CRC Press, 2004.

chase materials and supplies from other firms in the area as it builds and operates the plant. Third, employment may rise as the area attracts employers to the area who are sensitive to having a reliable electricity supply. Our analysis provides quantitative estimates of the first two of these three factors.

New Employment Due to Plant Construction

Mid-Michigan Energy targets July of 2009 for the beginning of plant construction. Construction will continue for four years, ending in June 2013. Plant construction will have both a direct and indirect positive impact on employment in the counties of Midland, Bay, and Saginaw.

The direct impact on employment is due to the employment of workers by Mid-Michigan Energy and its contractors. Based on information provided by Mid-Michigan Energy, we estimate that construction of the plant will create 2,481 one-year jobs, an average of 620 jobs in each of the 4 years of construction, peaking at 1,088 in 2011.

Construction of the plant will also produce an indirect employment impact. Spending by Mid-Michigan Energy on construction supplies and by new construction workers brought to the region during plant construction will produce even more jobs as this spending circulates through the regional economy. We estimate that this spending will create an additional 3,520 one-year jobs in the region during the construction period.

In all, we estimate that total employment from plant construction will be 6,002 single-year jobs in the tri-county area, an average of 1,500 jobs in each of the 4 years of construction, peaking at 2,631 jobs in 2011. See Table 1 on page 4 for our estimate of how these jobs are distributed over the construction period. See Exhibit II. "Employment Impact in Midland, Bay, and Saginaw Counties of Proposed Coal Power Plant," on page 18 for our full analysis of both the construction and plant operation periods.

New Employment Due to Plant Operation

Once construction is complete, we estimate that the plant's operation will generate 241 new jobs in the tri-county region. Mid-Michigan Energy plans to employ 100 workers to operate the plant. We estimate that these 100 new jobs will result in an additional 138 new jobs in the tri-county area as new restaurants, retail centers, barbers, etc., are needed to provide goods and services to these new employees. Finally, the \$750,000 per year spent in the region on plant operations will result in an additional 3.5 indirectly-created jobs in the region in

other sectors of the economy. See Table 1 below and Exhibit III. “Employment and Earnings Impacts of Plant Operation,” on page 19.

TABLE 1. Employment Impact of Proposed Power Plant on Midland, Bay, and Saginaw Counties

	Construction Period					Construction Total	Plant Operation
	2009 (partial)	2010	2011	2012	2013 (partial)		Annual (Beginning July 2013)
Direct Employment	69	558	1,088	742	25	2,481	100
Indirect Employment	97	793	1,543	1,053	35	3,520	141
Total New Employment	166	1,351	2,631	1,794	60	6,002	241

*Base Data Source: Mid-Michigan Energy
Analysis: Anderson Economic Group LLC*

ECONOMIC IMPACT OF PLANT DEVELOPMENT

The proposed power plant will affect earnings in the tri-county region in two ways. First, Mid-Michigan Energy will spend \$200 million on wages, and \$1.5 billion overall, to build the plant. Second, Mid-Michigan Energy will need to employ workers and spend money to operate the plant once its constructed. The proposed plant may have a third set of effects on earnings if it attracts employers to the area who are sensitive to having a reliable electricity supply. We do not include this possible effect in our analysis.

Earnings Impact During Construction

The construction of the plant will increase earnings in the tri-county region in three ways. First, \$200 million in wages will be paid to workers constructing the plant. Second, as those wages are spent in the area, an additional \$119 million in earnings will be generated in other sectors of the area economy. Finally, the \$116 million in construction materials spending in the area will generate over \$61 million in additional earnings over the construction period. In total, this amounts to over \$381 million in additional earnings in the Midland-Saginaw-Bay Counties region between 2009 and 2013.

Earnings Impact During Operation

Once the plant is in operation, we expect that annual payroll to new employees will be \$9.2 million including benefits, or over \$7 million in wages not including benefits. Plant employees will receive annual wages ranging from over \$50,000 to over \$90,000. As these employees make purchases, the money is re-spent throughout the region, creating a “multiplier” effect and generating additional earnings in the region. We estimate that the new earnings from these expenditures will be \$4.5 million annually, bringing the total new earnings in the region caused by the operation of the power plant to \$13.9 million.

Exhibit III. “Employment and Earnings Impacts of Plant Operation,” on page 19

FISCAL IMPACT OF DEVELOPMENT ON CITY OF MIDLAND

The proposed development will have a positive fiscal impact on the City of Midland. The positive net fiscal impact of the proposed development is due to the City of Midland gaining more revenue from taxes and fees than it will spend providing services for this project. Construction of the plant, which begins in 2009, raises the value of the property on which the plant is located, providing more property tax revenue to the City. Construction equipment used to build the plant is also subject to personal property taxes, and the City of Midland will receive revenue from these taxes as well.

We calculated the net fiscal impact of the proposed development during the plant’s construction (2009-2013) and on an annual basis once the plant is operating. We describe the methodology we used briefly in this section and in “Fiscal Impact Methodology” on page 13.

The City of Midland benefits from the project beginning in year one of the construction phase. The size of the impact varies from year to year as the value of the on-site construction equipment changes, culminating in a positive fiscal impact of \$3.4 million on an annual basis from 2014 forward. Table 2 below shows the net fiscal impact of the proposed power plant.

TABLE 2. Fiscal Impact of Proposed Power Plant on City of Midland

	2009 (partial)	2010	2011	2012	2013 (partial)	Annual
Change in Revenue	\$138,256	\$1,266,088	\$3,152,513	\$3,922,032	\$3,432,111	\$5,413,660
Change in Spending	<u>\$(2,621)</u>	<u>\$(21,282)</u>	<u>\$(41,453)</u>	<u>\$(28,271)</u>	<u>\$(953)</u>	<u>\$(2,019,059)</u>
Net Fiscal Impact	\$135,635	\$1,244,805	\$3,111,060	\$3,893,761	\$3,431,158	\$3,394,601

Source: Anderson Economic Group, LLC

For detailed calculations, see Exhibit IV. “Change in SEV Due to Proposed Development,” on page 20, Exhibit V. “Impact of Proposed Development on City of Midland Revenue,” on page 21, and Exhibit VI. “Impact of Proposed Development on City of Midland Costs,” on page 22.

IMPACT ON WIDER COMMUNITY

This report is focused on the proposed power plant’s impact on the economies of Midland and the tri-county region. Not quantified by this report, but still real, is the likely positive economic impact of the plant on the wider region and on the State of Michigan as a whole. The employment impact we quantify in “Regional Employment Impact” on page 2 and “Economic Impact of Plant Development” on page 4 does not include the additional impact on employment and earnings outside the Midland region. This impact will come from two sources. First, while we quantify the indirect employment and earnings impacts

only for the tri-county region, the spillover economic benefit of the construction and operational spending on wages and materials will extend beyond the region. Second, as we draw a wider boundary of economic interest, the percentage of the total spending *directly* affecting the region grows, capturing, for example, contractors and suppliers based in Michigan but not in the Midland-Saginaw-Bay tri-county area. A third possible source of benefits to the State of Michigan as a whole is higher employment if the new power plant attracts businesses that are sensitive to having a reliable supply of electricity.

