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Executive Summary

FirstEnergy is one of two primary electric utility providers in West Virginia. The company serves approximately 530 thousand customers in the state through its two subsidiaries: Mon Power in the northern and central parts of the state, and Potomac Edison in the state’s Eastern Panhandle. In this study we analyze the economic impact of the company’s Harrison Power Station, located in Harrison County. Our findings are summarized as follows:

- Harrison Power Station generates more than $1.0 billion in total economic activity in the West Virginia economy. For context, note that the GDP for the entire state of West Virginia is around $75 billion.
- The Station’s operations support over 2,200 jobs in state.
- Employees of the power station and supported industries earn more than $150 million in compensation.
- The power station generates nearly $40 million in select tax revenue for the State of West Virginia and local governments in the state.

Figure 1: Total Economic Impact of the Harrison Power Station


1 Introduction

FirstEnergy is one of two primary electric utility companies in West Virginia. The company serves approximately 530 thousand customers in the state through its two subsidiaries: Mon Power in the northern and central parts of the state, and Potomac Edison in the state’s Eastern Panhandle region.

In this study we estimate the economic impact of the company’s Harrison Power Station, located in Harrison County. Harrison Power Station contains three coal-fired units that have the capacity to produce a total of 1,984 MW of electricity.\(^1\) The station came online between 1972 and 1974 and consumes more than 5 million tons of coal annually.\(^2\) We estimate the economic impact that this plant generates in Harrison County specifically and in West Virginia as a whole.

2 Methodology

To estimate the economic impacts of the Harrison Power Station, we use a detailed model of the West Virginia economy that outlines how trade flows among industries interact with key economic indicators such as employment, income, output, and tax revenue.\(^3\) The power station’s expenditures for fuel, wages, benefits, and other items are referred to as the direct economic impact of the power station. However, the total economic impact is not limited to the direct impact, but also includes the secondary economic impacts accrued as those expenditures are re-spent throughout the rest of the economy.

For example, as depicted in Figure 2, each year the Harrison Power Station purchases a variety of goods and services, such as coal, lime, insurance, and various other items. In this case, the direct impact is the operating expenditure the station made over the course of a given year. As the suppliers of these inputs increase production, their subsequent suppliers will increase production, and so on. This additional economic activity is referred to as indirect impacts. Also, the Harrison Power Station directly employs hundreds of workers, part of whose income will be spent in the West Virginia economy, which generates additional output, income, and employment. This activity is referred to as induced impacts.

These secondary impacts together form what is known as the “multiplier effect.” The original stimulus to the economy from the Power Station’s expenditures is re-spent multiple times through the rest of the economy. At each stage, some of the expenditures “leak” out of West Virginia as they are spent at companies outside the state. The combined direct impact and secondary impacts together constitute the total economic impact of the Harrison Power Station’s operations.

\(^1\) See https://www.firstenergycorp.com/content/dam/corporate/generationmap/files/FE-Harrison%20Fact%20Sheet.pdf for more details.

\(^2\) This represents nearly 6 percent of West Virginia’s total coal production for 2017.

\(^3\) This study was conducted using the IMPLAN modeling software, an industry-standard input-output model of the economy. More information about IMPLAN can be found at http://www.implan.com.
To conduct this analysis, we make several assumptions. First, in order to estimate the economic impact of the power station, we assume a counterfactual scenario in which the power station is simply eliminated from the local economy. This type of analysis is called an economic contribution analysis, and assumes the rest of the economy is unchanged by the elimination of the power station. Second, we assume that permanent employees of the power station live within the state boundaries, and spend the majority of their income within the state.
3 Economic Impact

In this section we estimate the economic impact of the Harrison Power Station. The data used in this study relating to the employment and expenditures of the Harrison Power Station were provided by FirstEnergy and were not independently audited by the authors. The company made available annual expenditure data for 2016 and 2017, which were disaggregated into several categories, including employee compensation, fuel purchases, capital expenditures, and other expenses. To determine the direct impact of these expenditures we average the two years of data together to calculate an average annual direct impact of the power station in the local economy.

