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Tax Expenditure Evaluation

Minnesota Data Center Equipment Exemption

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Tax Incentive Evaluation: Minnesota Data Center Equipment Exemption

Prepared by:
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For:
Minnesota Legislative Budget Office
on behalf of the Tax Expenditure Review Commission

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EXECUTIVE SUMMARY

This study examines Minnesota's Data Center Equipment Tax Exemption (Minn. Stat. § 297A.68, subd. 42), conducted on behalf of the Minnesota Legislative Budget Office for the Tax Expenditure Review Commission pursuant to Minnesota Statute 2025, section 3.8855, subdivision 4. In evaluating a tax incentive, Minnesota Statute requires a comprehensive assessment organized around nine statutory components. First, the analysis must estimate the annual revenue the state forgoes as a result of the tax expenditure. The report must then identify the objective of the incentive, including the policy rationale and the economic or social objectives the Legislature intended to advance. A central task is evaluating the incentive's impacts and overall effectiveness**,** determining the extent to which it achieves its stated goals and whether it does so efficiently relative to its cost.

Minnesota statute also directs evaluators to compare the tax expenditure with a direct spending program designed to accomplish the same purpose**,** assessing which approach would deliver outcomes more efficiently or with better accountability. The study must examine possible modifications to the incentive that might improve its performance, reduce costs, or better target intended beneficiaries. It must also estimate how much statutory tax rates could be reduced if the forgone revenue were instead used to finance a broad-based rate cut.

For large tax expenditures—those considered "significant" under Minnesota law—the review must include a tax-incidence analysis, showing who ultimately benefits from the incentive and how it affects the overall distribution of the state's tax burdens. In addition, Minnesota statute requires a discussion of the fiscal interactions with other state or federal tax provisions that subsidize similar activities, to determine whether the incentive duplicates, complements, or conflicts with other programs. Finally, the commission must conclude with a clear recommendation on whether the tax expenditure should be continued, repealed, or modified based on evidence gathered through the review.

Minnesota's Data Center Equipment Tax Exemption, enacted in 2011, provides a sales tax incentive for the construction or refurbishment of large data centers. The tax incentive eliminates sales tax on a wide range of equipment, software, and utilities used in qualifying facilities. In practice, this benefit is structured in two parts. First, purchases of enterprise information technology equipment and computer software for use in an eligible data center are treated as taxable at the point of sale, but the tax paid can later be refunded through the state's sales tax refund process. Also, during the study period, electricity consumed in operating the data center was fully exempt from sales tax, with companies documenting their eligibility by

providing a blanket exemption certificate to their utility provider. The sales tax exemption for electricity was eliminated as of July 1, 2025.

To qualify, a data center must meet several statutory thresholds, including containing at least 25,000 square feet of space dedicated to data center operations and incorporating certain infrastructure features, including uninterruptible power supplies or on-site backup generation, specialized fire suppression systems, and enhanced security measures. The statute also requires a significant capital investment. To qualify for the exemption, data centers must invest at least $30 million in construction of new data centers, or $50 million to refurbish existing data centers, including IT equipment, and software, within a 48-month period. The Minnesota DEED manages the application process and certifies data centers for the exemption.

The exemption applies to qualifying purchases made within 20 years of a data center's first eligible purchase, and the program remains in effect through June 30, 2042. The Legislature established the incentive to support job creation in both the construction sector and the data center industry, and it has grown to become one of the state's larger tax expenditure items. Recent tax expenditure reviews indicate that the exemption reduced state revenues by more than $90 million annually between 2015 and 2022 and may do the same for 2023-2025 as amended claims are filed. As of 2025, 42 data centers in Minnesota have qualified for the program. Overall, Minnesota's data-center exemption provides long-term, large-scale tax relief intended to encourage continued investment in the development, expansion, and operation of major data center facilities within the state.

For purposes of this study, application information on all data centers currently approved for the exemption in Minnesota was supplied by the Minnesota Department of Employment and Economic Development (DEED) and estimates of foregone sales tax revenue were provided by the Minnesota Department of Revenue. In addition, a comprehensive database of all data centers in the US, including those under construction and announced, was obtained from Aterio, Inc., a real estate data consulting firm.

"BUT FOR" ANALYSIS

An essential component of the evaluation of tax exemptions is known as "but for" estimation. "But for" refers to the analytical process of estimating how much economic activity would have occurred in the absence of, or "but for," the exemption. The role of "but for" is to isolate the incremental or causal impact of the exemption by distinguishing activity truly induced by the exemption from activity that would have happened anyway. This counterfactual baseline is essential for evaluating an exemption's effectiveness in terms of economic impact.

Based on data made available by DEED and obtained from Aterio, Inc., Institute researchers constructed an econometric model which resulted in a "but for" estimate ranging from 50% in 2013 to 24% in 2024, suggesting that, in the absence of the exemption, 50% to 76% of data center

construction activity in the state would have occurred anyway and that the remaining 50% to 24% could be attributed to the tax exemption. These estimates account for the fact that exemptions may become less effective over time as neighboring states enact or loosen existing qualification requirements in order to compete for data centers.

NET CHANGE IN STATE REVENUE

Net change in state revenue is the sum of forgone tax revenue attributable to the exemption and any additional, or offsetting, revenue that may be generated because of the exemption. This analysis estimates the net change in state revenues attributable to Minnesota's Data Center Equipment Exemption. The primary fiscal effect is forgone sales tax revenue from exempt purchases of qualifying computer equipment and software, shown in the first row of Table A and based on Minnesota Department of Revenue data for 2013–2024. These forgone revenues grow as data center investment accumulates over time.

The exemption is assumed to induce additional data center construction and operational activity, generating offsetting state tax revenues from direct, indirect, and induced spending. These additional revenues—including taxes associated with construction activity, electricity generation, and ongoing operations—are reported in the subsequent rows of Table A. All estimated increases in tax collections are adjusted by a "but for" factor, reducing impacts to 24 to 50 percent to reflect the assumption that 50–76 percent of data center activity would have occurred absent the incentive.

