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Economic Impacts of Midwest Generation Generating Stations In Illinois

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The Center for Governmental Studies (CGS) at Northern Illinois University conducted an analysis of the estimated economic impact of Midwest Generation's four power generation facilities in Illinois. Economic impact analysis is a widely used approach to evaluating the economic value of an activity, power generation facilities in this case. The facilities include the Powerton Generating Station in Pekin, the Waukegan Generating Station, in Waukegan, the Joliet 29 Generating Station, in Joliet, and the Will County Generating Station in Romeoville. The statewide combined impacts of the facilities will be presented, along with more focused analyses for each of the host regions. The regional impact sections include local property tax revenues paid by each facility.

The economic activity of an industry is linked with other industries in the region through employee expenditures and supplier relationships. Employment and payroll figures only illustrate a portion of the importance of an industry or individual facility to the local economy. The study will focus on the direct, indirect and induced impacts which result from the operations of the generating stations. These impacts are more fully described in the methodology section at the end of this report.

Four metrics are used to describe the economic impacts of the generating stations. *Employment* measures the number of full and part-time jobs created because of the facilities' operations. *Labor income* is the pay and benefits associated with those jobs. *Value-added* represents the difference between the value of goods and services purchased as production inputs and the value of goods and services produced. Value added is a measure of the total economic impact of the project, similar to Gross State Product. Finally, *total output* is the value of production at the generating stations as well as all of the other firms in the region that are impacted through the multiplier effects.

Methodology:

To understand the full effect that a firm or industry has on the economy, including its relationship to other sectors, input-output economic analysis is employed. Input-output analysis is founded on the principle that industries are interdependent. One industry purchases inputs from other industries and households (i.e. labor) then sells outputs to other industries, households, and government. Additional induced impacts occur when workers involved in direct and indirect activities spend their wages on consumer goods produced or sold in the region and local economy. Therefore, economic activity in one sector impacts other sectors.

Direct Activity: The direct economic activity associated with the generation facilities is the spending by the facility itself in the course of its operations. This includes the purchase of goods and services and the paying of its employees.

Indirect Activity: The indirect economic activity of the operations refers to additional jobs and payroll created in the surrounding economy as a result of the purchase of inputs by the generating facilities. This might be goods such as fuel or services such as equipment repair, accounting and legal services.

Induced Activity: The induced economic activity is the additional activity that results from the generating facility employees spending their income in the local economy.

Multipliers

Input-output analysis generates estimates of indirect economic impacts commonly referred to as "multiplier effects." Multiplier effects measure the impacts on output, income, and employment that result from an increase in final demand. A unit increase in final demand (an additional dollar of output or employee compensation, or one additional job in the sector) results in a total increase in output, income, or employment in the economy equal to its multiplier. That is, multipliers estimate the amount of direct, indirect, and induced effects on income or employment that result from each additional dollar of output, additional job, and additional dollar of employee compensation in a sector. This study will estimate the direct and indirect impacts in terms of employment and personal income**.**

The input-output economic analysis conducted in this study used the IMPLAN input-output economic modeling application. IMPLAN is an economic software that incorporates over 90 data sources of economic data. The data sources include the U.S. Bureau of Economic Analysis, the U.S. Department of Agriculture, the U.S. Bureau of Labor Statistics, and the U.S. Census Bureau. The IMPLAN modeling system is an interactive, computer-based modeling system capable of producing input-output accounts and input-output models for any region in the United States as small as a single county. The system consists of regional data bases and software that allow users to develop these models for the purposes of describing the structure of regional economies and/or predictive analyses, especially those associated with estimating the economic impacts of a quantifiable change in regional production.

Statewide Impacts of Midwest Generation Generating Stations

Across the four sites in this analysis, Midwest Generation employed 303 people in 2020, of which 270 jobs were held by Illinois residents. The two counties with the most residents employed were Will County and Tazewell County. Powerton Coal Generating Station has the largest employment size of the four sites and is located in Pekin near Peoria in Tazewell County. The Will County Generating Station and Joliet Generating Station are located about 10 miles from each other in Will County. The jobs at Midwest Generation are well-paying, with an average employee compensation (including benefits) of more than $169,000 in 2020.