In general, the economic impact of the power station will be lower in the county economy than in the state as a whole. In the state economy, the economic impact is distributed across a wider economic area, allowing the supply chains for the power plants to be more completely contained within the region under study. If we expand the region to include these inputs, the secondary impacts are more fully accounted for. However, in the case of the Harrison Power Station, the large majority of the inputs are sourced within the county. For example, according to the US Energy Information Administration, all of the coal for the power plant is purchased from Murray Energy’s Harrison County Mine, which has the effect of increasing the economic impact within Harrison County.

Based on FirstEnergy financial statements, average annual expenditures at the Harrison Power Station were $487 million over the course of 2016 and 2017. The power station directly employed 237 workers, who earned a total compensation of nearly $55 million.

We estimate that power plant expenditures generated an additional $536 million in secondary impacts in the West Virginia economy (see Table 1), resulting in a total economic impact of just over $1 billion in output in the state’s economy. We estimate that the power plant supported 1,969 jobs in the secondary economy, resulting in a total employment impact of 2,206 jobs. The overall economic activity associated with this operation is estimated to generate a total of $38 million in selected state and local tax revenue.4

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4 Tax revenue include sales, personal income, property, and corporation net income taxes. Note: this figure does not include the coal severance tax. Doing so would increase the tax revenue impact.
Table 1: Impact of Harrison Power Station on the West Virginia Economy

<table>
<thead>
<tr>
<th>Type of Impact</th>
<th>Direct</th>
<th>Indirect and Induced</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output ($, millions)</td>
<td>487.0</td>
<td>536.4</td>
<td>1,023.4</td>
</tr>
<tr>
<td>Employment (jobs)</td>
<td>237</td>
<td>1,969</td>
<td>2,206</td>
</tr>
<tr>
<td>Employee Compensation ($, millions)</td>
<td>54.9</td>
<td>97.3</td>
<td>152.2</td>
</tr>
<tr>
<td>State and Local Tax Revenue ($, millions)</td>
<td>26.3</td>
<td>12.1</td>
<td>38.4</td>
</tr>
</tbody>
</table>

Notes: Output, Employee Compensation, and Tax Revenue are measured in 2017 dollars. Tax Revenue impact includes sales, personal income, property, and corporation net income taxes.

Harrison Power Station’s impact on the Harrison County economy specifically (Table 2) is very similar to its overall impact on the state as a whole. As reported in Table 2, the power station’s output impact on the Harrison County economy is just over 1 billion, and the power station is estimated to support about 2,122 jobs in the economy, with total compensation of nearly $152 million. The overall economic activity associated with this operation is estimated to generate about $38 million in select state and local tax revenues.

It is unusual in impact analyses to observe a situation such as this where the county-level and statewide economic impacts are so similar. However, in this case this result is understandable because the Harrison Power Station sources its entire coal purchase from suppliers within the county, and coal accounts for a very large share of the station’s materials inputs.

Table 2: Impact of Harrison Power Station on the Harrison County Economy

<table>
<thead>
<tr>
<th>Type of Impact</th>
<th>Direct</th>
<th>Indirect and Induced</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output ($, millions)</td>
<td>487.0</td>
<td>514.8</td>
<td>1,001.8</td>
</tr>
<tr>
<td>Employment (jobs)</td>
<td>237</td>
<td>1,885</td>
<td>2,122</td>
</tr>
<tr>
<td>Employee Compensation ($, millions)</td>
<td>54.9</td>
<td>96.7</td>
<td>151.6</td>
</tr>
<tr>
<td>State and Local Tax Revenue ($, millions)</td>
<td>26.3</td>
<td>12.0</td>
<td>38.3</td>
</tr>
</tbody>
</table>

Notes: Output, Employee Compensation, and Taxes are measured in 2017 dollars. Tax impact includes sales, personal income, property, and corporation net income taxes.
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