Gross forgone state tax revenue ranges from $43.9 million in 2013 to a peak of $101.6 million in 2015. Additional tax revenue from construction activity is highest during periods of peak development, reaching $22.6 million in 2013, and declines as construction slows. Tax revenues from data center operations increased over time, rising from less than $79,000 in 2013 to $8.9 million in 2024.

Net fiscal impacts are positive in 2011 and 2012, when construction-related revenues occur prior to the onset of forgone tax revenue. From 2013 onward, however, additional tax collections are insufficient to offset the cost of the exemption, resulting in consistently negative net fiscal impacts. As shown in Table A, the annual net fiscal impact ranges from a surplus of $218,000 million in 2011 to a deficit of $90.7 million in 2018, remaining negative through 2024.

Table A. Net Change in State Revenue from Minnesota Data Center Equipment Exemption

	2011	2012	2013	2014	2015	2016	2017
Forgone State Tax Revenue	$0	$0	-$43,931,000	-$73,659,000	-$101,643,000	-$93,769,000	-$90,758,000
Increased State Tax Collections from Construction and Equipment	$218,000	$10,886,000	$22,595,000	$17,148,000	$6,153,000	$2,522,000	$4,205,000
Increased State Tax from Elec. Generation	$0	$0	$179,000	$1,097,000	$1,948,000	$2,601,000	$3,248,000
Increased State Tax Collections from Operations	$0	$0	$79,000	$1,952,000	$5,457,000	$6,617,000	$6,674,000
Net Fiscal Impact	**$218,000**	**$10,886,000**	**-$21,078,000**	**-$53,462,000**	**-$88,085,000**	**-$82,029,000**	**-$76,631,000**

	2018	2019	2020	2021	2022	2023	2024
Forgone State Tax Revenue	-$101,613,000	-$97,796,000	-$98,891,000	-$93,601,000	-$98,316,000	-$85,458,000	-$68,674,000
Increased State Tax Collections from Construction and Equipment	$358,000	$137,000	$919,000	$1,064,000	$0	$0	$0
Increased State Tax from Elec. Generation	$3,529,000	$4,277,000	$7,188,000	$5,812,000	$5,205,000	$5,601,000	$5,850,000
Increased State Tax Collections from Operations	$7,020,000	$7,517,000	$6,467,000	$7,779,000	$8,035,000	$8,852,000	$8,897,000
Net Fiscal Impact	**-$90,706,000**	**-$85,865,000**	**-$84,317,000**	**-$78,946,000**	**-$85,076,000**	**-$71,005,000**	**-$53,927,000**

Source: Institute of Government estimates; IMPLAN 2023 data.

NET CHANGE IN ECONOMIC ACTIVITY

To estimate the economic and fiscal impact of the data center exemption, Institute researchers utilized previous studies from other states, along with information from Minnesota data center tax exemption applications, to estimate the cost of constructing and operating data centers in the state. The research team also projected permanent employment of data center staff. The largest economic impacts associated with data centers occur during the initial construction period of approximately two to three years.

Some previous studies have attributed a considerable amount of data center construction in other states to the presence of tax incentives. For example, one notable study commissioned by the Virginia State Legislature found that "but for" the sales tax exemption, only 10% of the projected data center construction projects would have occurred (Virginia JLARC 2019). In other words, the sales tax exemption was assumed to have generated 90% of data center construction. At that time, this figure aligned with anecdotal evidence from industry representatives that, while sales tax incentives might not "seal the deal" on attracting new data center projects, a lack of incentives can certainly "kill the deal".[1] With the availability of substantially more data than was publicly available at that time, a significantly different "but for" estimate was obtained for Minnesota using a comprehensive dataset including nationwide information on which data centers are currently active, under construction, and announced.

Consequently, an econometric model was developed that allowed researchers to estimate a "but for" percentage in the presence of competition from surrounding states that offer competing tax exemptions. This model accounts for the fact that tax exemptions may become less effective over time as competition among states for data centers intensifies. Institute researchers estimated that, in 2013, 50% of data center construction in Minnesota could be attributed to the exemption, and that by 2024, only 24% could be attributed to the exemption, suggesting that the other 50% to 76% would have occurred without it. While these new estimates stand in stark contrast to the earlier ones, they are based on far more comprehensive data and reflect the evolving state of the data center industry, in which certain markets—Northern Virginia, for example— exhibit rapid growth once a skilled workforce and the necessary supply chains are in place. The projected economic impacts of data center construction and operations through 2024 are shown in Table B, net of their respective "but for" reductions.

After applying the "but for" reduction, the economic impact of data center construction ranges from a low of $2.5 million in 2011 to a high of $254.3 billion in 2013. Annual operations impact from data centers ranges from a low of $218,458 in 2013 to a high of $12.5 million in 2023, with no impact in either 2011 or 2012. The sum of all impacts, including that from additional electricity generation, are added together for a low of $2.5 million in 2011 and a high of $254.3 million in 2013. The corresponding return on investment (ROI), calculated on an annual basis

[1] Based on information provided by professional data industry sources.

(excluding 2011 and 2012), ranges from a low of -79.0% in 2022 to a high of 1,106.0% in 2013. Annual ROI figures are negative for all years after 2015, as foregone revenue builds relative to additional economic impact as data center construction slows. A projected overall ROI for the 2013-2024 time period eliminates the volatility associated with construction, as well as with amended and extended annual report filing and tax exemption claims by data centers. The projected overall ROI is -.02%, implying that for each $1 of forgone tax revenue from Minnesota's Data Center Equipment Exemption, the state accrues approximately $0.98 in value-added impact. This ROI is significantly lower than the alternate use scenario, which yields a value-added impact of $1.19 for each $1 of state revenue collected and spent on public services.

The incentive is projected to create temporary new jobs in the construction industry as well as permanent jobs in the newly constructed or refurbished data centers. Construction jobs fluctuate with construction activity, reaching a peak of 2,292 at the peak of data center construction in 2013. Permanent data center jobs are projected to grow cumulatively to 677 by 2022. (Figure 4.)