Table 1. Midwest Generation Employment Levels, 2020

Generating Station	Employees
Joliet	54
Powerton	113
Waukegan	83
Will County	53
Total	303

Source: Midwest Generation.

Across Illinois, the operations of the four generating stations created a total of more than 1,300 jobs. According to the IMPLAN model, the employment multiplier is 4.7, meaning that for every 10 people employed at the generating stations, another 37 jobs are supported across Illinois through the indirect and induced effects.

The statewide income associated with these 1,300 jobs is over $112 million. For every $1,000 earned by employees, the IMPLAN model calculates that another $1,300 in labor income is generated through the indirect and induced effects.

The total economic impact of the four Midwest Generation facilities is over $555 million, as measured by total output. This represents in the value of production at the generating stations and the revenues of suppliers and local businesses where Midwest Generation employees purchase goods and services. These impacts are spread across the state but are primarily focused in the local regions where the plants operate and the employees live.

Table 2. Statewide Impacts of Midwest Generation Generating Stations

Impact Type	Employment	Labor Income*	Value Added	Output
Direct	303	$51,228,531	$170,103,091	$377,422,194
Indirect	488	$34,048,046	$56,214,473	$99,100,796
Induced	514	$27,025,444	$47,996,919	$78,931,779
Total	1,305	$112,302,021	$274,314,483	$555,454,769
Multiplier	4.7	2.3	1.6	1.5

*Labor income impacts have been adjusted for the commuting patterns of Midwest Generation employees by removing employees that live outside of Illinois from the analysis.
Source: IMPLAN, 2020.

The next sections estimate the impacts in the local regions. It should be noted that the total of the three regional impact estimates are less than the statewide totals. This is due to the fact that some of the impacts occur outside of the regions that are analyzed, but still in Illinois.

For example, 10 employees of the Powerton Generating Station live outside of the region used for the analysis, but still within Illinois. Thus, those employees spending their incomes in their local economy creates impacts in Illinois, but not in the region of analysis for Powerton.

Powerton Generating Station

The Powerton Generating Station is located in Pekin, IL (population 32,255), the second-largest city in the Peoria metropolitan area. It has a maximum capacity of 892.8 megawatts and the current operating units have been in operation since 1972.[1]

Powerton Coal Generating Station employed 113 people in 2020, of which 84% lived in Mason, Peoria, or Tazewell Counties. An additional 7% of employees commuted from the counties of Fulton and Woodford. These five counties comprise the local region for this analysis. The remaining 9% of employees came from several counties each representing less than 3% of the total. On average, employees at Powerton Coal Generating Station earned $174,111 in 2020, for a total of approximately $19.7 million in total labor income.

The employment multiplier of Powerton Generating Station is significant, due to the high earnings and productivity for these jobs. For every 10 people employed at the site, the IMPLAN model calculates that another 29 jobs are supported in the region. Thus, the total regional employment impact of Powerton is over 440 jobs.

For every $1,000 earned by employees, another $700 is earned by employees of firms supported through the multiplier effects according to the IMPLAN model. The total income earned by workers in the region as a result of the generating station is about $32.9 million. The total impact of the Powerton Generating Station in the region is about $186.3 million.

Table 3. Economic Impacts of Powerton Generating Station

Impact Type	Employment	Labor Income*	Value Added	Output
Direct	113	$19,674,554	$62,283,498	$140,700,555
Indirect	191	$7,156,825	$11,212,938	$26,964,982
Induced	138	$6,086,385	$10,631,594	$18,655,218
Total	442	$32,917,764	$84,128,030	$186,320,755
Multiplier	3.9	1.7	1.4	1.3

*Labor income impacts have been adjusted for the commuting patterns of Powerton employees by removing employees that live outside of the region from the analysis.

Source: IMPLAN, 2020

[1] U.S. Energy Information Administration, Form EIA-860, 2018. https://www.eia.gov/electricity/archive/capacity/xls/existing_gen_units_2018.xlsx

Local Tax Revenue Estimates

The Powerton Generating Station generates significant local tax property revenues. The property taxes on the facility itself totaled over $800,000 in 2019. The majority of these property taxes directly funded local school districts (Table 4).

Table 4. 2019 Powerton Generating Station Property Taxes.