The proposed power plant will have a fiscal impact on communities outside Midland as well. Exhibit VIII. "Taxes Paid on Project Site by Locality," on page 24 shows the property taxes likely to be generated for the community beyond the City of Midland, including the school district, Intermediate School District (ISD), Midland County, Delta College, Midland County Educational Service Agency, and the State of Michigan (through the school aid tax). In addition to the wider community fiscal impact through property taxes, the additional earnings caused by the proposed development would generate additional sales and state income tax revenue for the state government.

REGIONAL ECONOMY AND ELECTRICITY PRICES

Impact of Competition on Electricity Prices

The building of a power plant in Midland is likely to put downward pressure on electricity prices. This is for two reasons. First, the plant will provide additional power supply in Michigan. An increase in supply, all things equal, will lower the price in competitive markets. Second, the power plant increases competition in Michigan, which should have the effect of keeping prices low for consumers.

Competition in Michigan's energy market has produced lower prices for consumers and increased generating capacity. Before 2000, the electrical power industry in Michigan functioned like a natural monopoly, where utilities were provided the exclusive rights to a geographical area of service in return for regulated rates and an obligation to serve all customers in the area. Public Act 141 and Public Act 142 changed this system and injected competition into the electrical power market by allowing customers to purchase their energy from alternative electric suppliers.

Allowing for competitive markets had two effects in Michigan. First, new capacity was added and the number of alternative suppliers increased.⁴ Second, residential, commercial, and industrial energy prices in Michigan fell between 2000 and 2001 while nationally prices increased. The fall in residential electricity prices can be explained by the law's mandated 5% rate cut, but the lower commercial and industrial rates between 2000 and 2004 can be explained in part

4. See Theodore R. Bolema, *Assessing Electric Choice in Michigan*, Policy Brief, Mackinac Center for Public Policy, 2004.

by the increased competition. Between 2000 and 2004, as alternative suppliers gained market share the average commercial price for electricity fell 4% and the average industrial price fell 3%.⁵

Midland Area Economy and Electricity Prices

The economy in Midland, Bay, and Saginaw counties is similar to that of Michigan as a whole in many ways, but with several key differences. Exhibit IX, “2005 Industry Employment Breakdown - Midland Area, Michigan, USA,” on page 25 shows the area’s top 10 sectors by percentage of employment. Like Michigan’s economy as a whole, the Midland area has a higher percentage of workers employed in the Manufacturing sector than the country as a whole. While the Midland area is somewhat less reliant on the manufacturing sector than the rest of Michigan, it is still the third most important sector in the area. This is significant because manufacturing uses more electricity per unit of output than the other sectors of the economy, making the region’s employers somewhat more sensitive to electricity prices than the in rest of the country.

Key differences between the Midland area and the rest of Michigan include much stronger employment in the health care and retail trade sectors than the rest of the state and the country as a whole. The area is less dependent on the wholesale trade, finance and insurance, and professional services sectors than are the rest of the state and country. To the extent that the less-energy-intensive service economy is growing in importance the U.S. economy, the Midland area has clearly made more gains in health care and retail trade than it has in wholesale trade, finance and insurance, and professional services.

DATA TABLES AND EXHIBITS

The remainder of this report includes detailed data tables summarizing our assumptions, and the results of our analysis. These exhibits are:

- Exhibit I. “Map of Proposed Development Site,” on page 17
- Exhibit II. “Employment Impact in Midland, Bay, and Saginaw Counties of Proposed Coal Power Plant,” on page 18
- Exhibit III. “Employment and Earnings Impacts of Plant Operation,” on page 19
- Exhibit IV. “Change in SEV Due to Proposed Development,” on page 20
- Exhibit V. “Impact of Proposed Development on City of Midland Revenue,” on page 21
- Exhibit VI. “Impact of Proposed Development on City of Midland Costs,” on page 22
- Exhibit VII. “City of Midland Per-Capita Spending,” on page 23
- Exhibit VIII. “Taxes Paid on Project Site by Locality,” on page 24
- Exhibit IX. “2005 Industry Employment Breakdown - Midland Area, Michigan, USA,” on page 25
- Appendix 1: “Employment and Economic Impact Methodology” on page 10
- Appendix 2: “Fiscal Impact Methodology” on page 13

5. Calculation based on average price of electricity data provided by the U.S. Energy Information Administration. This data can be found in Caroline M. Sallee and Patrick L. Anderson, *Benchmarking for Success: A Comparison of State Infrastructure*, 2006.

ABOUT ANDERSON ECONOMIC GROUP

Anderson Economic Group LLC specializes in economics, public policy, finance, market analysis, and land use economics.

AEG's past clients include:

- Governments, such as the states of Michigan, North Carolina, and Wisconsin; the cities of Detroit, MI, Cincinnati, OH, Norfolk, VA, and Fort Wayne, IN; counties such as Oakland County, Michigan, and Collier County, Florida; and authorities such as the Detroit-Wayne County Port Authority;
- Corporations such as GM, Ford, Delphi, Honda, Metaldyne, Taubman Centers, The Detroit Lions, PG&E Generating; SBC, Gambrinus, Labatt USA, and InBev USA; automobile dealers and dealership groups representing Toyota, Honda, Chrysler, Mercedes-Benz, and other brands;
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Mr. Rosaen's recent work includes an analysis of the impact of tax incentives on the freight rail industry, and an analysis of the economic impact of a second bridge span for the Ambassador Bridge in Southeast Michigan.

Prior to joining Anderson Economic Group, Mr. Rosaen worked for the Office of Retirement Services (part of the Michigan Department of Management and Budget) for the Benefit Plan Design group. He has also worked as a mechanical engineer for Williams International in Walled Lake, Michigan.

Mr. Rosaen holds a Master's in Public Policy from the Gerald R. Ford School of Public Policy at the University of Michigan. He also has a Master's of Science and a Bachelor's of Science in mechanical engineering from the University of Michigan.

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Mr. Anderson is a graduate of the University of Michigan, where he earned a Masters degree in Public Policy and a Bachelors degree in Political Science. He has been a member of the National Association for Business Economics since 1983.

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This report is based on publicly available information; and regional, industry, and other information known to us that we deem, in our professional judgement, to be reliable or indicative at the current time.

This report does not constitute investment or tax advice. Readers are advised that this report, like all reports analyzing the likely course of future events, contains analyses, projections, and conjectures based on limited and imperfect information. Therefore, the actual future course of events are certain to deviate in some manner from those anticipated in this report. We may revise this report without notice to past readers.

Appendix I: Employment and Economic Impact Methodology

In this paper we have examined the direct and indirect impact of the proposed power plant development on employment in the Midland region and on earnings in the region for the construction period (2009-2013), and once the plant is operating (2014 and beyond). For this analysis, we define the region as including Midland, Bay, and Saginaw counties.

Impact During Plant's Construction

In order to estimate the employment impact during the plant's construction we estimated the impacts of the workers employed in construction, and of the material purchases associated with the construction.