Table B. Net Change in Economic Activity from Minnesota's Data Center Equipment Exemption

	2011	2012	2013	2014	2015	2016	2017
Net Forgone State Tax Revenue (Includes Elec.)	$218,000	$10,886,000	-$21,078,000	-$53,462,000	-$88,085,000	-$82,028,000	-$76,631,000
Const and Equip Impact*	$2,494,000	$121,886,000	$253,399,000	$172,947,000	$41,898,000	$17,096,000	$24,782,000
Operations Impact*	$0	$0	$218,000	$4,853,000	$9,180,000	$9,965,000	$11,573,000
Electricity Gen. Impact*	$0	$0	$703,000	$3,894,000	$4,677,000	$6,316,000	$7,313,000
Total Impacts*	$2,494,000	$121,886,000	$254,321,000	$181,695,000	$55,755,000	$33,377,000	$43,668,000
Return on Investment			**1,106.57%**	**239.86%**	**-36.70%**	**-59.31%**	**-43.02%**

	2018	2019	2020	2021	2022	2023	2024
Net Forgone State Tax Revenue (Includes Elec.)	-$90,706,000	-$85,865,000	-$84,317,000	-$78,946,000	-$85,076,000	-$71,005,000	-$53,927,000
Const and Equip Impact*	$2,052,000	$631,000	$9,954,000	$6,150,000	$0	$0	$0
Operations Impact*	$10,633,000	$11,266,000	$11,773,000	$10,061,000	$10,348,000	$12,512,000	$12,448,000
Electricity Gen. Impact*	$6,983,000	$8,063,000	$8,833,000	$6,386,000	$7,520,000	$9,189,000	$8,955,000
Total Impacts*	$19,668,000	$19,960,000	$30,561,000	$22,597,000	$17,868,000	$21,701,000	$21,403,000
Return on Investment	**-78.32%**	**-76.75%**	**-63.75%**	**-71.38%**	**-79.00%**	**-69.44%**	**-60.31%**

Source: Institute of Government estimates; IMPLAN 2023 data; *Impact estimates are Value Added estimates from IMPLAN and are adjusted by "But For" estimates.

NET CHANGE IN PUBLIC BENEFIT

Tax incentives have intangible public benefits that cannot be captured by traditional economic impact estimates. These intangible benefits may be stated or implied as the intent—or part of the intent—of a credit, or they may simply accrue as an externality, or side effect, of the credit. While the preceding estimates are based solely on projected tax expenditures and their resulting economic impacts, note that a number of intangible benefits of Minnesota's data center tax exemption, though immeasurable, likely exist. Although data centers bring jobs and capital investment to the regions where they choose to locate, they are also heavy utility users, which can have mixed effects on residents. One highly publicized effect of a rapidly growing data center industry is the short run strain on the electric grid and local water and sewer infrastructure. Rapid growth in electricity demand from data centers, particularly those serving AI and cloud computing, has put upward pressure on residential electricity rates and utility costs across several U.S. regions, raising affordability concerns for households. In the PJM Interconnection grid, data center demand is driving wholesale and capacity cost increases, contributing to an estimated $9.3 billion in added consumer costs in 2025, with projections suggesting continued upward pressure on retail bills unless cost-allocation reforms are enacted. (Natural Resources Defense Council)

Recent state and utility actions illustrate the real-world effects. Dominion Energy proposed a rate hike that would add roughly $10.51 per month to Virginia residential bills partially to address infrastructure needs tied to data center load growth, and states like Ohio are implementing tariff changes requiring large data centers to pay a greater share of connection and capacity costs to protect other customers. These pressures have also prompted federal legislative scrutiny, with U.S. Senators publicly investigating whether AI data centers are contributing to "soaring" electricity bills for ordinary consumers and urging greater transparency and equitable cost-sharing. (Virginia Mercury)

Heavy electricity usage by data centers could also have some positive effects on residents. Expansion or improvement of the electric grid would likely create new jobs at utility suppliers in Minnesota. Data centers also prefer sites with renewable energy, encouraging investment in solar, wind, hydroelectric, and nuclear energy, benefitting residents in the region via increased sustainability and possibly lower electricity rates. Another positive effect of a new data center might be the improvement of internet fiber infrastructure within a region. Although large economic development projects such as data centers are heavy utility users, these projects may provide the level of investment needed to update or expand aging infrastructure, especially in more rural areas.

The economic impact calculations presented in this report are based on a relatively short-term sample of data centers and their economic impacts, along with accompanying forgone sales tax revenues. The assumption underlying these projections is that current trends in data center construction continue throughout the projection period. Unexpected changes in the current

state of data center technology or significant changes to investment in the artificial intelligence industry could lead to substantially different results. In the long run, however, these companies factor tax incentives, along with other information, into their decision to locate in Minnesota or in another state. In other words, data centers may weigh other factors more heavily when initially selecting sites, but uncertainty surrounding tax policy may dissuade data centers from investing long term in a certain state, especially when building a campus with multiple hyperscale data centers. Sales tax exemptions represent a savings that could tilt the relative cost of doing business in favor of states with more generous incentives or longer sunset dates. While analyzing Minnesota's overall competitiveness in attracting data centers versus other states is well beyond the scope of this analysis, some measure of Minnesota's attractiveness to high-tech companies deserves consideration prior to modifying the current data center tax exemption.

A tax exemption is one of many factors that create a positive business climate. Even the most complex models cannot include, or control for, every factor relevant to business decision-making or economic growth (Buss 2001). Other factors include corporate tax rates, commercial real estate prices, utility rates, the risk of natural disasters, the talent pool, and proximity to transportation hubs such as airports and ports. While a tax incentive may not be the primary factor in location selection, a tax incentive is certainly one of a group of factors impacting that decision. Consequently, a lack of incentives, or the repeal of existing incentives, may signal a negative business climate and can create an atmosphere of uncertainty for firms planning to relocate or expand. A large concentration of industry-leading high-tech corporations may serve to improve the business-friendly reputation of a state, whereas an exodus of those same corporations may have the opposite effect.