Taxing Body	2019 Tax Paid
Grade School 108	$348,793
High School 303	$232,823
Tazewell County	$54,377
Community College 514	$49,152
Pekin Park Dist	$53,194
Powerton Fire	$30,300
Cincinnati Rd & Br	$19,748
Cincinnati Township	$18,497
Imperial Valley	$2,055
Total	$808,939

Source: Tazewell County Assessments Office, 2020.

Joliet Generating Station & Will County Generating Station

Will County Generating Station is located in Romeoville, IL. The operating generating unit has operated since 1962, with a maximum capacity of 598.4 megawatts.[2] Joliet Generating Station began operation in 1965 and was converted from coal to natural gas in 2016[3]. It has a total generating capacity of 1,320 megawatts. The facilities are located about 12 miles from each other. Thus, the regional impacts of the Joliet and Will County Generating Stations are combined.

Joliet Generating Station employed 54 people in 2020, and Will County Generating Station employed 53. The two sites are within 12 miles and have overlapping laborshed regions. Five jobs are held by commuters from Indiana, and about 90% of the jobs in Illinois are concentrated in the counties of Will, Kendall, Cook, and DuPage. On average, employees at these two sites earned $163,120 in total pay and benefits.

The employment impacts of the Joliet Generating Station are significant, due to the high earnings and productivity for these jobs. For every 10 people employed directly at the site, the IMPLAN model calculates that another 31 jobs are supported in the region. The total regional employment impact of the two facilities is nearly 440 jobs.

For every $1,000 earned by employees, another $1,300 is earned by employees of industries supported through the multiplier effects according to the IMPLAN model. The total income earned by

[2] U.S. Energy Information Administration, Form EIA-860, 2018.
[3] https://www.theherald-news.com/2016/12/20/nrg-announces-completion-of-joliet-project/aw10gq7/

workers in the region as a result of the generating station is about $39.8 million. The total impact of the Joliet and Will County Generating Stations in the region is just over $200 million.

Table 5. Economic Impacts of Joliet and Will County Generating Stations

Impact Type	Employment	Labor Income*	Value Added	Output
Direct	107	$17,453,807	$62,732,574	$141,361,607
Indirect	157	$12,765,478	$19,785,436	$32,337,426
Induced	171	$9,626,420	$16,696,414	$26,446,478
Total	435	$39,845,705	$99,214,424	$200,145,512
Multiplier	4.1	2.3	1.6	1.4

*Labor income impacts have been adjusted for the commuting patterns of Midwest Generation employees by removing employees that live outside of the region from the analysis.
Source: IMPLAN, 2020

Local Tax Revenue Estimates

The Joliet and Will County Generating Stations generate significant local tax property revenues. The property taxes on the combined facilities themselves totaled nearly $1 million in 2019. The majority of these property taxes directly funded local school districts. Joliet Generating Station property taxes are detailed in Table 6 and Will County Generating Station in Table 7.

Table 6. 2019 Joliet Generating Station Property Taxes.

Taxing Body	2019 Tax Paid
High School Dist 204	$228,564
School District 84	$214,335
Will County	$52,578
Rockdale Fire Dist	$49,572
Joliet Park District	$37,467
Comm College Dist 525	$26,442
Joliet Twp Town Funds	$15,948
Forest Preserve	$13,158
Joliet Twp Road Funds	$12,060
Total	$650,124

Source: Will County Supervisor of Assessments, 2020.

Table 7. 2019 Will County Generating Station Property Taxes.

Taxing Body	2019 Tax Paid
School District 365-U	$243,233
Lockport Fire Dist	$36,587
Will County	$19,674
Lockport Park Dist	$14,377
Comm College Dist 525	$9,894
White Oak Library Dis	$9,053
forest Preserve	$4,924
Lockpt Twp Town Funds	$4,439
Lockpt Twp Road Funds	$3,708
Romeo Mosq Abatement	$357
Total	$346,246

Source: Will County Supervisor of Assessments, 2020.

Waukegan Generating Station

Waukegan Generating Station is located in Waukegan, IL. The operating generating units have been in operation since 1958, with a maximum capacity of 355.3 megawatts.[4] The plant employed 83 people in 2020, of which 28 jobs were held by Wisconsin residents and 55 jobs were held by Illinois residents. Of the jobs in Illinois, 45 were in the counties of Lake, Cook, and McHenry, and the other 10 jobs were divided across several counties each with 3 jobs or less. The average employee at Waukegan Generating Station earned $169,881 in 2020.