Direct Employment Impact. The clearest impact on employment in the region is due to hiring workers directly to construct the plant. Using monthly manpower estimates provided by Mid-Michigan Energy (which covers the construction period from July 2009 to June 2013), we estimated the number of full time equivalent workers for each year from 2009 to 2013, as shown in Exhibit II. "Employment Impact in Midland, Bay, and Saginaw Counties of Proposed Coal Power Plant," on page 18.

Indirect Employment Impact. We also estimated the indirect impact of the construction hiring, which is the employment created in the region as workers spend their wages in the region. To do this, we used multipliers provided by the U.S. Bureau of Economic Analysis' Regional Input-Output Modeling (RIMS II) series for the tri-county region. The Direct-Effect Employment multiplier for the construction industry in the region is 1.7603, meaning that for each person hired in the construction industry, a total of 1.7603 jobs will be created (that is, 0.7603 jobs that are *in addition* to the first hire). Multiplying the directly-hired number of workers in the construction industry by 0.7603 yields the number of indirectly created jobs in the region.

Construction Spending on Materials in Each Year. In order to calculate the employment impact of construction material purchases, we first needed to estimate the amount spent in each year. Mid-Michigan Energy provided us with the estimated spending on several construction tasks, detailed in Exhibit II. "Employment Impact in Midland, Bay, and Saginaw Counties of Proposed Coal Power Plant," on page 18. They also estimated the percentage of the spending in each category that would be spent in the region, as opposed to money spent on engineering or equipment assembly in another region or state. These shares range from 0% to 40%, and are detailed in Exhibit II. Multiplying the total spending by the percentage that occurs within the region yields the total in-region spending for each task. We then subtract the amount spent on wages (which is already accounted for in the direct and indirect employment impact), which is 13.3% of the total, from each task, in essence assuming that the same

proportion of each task's spending goes toward spending on materials. Finally, we assigned a portion of the total in-state spending on materials for each task to each year of the construction. This was done in proportion to the number of workers used in the construction in that year.

Employment Impact of Construction Materials Spending. We estimated the employment impact of the construction spending using the RIMS II Final Demand Employment multiplier for the construction industry in the tri-county region. The multiplier is 14.0732, meaning that each million dollars of spending by construction industry in the region creates 14.0732 jobs in the region.

Direct Earnings Impact of Construction. We estimated the direct earnings impact of the construction by assuming that each full-time equivalent worker earns the same amount throughout the construction, assigning an equal portion of the \$200,000,000 that Mid-Michigan Energy estimates it will spend on wages during construction to each worker.

Indirect Earnings Impact of Construction Employment. We estimated the indirect earnings impact on construction employment in the area using the RIMS direct-effect earnings multiplier for the construction industry. The Direct-Effect Earnings multiplier is 1.5967, meaning that for each \$1 in new construction-industry earnings in the area, an additional \$0.5967 in earnings will be caused indirectly in all other industries in the region.

Indirect Earnings Impact of Construction Purchases. We estimated the indirect earnings impact on construction purchases in the area using the RIMS Final Demand Earnings multiplier for the construction industry. The Final Demand Earnings multiplier is 0.5334, meaning that for each \$1 million in new construction-industry spending in the area, an additional \$0.5334 in earnings will be caused indirectly in all other industries in the region.

Annual Impact During Plant's Operation

We estimate the impact on employment of the plant's operation using the RIMS II Direct Effect Utilities industry multiplier for the tri-county area. This multiplier, 2.3770, implies that for each directly-hired new employee in the utilities industry, 2.3770 total, or 1.3770 *additional, indirectly-created* jobs are created in the region.

We further estimate the impact on earnings in the region due to the plant's operation. To do this, we begin with the \$9.2 million in earnings (including benefits) directly paid to the 100 new employees, as estimated by Mid-Michigan Energy. We multiply these earnings by the RIMS II Direct-Effect Earnings multiplier for the Utilities industry, 1.4853. This means that for each dollar of earnings from direct employment in the region's utilities industry, \$1.4853, or an *additional* \$0.4853 is earned by other workers in the region.

We further estimate the earnings and employment impact of operations spending by the plant. While the vast bulk of operational spending by the plant will go toward fuel, Mid-Michigan Energy estimates that the plant will spend approximately \$750,000 per year in the Midland-Saginaw-Bay Counties region on operations, including non-rail transportation and contracting for maintenance. It is possible that additional employment may be created in the operation or track maintenance activities of regional short-line railroads. We estimate the earnings and employment impact of this spending using the RIMS II Final Demand Earnings (4.6653 jobs created per \$1 million in spending) and Employment (\$0.2644 in earnings created per \$1 million in spending) multipliers for the utilities industry in the region.

Appendix 2: Fiscal Impact Methodology

We estimate the fiscal impact on the city of Midland of the proposed power plant (detailed in Table 2, “Fiscal Impact of Proposed Power Plant on City of Midland,” on page 5) by adding the net change in costs to the net change in revenues due to the development. In this appendix we detail the methods and assumptions underlying these spending and revenue estimates.

Change in State Equalized Value

Much of the change in revenue to the city of Midland’s government due to the development will stem from changes in property values. We estimate the State Equalized Value (SEV) of the construction site with and without the development.

Construction Site SEV Without Project. We assume that the construction site’s SEV will start at its existing value and appreciate by 2.2% per year after that.⁶ According to LS Power LLC, the construction site will consist of the following parcels:

- 25 out of the 48 acres, or 52% of the parcel at 4055 S Saginaw Rd in Midland.
- A 103 acre parcel at 4249 S Saginaw Rd in Midland.
- A 5 acre parcel at 4389 S Saginaw Rd in Midland.

Using this methodology, we estimate the 2007 SEV of this region is \$540,424.

Construction Site SEV With Project. There are 2 components to the SEV on the development site: real property and personal property. We estimate the SEV for real property on site to be equal to the cumulative construction spending to date. This is a conservative methodology because it is possible that the property would be assessed at a higher value than the construction cost alone. Nevertheless, this methodology is often used by assessors to establish an initial assessment. Using this methodology, the real SEV of the development site will rise to \$750 million by 2013 when the construction has finished (or 1/2 the estimated \$1.5 billion in spending on construction). We believe this conservatively estimates the real value of the site because it assumes that Mid-Michigan Energy will break even on the construction.

6. It is outside the scope of this analysis to precisely estimate the underlying growth level in Midland property values. SEV in Midland grew by 2.25% annually on average from 1995 to 2006 (source: City of Midland 2005-06 Annual Report, Assessing), which very closely matches national growth in inflation during that time (2.31% according to the Bureau of Labor Statistics’ online inflation calculator, found at <http://data.bls.gov/cgi-bin/cpicalc.pl>).

The SEV for personal property includes the personal property that is added to the site as part of the plant and the personal property value of the construction equipment on site during the construction. We estimate the SEV of the site's personal property to be 0.2% of the real property SEV. This is based on analysis of the tax records of a major coal power plant of comparable size (though slightly larger than the proposed site) elsewhere in Michigan.