MINNESOTA'S DATA CENTER EQUIPMENT TAX EXEMPTION: BACKGROUND

This study examines Minnesota's Data Center Equipment Tax Exemption (Minn. Stat. § 297A.68, subd. 42), conducted on behalf of the Minnesota Legislative Budget Office for the Tax Expenditure Review Commission pursuant to Minnesota Statute 2025, section 3.8855, subdivision 4. In evaluating a tax incentive, the Minnesota Tax Review Commission requires a comprehensive assessment organized around nine statutory components. First, the analysis must estimate the annual revenue the state forgoes as a result of the tax expenditure. The report must then identify the purpose of the incentive, including the policy rationale and the economic or social objectives the Legislature intended to advance. A central task is evaluating the incentive's impacts and overall effectiveness**,** determining the extent to which it achieves its stated goals and whether it does so efficiently relative to its cost.

The Commission also directs evaluators to compare the tax expenditure with a direct spending program designed to accomplish the same purpose**,** assessing which approach would deliver outcomes more efficiently or with better accountability. The study must examine possible modifications to the incentive that might improve its performance, reduce costs, or better target intended beneficiaries. The study must also estimate how much statutory tax rates could be reduced if the forgone revenue were instead used to finance a broad-based rate cut.

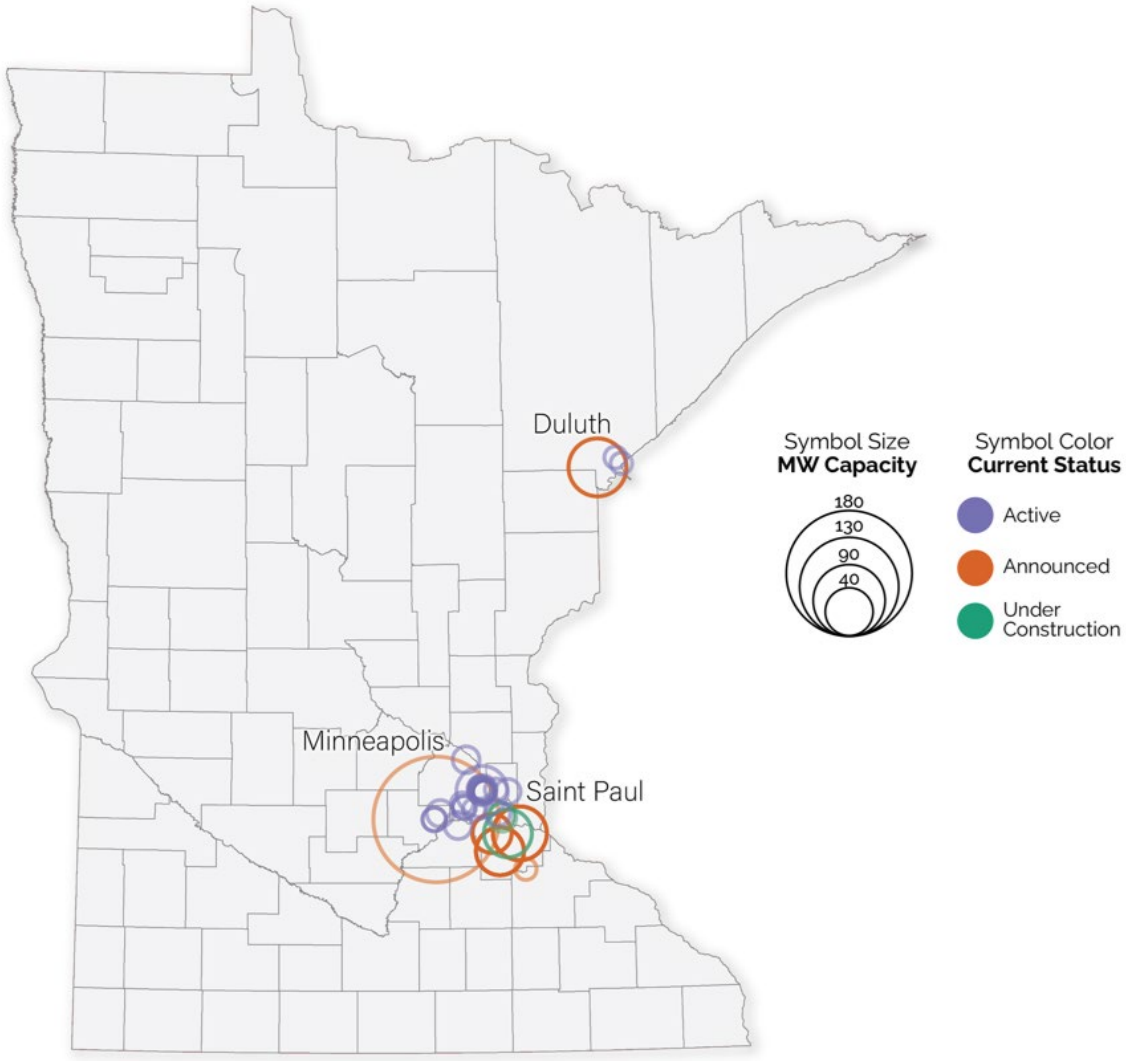
For large tax expenditures—those considered "significant" under Minnesota law—the review must include a tax-incidence analysis, showing who ultimately benefits from the incentive and how the incentive affects the overall distribution of the state's tax burdens. In addition, the Commission requires a discussion of the fiscal interactions with other state or federal tax provisions that subsidize similar activities to determine whether the incentive duplicates, complements, or conflicts with other programs. Finally, the commission must conclude with a clear recommendation on whether the tax expenditure should be continued, repealed, or modified based on evidence gathered through the review.

Data centers have largely been located in tech-heavy areas of the US in recent years. However, distribution of data centers across a wider swath of the US is expected to accelerate as limited space and limited power availability increase costs in supply-constrained primary markets (West 2020). Decentralization of data centers is expected to continue, as major markets like Silicon Valley and Northern Virginia have limited land availability and power capacity for new development. Alternate markets such as Minnesota, Illinois, and Iowa should see increased demand as a result. Minnesota ranks 22nd in the country in number of data centers, with a market that is currently dominated by the presence of data centers attached to existing corporate headquarters. As of late 2025, Minnesota does not yet have any fully operational hyperscale data centers (facilities consuming 100 + MW of power) currently in service within

the state. A recent Federal Reserve Bank report noted that while several proposals exist, none are currently active. (Federal Reserve Bank of Minneapolis)

Minnesota currently has approximately 60 data centers, the majority of which are located in the greater Minneapolis-St. Paul area (Figure 1., Aterio 2025). Significant data center projects are also located in Duluth.