The employment impacts of the Waukegan Generating Station are significant, due to the high earnings and productivity for these jobs. For every 10 people employed directly at the site, the IMPLAN model calculates that another 26 jobs are supported in the region. The total regional employment impact of the facility is nearly 300 jobs.

For every $1,000 earned by employees, IMPLAN calculates that another $1,000 is earned by employees of industries in Illinois supported through the multiplier effects. The total income earned by workers in the region as a result of the generating station is about $28.6 million. The total impact of the Waukegan Generating Stations in the region is about $160.6 million.

Table 8. Economic Impacts of Waukegan Generating Station

Impact Type	Employment	Labor Income*	Value Added	Output
Direct	83	$14,100,170	$56,727,352	$123,455,930
Indirect	139	$10,155,539	$15,010,417	$25,222,740
Induced	77	$4,354,254	$7,592,928	$11,942,266
Total	299	$28,609,963	$79,330,698	$160,620,936
Multiplier	3.6	2.0	1.4	1.3

*Labor income impacts have been adjusted for the commuting patterns of Midwest Generation employees by removing employees that live outside of the region from the analysis.

Source: IMPLAN, 2020

[4] U.S. Energy Information Administration, Form EIA-860, 2018.

Local Tax Revenue Estimates

The Waukegan Generating Station generates significant local property tax revenues. The property taxes on the facility itself totaled over $560,000 in 2019. The majority of these property taxes directly funded the local school district (Table 9).

Table 9. 2019 Waukegan Generating Station Property Taxes.

Taxing Body	2019 Tax Paid
Waukegan Comm Unit School Dist #60	$316,023
City of Waukegan	$131,114
Waukegan Park Dist	$40,963
County of Lake	$27,239
Township of Waukegan	$15,998
College of Lake County #532	$12,849
Forest Preserve	$8,205
North Shore Water Reclamation District	$6,983
Road And Bridge-Waukegan	$1,353
Total	$560,727

Source: Lake County Assessments Office, 2020.

Summary

The four Midwest Generation generating stations contribute significantly to the Illinois economy. Including the multiplier effects, they are responsible for over 1,300 jobs with total income of more than $112 million. The overall impact of the facilities on the output of Illinois companies is about $555 million for 2020.

These economic impacts are focused in three regions of the state. The Powerton Generating Station is located in Pekin, near Peoria in central Illinois. The economic impacts of this facility generate over 440 jobs with total associated income of nearly $33 million. The total output at firms in the region, including the generating station, resulting from the generating station operations is about $186 million. Midwest Generation pays over $800,000 in property taxes, primarily funding education.

The Joliet and Will County Generating Stations are located within a few miles of each other near Joliet. Together, the facilities are responsible for nearly 440 jobs in the region. These jobs have a total payroll of about $40 million. More than $200 million in output at firms in the region results from the operations of the facilities. Midwest Generation pays nearly $1 million in property taxes, about ¾ of which supports education.

Finally, Waukegan Generating Station is located in the northeast corner of the state. The economic impacts of the plant create about 300 jobs with an associated payroll of nearly $28.6 million. Firms in the region have over $160 million in output because of its operations. Property taxes total over $560,000.

This report presents the details of the economic value of the Midwest Generation generating stations in Illinois. The conclusions were reached to a reasonable degree of certainty based on the best available data and economic modeling.

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About CGS

The Center for Governmental Studies (CGS) at Northern Illinois University began in 1969. CGS provides expertise that helps decision-makers create and implement innovative solutions to public issues faced by communities, regions, states and the nation. The staff of more than 30 academic researchers and practitioners has specialties in economics, public administration, education, planning, and organizational management practices. CGS is funded by State appropriations, but most of its support is earned through grants and contracts from federal, state and local government agencies, as well as private non-profit and for profit entities. CGS is part of NIU's Division of Outreach, Engagement, and Regional Development.

The CGS staff is especially knowledgeable about the people, economy and institutions of Illinois and the unique challenges they face. The Center has worked on projects with many public and private entities and staff members are active participants in many community and professional organizations. Our services offer communities an unbiased, outside perspective that is useful in economic and community development.