Finally, we assume that the personal property value of the construction equipment on site is equal to 20% of the increase in real property SEV due to the construction in each year. This is based on a professional estimate; we are not aware of publicly-available comparison data for the value of construction equipment in construction of a power plant subject to Michigan's property tax valuation rules, but we think this is a reasonable estimate.

Non-Construction Site Midland SEV. We assume that the growth in property values outside the development site will not change due to the proposed development. This assumption is conservative (it is likely to lead to an understatement of the benefits of the development) for two reasons. First, residential, commercial, and industrial property values outside the immediate vicinity of large developments usually rise due to new employment and spending brought by the development's construction and operation. Second, there is no significant residential presence in the development site's immediate area. Furthermore, since the area adjacent to the development site already hosts large Dow Chemical and Dow Corning facilities (see Exhibit I. "Map of Proposed Development Site," on page 17), the nearest residential property probably already includes in its value the advantages and disadvantages of proximity to large industrial facilities.

Change in City of Midland Revenue

We estimate the change in revenue to the City of Midland's government by estimating the change in property tax receipts and the change in payments to the government for water and solid waste disposal.

Property Taxes. We estimate the change in property tax receipts due to the development by estimating the change in SEV at the site and taking into account certain tax abatements. The SEV for real and personal property at the site will change due to the construction, as detailed above in this appendix. We also assume that two tax abatements will reduce the amount of real property taxes paid. First, Mid-Michigan Energy expects to receive air pollution control tax abatements under P.A. 451, part 59, which provides a 100% abatement on property dedicated to air pollution control. Mid-Michigan Energy estimates that approximately 25% of construction spending will be on air pollution abatement equipment that qualifies for abatement under P.A. 451. Second, Mid-Michigan Energy plans to apply for an industrial facilities exemption certificate pursuant to P.A. 198 of 1974, which would reduce their tax liability (except for the state education tax) on real property by 50% during the construction and for a period of 12 years after the plant begins operating. While the application process has

not been completed, assuming that this tax reduction is allowed is a conservative assumption because the inclusion of tax abatements in any fiscal impact analysis results in a lower positive (or higher negative) impact finding.

Direct Payments to City. According to Mid-Michigan Energy, the plant operators expect to pay annually for raw water supply and solid waste disposal services provided by the city, approximately \$1 million for each. Note that local governments also receive a per-resident state revenue sharing payment. This amount is based on the community's population as determined in the most recent decennial census. We do not attempt to account for construction-related residents counted during the 2010 decennial census. The new additions to Midland's population due to the plant's operation will not be counted until the 2020 census, which is beyond the scope of this report.

Change in City of Midland Spending

We estimate the change in the City of Midland's spending due to the proposed development in two parts. First, the change in spending in all categories of spending due to the additional residents added to the city, estimated by multiplying a per-capita spending estimate (detailed in Exhibit VII. "City of Midland Per-Capita Spending," on page 23) by the number of residents added during construction and operation of the plant.

Number of New Residents. While most of the people employed during the construction of the plant will likely come from outside the region, in order to account for the workers' presence in the community during the construction period we assumed that each person employed in construction would add the equivalent of 10% of a new resident to the city for per-capita city spending purposes. Once the plant is operating, we estimate that 50 of the 100 employees of the new plant will live in Midland, adding 50 residents to Midland.

Per-Capita Spending on New Residents. As detailed in Exhibit VII. "City of Midland Per-Capita Spending," on page 23, Midland's city government spent about \$1,141 per resident on city services in fiscal year 2006-07. However, we do not expect that each *new* resident of Midland will cause this amount of additional spending because he or she will share the existing human and physical infrastructure currently existing in the community.⁷ Based on this reasoning, we estimate that each *new* resident brought by the development will add \$381.18 to the city budget, in 2007 dollars. This estimate is based on the following: first, we calculate a 3-year average for the fiscal years beginning in 2005-2007 for per-

7. For example, each new resident to the city will not result in building a fractional new fire or police station, or an increase in the budget of the city planning department. This difference between average and marginal spending holds when, as in this development scenario, the number of new residents is small compared to the existing community, and if the new residents are not all being added to a new residential area that was previously undeveloped.

capita spending on each spending category; next, we estimate the proportion of the average spending likely to be required for each marginal resident for each spending category, assigning 100%, 50%, or 20% of the average.

Services Provided Directly to Power Plant by City Government. We have relied on estimates by Mid-Michigan Energy of water supply and solid waste disposal needs. We assume that their estimated payments to the city during the plant's operations (\$1 million annually for each service) will correspond exactly to the city's spending on providing these services.

EXHIBIT I. Map of Proposed Development Site



Exhibit II: Employment and Earnings Impact in Midland, Bay, and Saginaw Counties of Proposed Coal Power Plant Construction

	Note	2009 (Partial)	2010	2011	2012	2013 (Partial)	TOTAL
Employment in Plant Construction							
Direct employment in Michigan in construction	(1)	69	558	1,088	742	25	2,481
Direct-effect employment multiplier	(2)	* 0.7603	* 0.7603	* 0.7603	* 0.7603	* 0.7603	* 0.7603
Indirect employment in Michigan due to construction		52	425	827	564	19	1,886
Total Employment Impact of Construction Labor		121	983	1,914	1,306	44	4,368
							Total Spending in Region
Employment Due to Non-Payroll Construction Expenditures							
<i>Construction Spending in Region (millions)</i>							
Site Preparation	(3)	\$ 0.67	\$ 5.46	\$ 10.64	\$ 7.25	\$ 0.24	\$ 24.27
Buildings		\$ 0.62	\$ 5.07	\$ 9.88	\$ 6.74	\$ 0.23	\$ 22.53
Equipment Procurement		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
General Engineering		\$ 0.05	\$ 0.39	\$ 0.76	\$ 0.52	\$ 0.02	\$ 1.73
Construction - Mechanical		\$ 0.94	\$ 7.61	\$ 14.81	\$ 10.10	\$ 0.34	\$ 33.80
Construction - Electrical/Controls/Instrumentation		\$ 0.36	\$ 2.93	\$ 5.70	\$ 3.89	\$ 0.13	\$ 13.00
Construction - Pipe fitting, insulation, lagging		\$ 0.34	\$ 2.73	\$ 5.32	\$ 3.63	\$ 0.12	\$ 12.13
Construction - management, other		\$ 0.24	\$ 1.95	\$ 3.80	\$ 2.59	\$ 0.09	\$ 8.67
Owner Costs		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total non-wage expenditures in region		\$ 3.22	\$ 26.13	\$ 50.90	\$ 34.71	\$ 1.17	\$ 116.13
<i>Employment Impact of Purchases</i>							
Expenditure-employment multiplier	(4)	* 14.0732	* 14.0732	* 14.0732	* 14.0732	* 14.0732	* 14.0732
Total Employment Impact of Construction Purchases		45	368	716	489	16	1,634
Earnings Impact of Construction							
<i>Construction Employment</i>							
Earnings of Construction Workers (millions)	(5)	\$ 5.54	\$ 45.00	\$ 87.66	\$ 59.78	\$ 2.02	\$ 200.00
Direct-Effect Earnings Multiplier	(6)	* 0.5967	* 0.5967	* 0.5967	* 0.5967	* 0.5967	* 0.5967
Indirect earnings due to construction wages		\$ 3.31	\$ 26.85	\$ 52.31	\$ 35.67	\$ 1.20	\$ 119.34
<i>Construction Spending (millions)</i>							
Final Demand Earnings Multiplier	(7)	* 0.5334	* 0.5334	* 0.5334	* 0.5334	* 0.5334	* 0.5334
Indirect earnings due to construction spending		\$ 1.72	\$ 13.94	\$ 27.15	\$ 18.52	\$ 0.62	\$ 61.95
SUMMARY							
<i>Employment</i>							
Employment Impact of Construction		121	983	1,914	1,306	44	4,368
Employment Impact of Materials Purchases		45	368	716	489	16	1,634
TOTAL AREA EMPLOYMENT IMPACT		166	1,351	2,631	1,794	60	6,002
<i>Earnings</i>							
Direct earnings of construction workers		\$ 5.54	\$ 45.00	\$ 87.66	\$ 59.78	\$ 2.02	\$ 200.00
Indirect earnings area due to construction wages		\$ 3.31	\$ 26.85	\$ 52.31	\$ 35.67	\$ 1.20	\$ 119.34
Indirect earnings area due to construction spending		\$ 1.72	\$ 13.94	\$ 27.15	\$ 18.52	\$ 0.62	\$ 61.95
TOTAL AREA EARNINGS IMPACT (Millions)		\$ 10.56	\$ 85.80	\$ 167.11	\$ 113.97	\$ 3.84	\$ 381.29