Figure 1. Data Centers Active, Announced, and Under Construction



HISTORY AND OBJECTIVE

Minnesota's Data Center Equipment Tax Exemption, enacted in 2011, provides a sales tax incentive for the construction or refurbishment of large data centers, which are defined by statute as consisting of at least 25,000 square feet of floor space dedicated to center operations. The exemption eliminates sales tax on a wide range of equipment, software, and utilities used in qualifying facilities. In practice, this benefit is structured in two parts. First, purchases of

enterprise information technology equipment and computer software for use in an eligible data center are treated as taxable at the point of sale, but the tax paid can later be refunded through the state's sales tax refund process. Also, during the study period, electricity consumed in operating the data center was fully exempt from sales tax, with companies documenting their eligibility by providing a blanket exemption certificate to their utility provider. The sales tax exemption for electricity was eliminated on July 1, 2025. The stated objective of the tax expenditure is to create jobs in the construction and data center industries.

IMPLEMENTATION

To qualify, a data center must meet several statutory thresholds, including containing at least 25,000 square feet of space dedicated to data center operations and incorporating certain infrastructure features, including uninterruptible power supplies or on-site backup generation, specialized fire suppression systems, and enhanced security measures. The statute also requires a significant capital investment. To qualify for the exemption, data centers must invest at least $30 million in construction of new data centers, or $50 million to refurbish existing data centers, including IT equipment, and software, within a 48-month period. The Minnesota DEED manages the application process and certifies data centers for the exemption.

The exemption applies to qualifying purchases made within 20 years of a data center's first eligible purchase, and the program remains in effect until July 1, 2042. The objective of qualified data center sales and use tax exemptions is to create jobs in the construction and data center industries (Minnesota Tax Expenditure Review Commission). Recent MN DOR tax-expenditure reports indicate that the exemption reduced state revenues by more than $90 million annually between 2015 and 2022, and may do the same for 2023-2025 as amended claims are filed. As of 2025, 43 of Minnesota's 66 active data centers have qualified for the program. Overall, Minnesota's data center exemption provides long-term, large-scale tax relief intended to encourage continued investment in the development, expansion, and operation of major data center facilities within the state.

Table 1. Summary of Minnesota's Data Center Tax Exemption Guidelines

Requirement/Feature	Details (2025)
Eligible Purchases (Exempted Items)	- Computer equipment and hardware (servers, cooling, power infrastructure, racks, etc.) - Computer software (including upgrades and replacements)
Exemption Mechanism	- Sales tax is paid at purchase and then refunded under the Minnesota refund process.
Facilities That Qualify	- New data centers: at least 25,000 sq ft in one or more buildings on a single or contiguous parcel; at least $30 million in construction + equipment + software investment within 48 months - Refurbished data centers: at least 25,000 sq ft rebuilt or modified; at least $50 million in investment into refurbishment + equipment/software within 24 months; the data center must have: uninterruptible power supplies or generator backup (or both), fire-suppression/prevention systems, and enhanced security
New "Large-Scale Data Center" Category (2025)	As of June 30, 2025, Minnesota recognizes a new class: "qualified large-scale data centers". To qualify: at least 25,000 sq ft (one or more buildings connected by fiber), and a collective investment of at least $250 million (construction/refurbishment + IT equipment + software) by the facility and its tenants within a 60-month period beginning after June 30, 2025.
Duration of Exemption (Tax-free window)	Beginning in 2025, qualified data centers (new, refurbished, or large-scale) may claim the sales-tax exemption for 35 years after the first qualifying purchase.
Electricity Treatment (2025)	The law repealed the sales and use tax exemption for electricity used or consumed by data centers. Starting July 1, 2025, electricity is no longer exempt.
Sustainability, Environmental & Labor Requirements (2025)	For large-scale data centers: within three years of being placed in service, the facility must be certified under one or more specified sustainable-design or green-building standards. If it fails to meet that requirement, the data center must repay the tax exemptions.
Sunset / Expiration of Program	The previous statutory sunset of July 1, 2042 was extended. The exemption lasts 35 years from first qualifying purchase. Data centers certified before July 1, 2042 may continue for up to 35 years.
Administration / Certification	Qualifying data centers must be certified by the Minnesota DEED.

Source: Minn. Stat. § 297A.68, subd. 42.

Minnesota eliminated its sales tax exemption for electricity used by qualified data centers as part of the 2025 tax legislation (HF 9). Minnesota convened a special legislative session in June 2025 to complete unfinished budget and tax legislation before the start of the new fiscal year. As part of the final omnibus tax bill adopted during that session, lawmakers repealed the sales tax exemption on electricity used by data centers, primarily to raise additional revenue to support the enacted state budget. The repeal became effective July 1, 2025, ending the long-standing provision that had allowed certified data centers to purchase electricity tax-free. Updated guidance from the Minnesota Department of Revenue confirms that, after this date, electricity consumed in data-center operations is fully taxable. The change represents a significant policy shift, as electricity had been one of the largest ongoing cost components covered by the original data-center incentive program. Between 2011 and 2024, exempted sales tax on electricity is estimated to have accounted for 30% of total tax exemptions related to data centers. (Figure 3.) In 2024, the exemption accounted for roughly 1% of total sales tax exemptions for all taxable categories.

MINNESOTA'S DATA CENTER EQUIPMENT TAX EXEMPTION: UTILIZATION BY THE NUMBERS

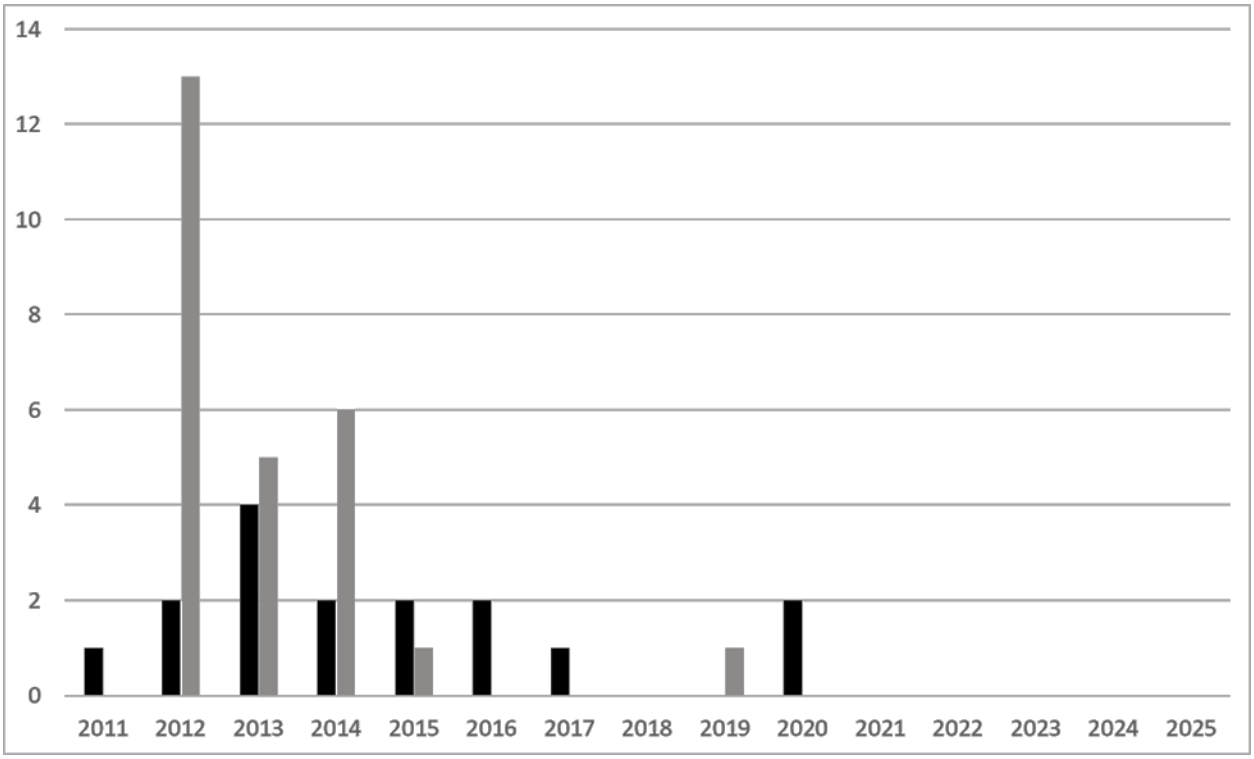
The Minnesota DEED provided applicant information for all data centers currently utilizing the exemption and the Minnesota Department of Revenue provided data on foregone state tax revenue. Of the 42 data centers that have qualified for the exemption since 2011, 16 were new construction and the remaining 26 were refurbishments of existing facilities. Figure 2 compares the number of newly constructed and refurbished data centers that qualified for the exemption between 2011 and 2025. The majority of qualifying projects began construction between 2012 and 2014. DEED reported no new data centers qualifying for the program after 2020.

Figure 3 shows forgone tax revenue estimates on construction, equipment, and software as reported by the Minnesota Department of Revenue and estimated forgone revenue on electricity usage projected by Institute researchers. Electricity usage was projected based on individual megawatt (MW) ratings of individual data centers from Aterio data and Minnesota commercial electricity rates from the US Energy Information Administration.

The information utilized in this evaluation to estimate data center construction costs, equipment purchases, and employment was gleaned from a number of sources, including the afore mentioned state agencies, Aterio (a real estate data consultancy specializing in the data center

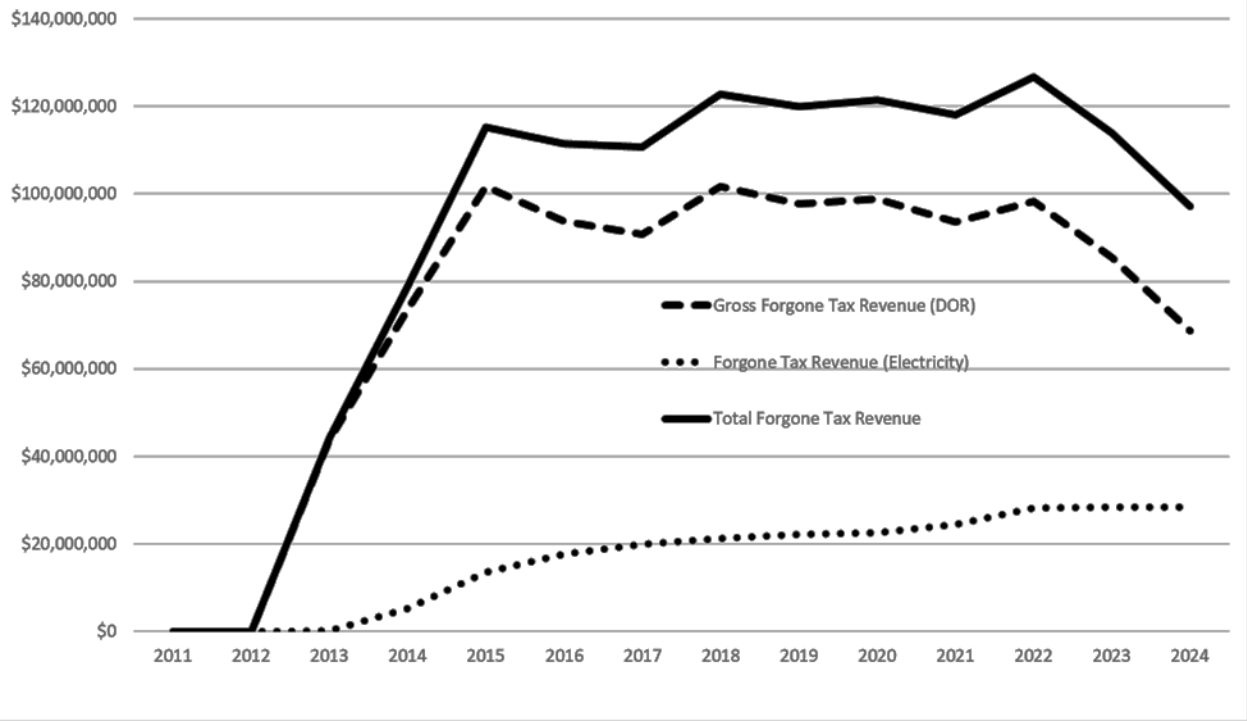
industry), data center websites and directories, press releases announcing new data center construction projects, and interviews with industry representatives. Aterio provides a comprehensive overview of the current state and future growth of the US data center market and energy demand by city and state. Data fields included in the Aterio data include the number of data centers that are currently operational, under construction, and announced, along with their location, size, energy consumption, and beginning and ending construction dates. A number of existing economic impact studies Mangum Research (2021), Mangum Research (2020), US Chamber of Commerce Technology Engagement Center (2017), ESI ECONSULT Solutions Inc. (2019), Virginia Joint Legislative Audit and Review Commission (2020), Iowa Department of Revenue (2021)) were reviewed.