Source for base data and expenditure assumptions: Mid-Michigan Energy.
Analysis: Anderson Economic Group LLC

Notes:

- Estimated by AEG using monthly employment estimates provided by Mid-Michigan Energy
- The indirect employment effect is calculated using a multiplier from the federal Bureau of Economic Analysis' RIMS II data series, which shows 1.7603 total jobs created in the Midland, Bay, and Saginaw Counties for each job created in the construction industry; the multiplier to calculate the indirect employment effect separately is one minus that number or 0.7603.
- Mid-Michigan Energy provided AEG with the total construction spending for each task; the proportion of total construction spending that will go toward wages; and the proportion of spending on each task they expect to be sourced locally. We assumed that each task will have the same proportion of spending go toward wages. We also assumed that spending in each year will be proportional to the number of employees on site, as shown in "Direct employment in Michigan in construction" above.
- The indirect employment effect of expenditures is calculated using a multiplier provided by the federal Bureau of Economic Analysis' RIMS II data series, which shows that for every \$1 million of expenditures by final purchasers in the Midland-Bay-Saginaw area construction industry, 14.0732 jobs are created in the area's economy.
- Mid-Michigan Energy provided AEG with their estimate of the total spending on wages during construction: \$200 million. This total amount is applied to each year of construction in proportion to the number of workers on site during construction.
- The indirect earnings effect of the wages paid to construction workers is calculated using a multiplier provided by the federal Bureau of Economic Analysis' RIMS II data series, which shows that for every \$1 of earnings in the construction industry in the Midland-Bay-Saginaw area construction industry, \$0.5967 in additional earnings are created in the area's economy.
- The indirect earnings effect of non-wage construction expenditures is calculated using a multiplier provided by the federal Bureau of Economic Analysis' RIMS II data series, which shows that for every \$1 million of final demand in the construction industry in the Midland-Bay-Saginaw area construction industry, \$0.5334 in additional earnings are created in the area's economy.

Task

Site Preparation	40%
Buildings	20%
Equipment Procurement	0%
General Engineering	5%
Mechanical	20%
Electrical/Controls	20%
Pipe fitting, insulation	20%
Construction management	20%
Owner Costs	0%

Spending In Region

Exhibit III: Employment and Earnings Impacts of Plant Operation on Midland, Saginaw, and Bay Counties (Annual, Starting 2013)

A. Change in Annual Earnings in Midland, Bay, and Saginaw Counties

(a) New Facility Employees - Total Annual Earnings			
Total Payroll, Including Benefits (2007 dollars)		\$	9,200,000
Additional Earnings Indirectly Generated	Direct-Effect Earnings Multiplier: 0.4853	\$	4,464,760
(b) New Facility Annual Expenditures			
Annual Operational Expenditures in Region		\$	750,000
Additional Earnings Indirectly Generated	Final Demand Earnings Multiplier: 0.2644	\$	<u>198,300</u>
TOTAL CHANGE IN EARNINGS			<u>\$ 13,863,060</u>

B. Employment Impact in Midland, Bay, and Saginaw Counties

(a) Directly-Created Jobs			
Total Directly-Created FTE Jobs			100.0
(b) Indirectly-Created Jobs due to Plant Employment			
Additional Jobs Indirectly Created	Direct-Effect Employment Multiplier: 1.377		137.7
(c) Indirectly-Created Jobs due to Plant Operations Spending			
Annual Operational Expenditures in Region		\$	750,000
	Final Demand Employment Multiplier: 4.6653		<u>3.5</u>
TOTAL JOB CREATION			<u>241.2</u>

Source: Mid-Michigan Energy. Analysis by Anderson Economic Group LLC.

Note: While the earnings increases won't occur until the new facilities are completed in 2013, all earnings are presented here in 2007 dollars to give a current reader an accurate sense of the magnitude.

Note on Multipliers: we use the Final Demand Employment and Earnings multipliers and the Direct Effect Employment and Earnings multipliers for the Utilities industry in the Midland, Saginaw, and Bay County area to characterize the impact of continuing operations, 2004 RIMS II Series.

Exhibit IV: Impact of Proposed Power Plant on City of Midland Property State Equalized Value

		2009	2010	2011	2012	2013	Annual
		Begin				Construction	Plant
		Construction				Complete	Operational
Property Values - With Project	Real Property SEV - Development Site	(1) \$ 20,780,856	\$ 189,546,599	\$ 518,261,965	\$ 742,443,325	\$ 750,000,000	\$ 750,000,000
	Personal Property SEV - Construction Equipment	(2) \$ 4,156,171	\$ 33,753,149	\$ 65,743,073	\$ 44,836,272	\$ 1,511,335	
	Personal Property SEV - Development Site	(3) \$ 41,562	\$ 379,093	\$ 1,036,524	\$ 1,484,887	\$ 1,500,000	\$ 1,500,000
	<i>Total Project Site SEV with Project</i>	\$ 24,978,589	\$ 223,678,841	\$ 585,041,562	\$ 788,764,484	\$ 753,011,335	\$ 751,500,000
Property Values - Without Project	Real Property SEV - Development Site	(4) \$ (564,464)	\$ (576,882)	\$ (589,574)	\$ (602,544)	\$ (615,800)	\$ (629,348)
	Personal Property SEV - Development Site	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
	<i>Total Project Site SEV without Project</i>	\$ (564,464)	\$ (576,882)	\$ (589,574)	\$ (602,544)	\$ (615,800)	\$ (629,348)
Net Change in SEV	Project Site SEV with Project	\$ 24,978,589	\$ 223,678,841	\$ 585,041,562	\$ 788,764,484	\$ 753,011,335	\$ 751,500,000
	Project Site SEV without Project	\$ (564,464)	\$ (576,882)	\$ (589,574)	\$ (602,544)	\$ (615,800)	\$ (629,348)
TOTAL NET CHANGE IN SEV		\$ 24,414,125	\$ 223,101,959	\$ 584,451,988	\$ 788,161,939	\$ 752,395,535	\$ 750,870,652