Figure 2. Qualifying New and Refurbished Data Center Projects Between 2011 and 2025



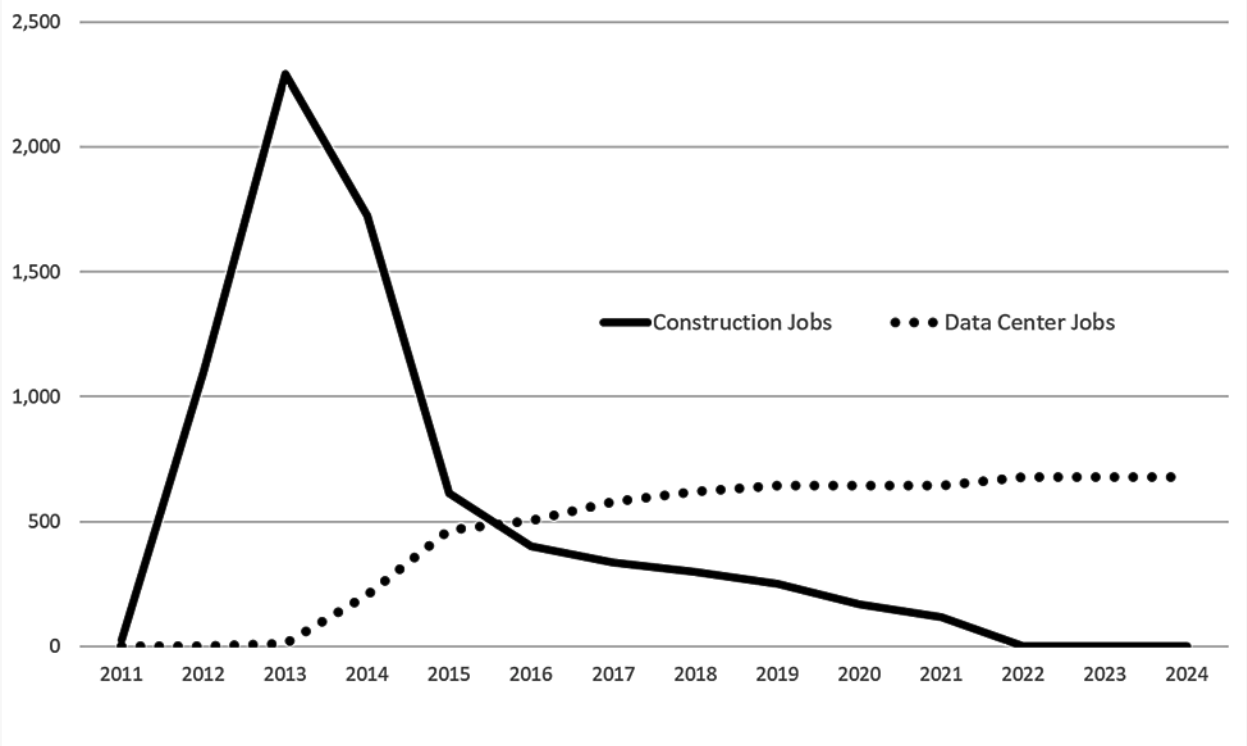
Source: Minnesota Department of Employment and Economic Development.

Figure 3. Forgone Sales Tax Revenue from Data Center Construction and Operations: 2011-2024



Source: Minnesota Department of Revenue and Institute of Government.

Figure 4. New Construction Jobs and Permanent Data Center Jobs: 2011-2024



Source: Institute of Government estimates

HIGH-TECH DATA CENTER TAX EXEMPTIONS IN OTHER STATES

Data center incentives differ widely across the US. Many states require that a minimum number of jobs be created, often requiring that they have higher salaries than the state average in an effort to create "high-quality jobs." Some states tier their incentives based on some measure of distress of a locality. Others allow longer timelines for increasing levels of investment. Some states have sunset dates for their incentives, and others offer incentives into perpetuity. Table 2 compares Minnesota's data center incentive with those of its closest neighbors in the Upper Midwest.