Notes:

- (1) Real property value of the development site is assumed to be equal to the cumulative value of the construction spending to date. SEV is 1/2 real property value.
- (2) Assumes that construction equipment SEV is 20% of the added real property SEV from each year to the next for 2009-2012.
- (3) Personal Property SEV is assumed to be 0.2% of real property value, based on AEG analysis of property tax records for a coal generating plant owned by a power company in Michigan. This includes any tax exemptions on pollution-abatement equipment.
- (4) Calculated using weighted average of actual SEV of project site for 2007, including portions of 3 parcels, as provided to AEG by Midwest Energy. SEV assumed to grow at 2.20% (an AEG estimate of the average inflation rate) annually after 2007.

Exhibit V: Impact of Proposed Power Plant on City of Midland Revenues

		2009	2010	2011	2012	2013	Annual
		Begin				Construction	Plant
		Construction				Complete	Operational
Property Taxes	Property Taxes - Development Site						
	Development Site Real SEV with Project	\$ 20,780,856	\$ 189,546,599	\$ 518,261,965	\$ 742,443,325	\$ 750,000,000	\$ 750,000,000
	City Property Tax Rate (Mills)	12.1	12.1	12.1	12.1	12.1	12.1
	<i>Real Property Taxes Paid - Before Abatements</i>	\$ 251,448	\$ 2,293,514	\$ 6,270,970	\$ 8,983,564	\$ 9,075,000	\$ 9,075,000
	PA 451 Abatement (Air Pollution Control Equipment)	(1) \$ (62,862)	\$ (573,378)	\$ (1,567,742)	\$ (2,245,891)	\$ (2,268,750)	\$ (2,268,750)
	PA 198 Abatement (Industrial Facilities Tax)	(2) \$ (94,293)	\$ (860,068)	\$ (2,351,614)	\$ (3,368,837)	\$ (3,403,125)	\$ (3,403,125)
	<i>Real Property Taxes Abated</i>	\$ (157,155)	\$ (1,433,446)	\$ (3,919,356)	\$ (5,614,728)	\$ (5,671,875)	\$ (5,671,875)
	Development Site Personal SEV with Project	(3) \$ 4,197,733	\$ 34,132,242	\$ 66,779,597	\$ 46,321,159	\$ 3,011,335	\$ 1,500,000
	City Property Tax Rate (Mills)	12.1	12.1	12.1	12.1	12.1	12.1
	<i>Personal Property Taxes Paid</i>	\$ 50,793	\$ 413,000	\$ 808,033	\$ 560,486	\$ 36,437	\$ 18,150
	Development Site SEV without Project	\$ (564,464)	\$ (576,882)	\$ (589,574)	\$ (602,544)	\$ (615,800)	\$ (629,348)
	City Property Tax Rate (Mills)	12.1	12.1	12.1	12.1	12.1	12.1
	<i>Property Taxes Without Project - Development Site</i>	\$ (6,830)	\$ (6,980)	\$ (7,134)	\$ (7,291)	\$ (7,451)	\$ (7,615)
	Net Change in Property Taxes - Development Site	\$ 138,256	\$ 1,266,088	\$ 3,152,513	\$ 3,922,032	\$ 3,432,111	\$ 3,413,660
Direct Payments to City for Services	Raw Water Supply	(4) \$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,000,000
	Solid Waste Disposal	(4) \$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,000,000
	Total Direct Payments for City Services	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,000,000
SUMMARY	NET CHANGE IN PROPERTY TAXES - DEVELOPMENT SITE	\$ 138,256	\$ 1,266,088	\$ 3,152,513	\$ 3,922,032	\$ 3,432,111	\$ 3,413,660
	TOTAL DIRECT PAYMENTS TO CITY FOR SERVICES	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,000,000
	TOTAL CHANGE IN REVENUE	\$ 138,256	\$ 1,266,088	\$ 3,152,513	\$ 3,922,032	\$ 3,432,111	\$ 5,413,660

Memo: See Exhibit IV for detailed calculation of SEV values in this exhibit.

Notes:

- (1) P.A. 451 of 1994, part 59 provides 100% property tax exemption to air pollution control facilities. Midwest Energy estimates that 25% of total spending on the proposed plant will go toward pollution control equipment, and plans to apply for a tax abatement under P.A. 451 of 1994, part 59. The abatement we apply is 25% of the real property taxes paid before abatements.
- (2) Mid-Michigan Energy plans to apply for an industrial facilities exemption certificate pursuant to Act 198 of 1974. It is anticipated the exemption will be in place during construction and for a period of 12 years after completion of construction. The abatement allows the property owner to pay the Industrial Facilities Tax in lieu of real property taxes on industrial property. The abatement is for 1/2 of the property taxes paid on real property to all taxing districts. We assume that this abatement applies to property not already subject to abatement under PA 451, Part 59 (see note 1 above). Therefore, we calculate the PA 198 abatement as 50% of the following amount: real property taxes after the PA 451 Part 59 abatement.
- (3) Includes Personal Property SEV of development site itself and construction equipment. See Exhibit IV.
- (4) Source: Estimate by Mid-Michigan Energy

Exhibit VI: Impact of Proposed Power Plant on City of Midland Spending

		2009	2010	2011	2012	2013	Annual
		Begin Construction				Construction Complete	Plant Operational
Increase in Spending Due to New Residents	Direct Increase in Employment in Midland	(1) 69	558	1,088	742	25	100
	Proportion Counting Toward Increasing Midland Residents	(2) 10%	10%	10%	10%	10%	50%
	Equivalent Increase in Midland Residents	7	56	109	74	3	50
	Per-capita spending	(3) \$ 381.18	\$ 381.18	\$ 381.18	\$ 381.18	\$ 381.18	\$ 381.18
Total Change in City Spending on New Residents		\$ 2,621	\$ 21,282	\$ 41,453	\$ 28,271	\$ 953	\$ 19,059
City-Provided Services to Power Plant	Raw Water Supply	3 \$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,000,000
	Solid Waste Disposal	3 \$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,000,000
Total Spending on Services for Power Plant		\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,000,000
SUMMARY	TOTAL CHANGE IN CITY SPENDING ON NEW RESIDENTS	\$ 2,621	\$ 21,282	\$ 41,453	\$ 28,271	\$ 953	\$ 19,059
	SPENDING ON SERVICES FOR POWER PLANT	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,000,000
	TOTAL CHANGE IN SPENDING	\$ 2,621	\$ 21,282	\$ 41,453	\$ 28,271	\$ 953	\$ 2,019,059

Notes:

- (1) Source: AEG estimates using data provided by Mid-Michigan Energy. See Note 1 in Exhibit II.
- (2) For the construction period (2009-2013) the increase in employment does not include any workers who will be permanent employees at the new power plant. We assume that they will either be sourced from the area or will live in the area temporarily. Because they are not permanent residents, and because the bulk of the time they spend in Midland will be during work hours, we assume their presence in the city will cost the city the equivalent of 10% of what the city would spend on new residents. For the period in which the plant is in operation, we assume (based on estimates from LS Power Development, LLC) that 50% of the employees of the power plant will constitute net new residents of Midland; the rest will be Midland residents changing jobs or will displace an existing Midland resident.
- (3) See Exhibit VII for a detailed calculation of our per-capita spending estimate.

Exhibit VII: City of Midland Per-Capita Spending

City of Midland Spending Category	Totals			Per-Capita Totals			New Resident Spending Calculation		
	2005-06 Actual	2006-07 Estimate	2007-08 Adopted	2005-06 Actual	2006-07 Estimate	2007-08 Adopted	Per-Capita 3-Year Average	Proportion Applied to New Residents	Per-Capita Spending on New Residents
General Government	\$ 4,418,846	\$ 5,093,660	\$ 5,162,746	\$ 106.01	\$ 122.19	\$ 123.85	\$ 117.35	50%	\$ 58.68
Police Department									
Non-Capital	\$ 5,554,081	\$ 5,728,838	\$ 6,058,806	\$ 133.24	\$ 137.43	\$ 145.35	\$ 138.67	50%	\$ 69.34
Capital Outlays	\$ 29,270	\$ 71,478	\$ 14,400	\$ 0.70	\$ 1.71	\$ 0.35	\$ 0.92	20%	\$ 0.18
Fire Department									
Non-Capital	\$ 4,871,585	\$ 5,192,793	\$ 5,370,680	\$ 116.87	\$ 124.57	\$ 128.84	\$ 123.43	50%	\$ 61.71
Capital Outlays	\$ 123,906	\$ 167,461	\$ 28,100	\$ 2.97	\$ 4.02	\$ 0.67	\$ 2.55	20%	\$ 0.51
Building Inspection	\$ 566,741	\$ 599,704	\$ 667,484	\$ 13.60	\$ 14.39	\$ 16.01	\$ 14.66	20%	\$ 2.93
Planning	\$ 571,587	\$ 561,717	\$ 513,890	\$ 13.71	\$ 13.48	\$ 12.33	\$ 13.17	20%	\$ 2.63
Emergency Services	\$ 7,871	\$ 9,836	\$ 10,867	\$ 0.19	\$ 0.24	\$ 0.26	\$ 0.23	50%	\$ 0.11
Public Works									
City Engineer	\$ 187,617	\$ 150,309	\$ 131,385	\$ 4.50	\$ 3.61	\$ 3.15	\$ 3.75	20%	\$ 0.75
Administration	\$ 389,681	\$ 432,630	\$ 464,204	\$ 9.35	\$ 10.38	\$ 11.14	\$ 10.29	20%	\$ 2.06
Public Works Activities	\$ 547,886	\$ 668,470	\$ 921,280	\$ 13.14	\$ 16.04	\$ 22.10	\$ 17.09	20%	\$ 3.42
Sidewalks	\$ 362,816	\$ 367,367	\$ 465,594	\$ 8.70	\$ 8.81	\$ 11.17	\$ 9.56	20%	\$ 1.91
Public Lighting	\$ 398,136	\$ 397,880	\$ 407,529	\$ 9.55	\$ 9.54	\$ 9.78	\$ 9.62	50%	\$ 4.81
Traffic Services	\$ 57,324	\$ 61,088	\$ 78,875	\$ 1.38	\$ 1.47	\$ 1.89	\$ 1.58	50%	\$ 0.79
Sanitation	\$ 2,346,672	\$ 2,280,714	\$ 2,355,705	\$ 56.30	\$ 54.71	\$ 56.51	\$ 55.84	100%	\$ 55.84
Parks and Recreation	\$ 3,410,226	\$ 3,759,203	\$ 3,708,911	\$ 81.81	\$ 90.18	\$ 88.97	\$ 86.99	50%	\$ 43.49
Airport	\$ 176,711	\$ 360,154	\$ 322,932	\$ 4.24	\$ 8.64	\$ 7.75	\$ 6.88	20%	\$ 1.38
Other Functions	\$ 6,447,071	\$ 16,052,134	\$ 7,944,665	\$ 154.66	\$ 385.08	\$ 190.59	\$ 243.44	20%	\$ 48.69
Other Financing Uses	\$ 5,578,477	\$ 5,614,899	\$ 2,522,594	\$ 133.82	\$ 134.70	\$ 60.52	\$ 109.68	20%	\$ 21.94
TOTAL	\$ 36,046,504	\$ 47,570,335	\$ 37,150,647	\$ 864.74	\$ 1,141.19	\$ 891.22	\$ 965.71	39%	\$ 381.18

Source for Spending Totals: City of Midland Combined Summary of Budget Appropriations and Revenues, Fiscal Year Ending June 30, 2008

Note: Per-capita values calculated using the 2000 Census population, or 41,685, for each of the fiscal years 2005-2007.

Exhibit VIII. Taxes Paid on Project Site by Locality

	Effective Rate (mills)	2009	2010	2011	2012	2013	Annual
		Begin Construction				Construction Complete	Plant Operational
Property Values							
Real Property SEV on Site		\$ 20,780,856	\$ 189,546,599	\$ 518,261,965	\$ 742,443,325	\$ 750,000,000	\$ 750,000,000
Personal Property SEV on site		\$ 4,197,733	\$ 34,132,242	\$ 66,779,597	\$ 46,321,159	\$ 3,011,335	\$ 1,500,000
Real Property Taxes							
<u>City of Midland Taxes</u>							
City Tax	4.5375	\$ 94,293	\$ 860,068	\$ 2,351,614	\$ 3,368,837	\$ 3,403,125	\$ 3,403,125
<u>School District</u>							
Midland Public Schools	7.5000	\$ 155,856	\$ 1,421,599	\$ 3,886,965	\$ 5,568,325	\$ 5,625,000	\$ 5,625,000
<u>County and Community College</u>							
Midland County	3.0208	\$ 62,775	\$ 572,585	\$ 1,565,572	\$ 2,242,782	\$ 2,265,609	\$ 2,265,609
Delta College	0.7660	\$ 15,918	\$ 145,195	\$ 396,995	\$ 568,721	\$ 574,509	\$ 574,509
Midland County ESA	0.4409	\$ 9,161	\$ 83,562	\$ 228,476	\$ 327,306	\$ 330,638	\$ 330,638
<u>State and Regional Revenue</u>							
State Education Tax	4.5000	\$ 93,514	\$ 852,960	\$ 2,332,179	\$ 3,340,995	\$ 3,375,000	\$ 3,375,000
Personal Property Taxes							
<u>City of Midland Taxes</u>							
City Tax	12.1000	\$ 50,793	\$ 413,000	\$ 808,033	\$ 560,486	\$ 36,437	\$ 18,150
<u>School District</u>							
Midland Public Schools	20.0000	\$ 83,955	\$ 682,645	\$ 1,335,592	\$ 926,423	\$ 60,227	\$ 30,000
<u>County and Community College</u>							
Midland County	8.0555	\$ 33,815	\$ 274,952	\$ 537,943	\$ 373,140	\$ 24,258	\$ 12,083
Delta College	2.0427	\$ 8,575	\$ 69,722	\$ 136,411	\$ 94,620	\$ 6,151	\$ 3,064
Midland County ESA	1.1756	\$ 4,935	\$ 40,126	\$ 78,506	\$ 54,455	\$ 3,540	\$ 1,763
<u>State and Regional Revenue</u>							
State Education Tax	6.0000	\$ 25,186	\$ 204,793	\$ 400,678	\$ 277,927	\$ 18,068	\$ 9,000
Total Taxes							
<u>City of Midland Taxes</u>							
City Tax		\$ 145,086	\$ 1,273,068	\$ 3,159,647	\$ 3,929,323	\$ 3,439,562	\$ 3,421,275
<u>School District</u>							
Midland Public Schools		\$ 239,811	\$ 2,104,244	\$ 5,222,557	\$ 6,494,748	\$ 5,685,227	\$ 5,655,000
<u>County and Community College</u>							
Midland County		\$ 96,590	\$ 847,537	\$ 2,103,515	\$ 2,615,922	\$ 2,289,867	\$ 2,277,693
Delta College		\$ 24,493	\$ 214,917	\$ 533,406	\$ 663,341	\$ 580,661	\$ 577,573
Midland County ESA		\$ 14,096	\$ 123,687	\$ 306,982	\$ 381,761	\$ 334,178	\$ 332,401
<u>State and Regional Revenue</u>							
State Education Tax		\$ 118,700	\$ 1,057,753	\$ 2,732,856	\$ 3,618,922	\$ 3,393,068	\$ 3,384,000
TOTAL PROPERTY TAXES PAID		\$ 638,776	\$ 5,621,207	\$ 14,058,963	\$ 17,704,017	\$ 15,722,562	\$ 15,647,942

Source: Base tax rates from City of Midland, office of Treasurer. Analysis by AEG.

Notes:

See Exhibit IV for detailed calculation of net change in SEV.
Base tax rates used are 2006 non-homestead property tax rates.

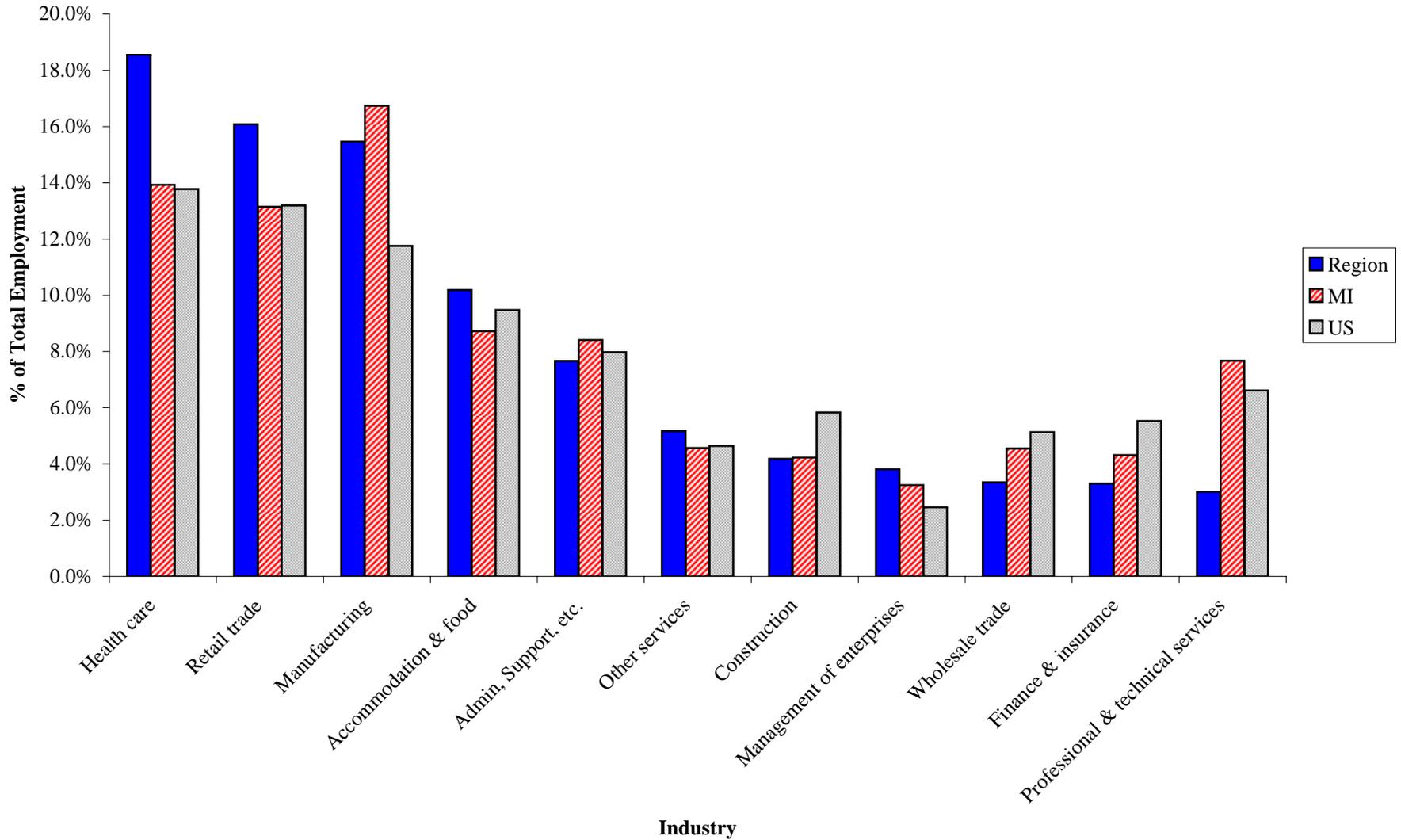
Effective tax rates take into account tax abatements that Mid-Michigan Energy plans to apply for. Mid-Michigan Energy estimates that 25% of its real property will be eligible for a 100% abatement under PA 451, part 59, subtracting 25% from the base rate of all taxes on real property. Mid-Michigan Energy also plans to apply for an industrial facilities exemption certificate pursuant to Act 198 of 1974. The abatement will be in place during the construction period and for a period of 12 years after completion of construction and would be for 1/2 of the property taxes paid on real property to all taxing districts except the state education tax.

Total property taxes paid does not include the administrative fee paid to the city for processing property tax payments.

Property Tax Rates:

	Base Rate (mills)
City Tax	12.1000
Midland Public Schools	20.0000
Midland County	8.0555
Delta College	2.0427
Midland County ESA	1.1756
State Education Tax	6.0000

Exhibit IX: 2005 Industry Employment Breakdown, Midland, Michigan Tri-County Area



Source: U.S. Census Bureau, County Business Patterns

Anderson Economic Group LLC