Table 2. Data Center Tax Incentives in the Upper Midwest

State	Type of Incentive	Key Eligibility Thresholds	Scope of Exemption / Benefits	Notable Features
Iowa Iowa Code § 423.3(95)	Sales and use tax exemption or refund (tiered)	Investment tiers starting at $1M, $10M, and full benefits at ≥ $200M	Exemption/refund for construction materials, IT equipment, and utilities	Scaled benefits based on investment size; supports both hyperscale and mid-size projects
Illinois 20 ILCS 605/605-1025 and 35 ILCS 5/229	Long-term sales tax exemption + construction wage tax credit	≥ $250M investment over 60 months; job creation required	State & local sales-tax exemption on equipment and construction inputs; 20% wage credit in underserved areas	20-year benefit term; strong compliance requirements; highly competitive program
North Dakota N.D. Cent. Code § 57-39.2-04.17	Sales and use tax exemption	Newly built or substantially renovated data center ≥ 15,000 sq ft; ≥ 50% of space for data processing	Exemption for IT equipment, software, and replacements/upgrades	Program limited to a small number of qualifying data centers under state law
Wisconsin Wis. Stat. § 238.40	Sales and use tax exemption for qualified data centers	Capital investment thresholds of $50M–$150M depending on county population	Exemption on construction materials, IT equipment, and other qualifying property	Certification by WEDC required; early data shows significant tax savings for participants
Michigan Public Act 181 & 207 of 2024	6% sales and use tax exemption (2025)	≥ $250M investment; ≥ 30 full-time jobs at 150% of regional median wage; environmental certification required	Exemption for construction materials, IT equipment, software	Extended eligibility (to 2065) for brownfield or power-plant redevelopment sites; must be certified before purchases
Ohio Ohio Rev. Code § 122.175	Sales and tax exemption via negotiated agreement (effective 9/30/2025)	Minimum capital investment (≈ $100M) and payroll commitments	Exemption on servers, cooling systems, power infrastructure, software, and building materials	Direct-payment permit structure with negotiated exemption percentage; approval by Ohio Tax Credit Authority

Source: Institute of Government analysis of state tax incentives.

REVIEWS OF STATE PROGRAMS

Iowa

Iowa offers a tiered system of data center incentives that includes substantial sales and use tax relief tied to project size. Large "enterprise-class" data centers that invest at least $200 million can qualify for a full exemption on construction materials, equipment, and utilities. Smaller projects—beginning at $1 million or $10 million, depending on the building—may receive partial refunds. Iowa's program is designed to scale with investment level, making the state competitive for both hyperscale and mid-sized data-center developments.

Illinois

Illinois provides one of the region's more comprehensive data center incentive packages through its Data Center Investment Program. Qualifying projects that commit at least $250 million in capital investment over five years and meet job creation requirements may receive long-term exemptions from state and local sales taxes on construction materials, equipment, and data center infrastructure. Projects in underserved areas can also claim a 20 percent construction-wage tax credit. The incentive is structured as a 20-year benefit, contingent on ongoing compliance, and is intended to attract large-scale, high-capital investments.

North Dakota

North Dakota offers a sales and use tax exemption for newly constructed or substantially refurbished data centers that meet minimum size and usage requirements. Facilities of at least 15,000 square feet, with at least half of the space dedicated to data processing, may qualify for exemptions on enterprise IT equipment, software, and replacement or upgraded systems. The program is limited in scope—state law allows only a small number of data centers to receive the exemption—which targets the benefit to a select group of qualifying projects.

Wisconsin

Wisconsin recently adopted a sales and use tax exemption for qualified data centers that supports both construction and ongoing equipment investments. The program applies to building materials, IT equipment, and other property used in the facility, with eligibility tied to minimum capital investment thresholds that vary by county population—from $50 million in smaller counties to $150 million in larger ones. Certification through the Wisconsin Economic Development Corporation is required. Early fiscal data show that the incentive has already produced substantial tax savings for qualifying facilities, reinforcing Wisconsin's effort to compete for major data center investments.

Michigan

In 2025, Michigan enacted a 6% sales-and-use tax exemption for "enterprise" data centers, covering construction materials, IT equipment, and software. To qualify, a project must involve at least $250 million in capital investment and create a minimum of 30 full time jobs at elevated wage levels (150% of regional median). Further, the facility must meet environmental performance standards—such as LEED or Energy Star certification—and commit to sourcing a

substantial portion of its electricity from renewable or clean energy in its first three years. For data centers built on brownfields or former power-plant sites, the exemption is available through December 31, 2065. The Michigan Strategic Fund must certify the project before tax-exempt purchases begin.

Ohio

Ohio's data center incentive, effective September 30, 2025 under House Bill 96, provides a sales-and-use tax exemption on a broad range of data center capital assets including servers, generators, cooling infrastructure, and construction materials. To be eligible, projects must meet a minimum capital investment (e.g., $100 million) and commit to a baseline level of payroll. Companies may operate under a "direct payment permit," remitting tax to the state and receiving a negotiated exemption percentage via an agreement with the Ohio Tax Credit Authority. Local approval is commonly required, and the arrangement allows firms to significantly reduce their effective tax burden on data center build-out.

LITERATURE REVIEW

The Institute of Government research team reviewed the existing literature on tax incentives for data centers. Sources included evaluations of incentives in other states, as well as reports summarizing trends in incentives across the country.

State and local incentives are often evaluated based on the number of full time jobs created by the new business they are designed to attract (Miller 2008). This model of evaluation does not result in high returns on investment (ROIs) for data centers, which are highly automated, allowing a small number of workers—almost always less than 100 and more often less than 50—to operate and maintain a facility spanning tens of thousands of square feet. A new data center heralds capital investment in the millions or billions of dollars but creates a much smaller number of permanent jobs than a factory or company headquarters of a similar size. Data center projects generate a large number of construction jobs during the construction phase, but only a fraction of that number of jobs once the center is completed and enters its operational phase.

Because data centers are not employment-intensive projects, the primary benefit of incentivizing them to locate in a certain state or locality is the initial capital investment they inject into the economy. However, the presence of a state tax incentive is far from the primary factor in the site selection process. Building a data center requires a huge amount of capital investment over years or decades, so a company evaluates a number of criteria before it chooses a site.

First, regions prone to natural disasters such as hurricanes, floods, or earthquakes are eliminated from site-selection lists (Von Seggern et al. 2014). A company looking to construct a new data center generally prefers sites with infrastructure already in place, such as access roads, utility lines, and water/sewer lines. Proximity to highways, railroads, airports, and coastal ports decreases the cost of shipping equipment and supplies during the construction and operation phases. Data centers also need reliable, high-speed internet connections. When selecting a location, a company evaluates the presence of fiber infrastructure and the amount of fiber installation needed if the current infrastructure is insufficient.

Earlier studies have noted that, although physical infrastructure is essential in site selection for a data center, by far the most important consideration in the site selection process is the cost and availability of electricity (Tarczynska 2016). Running servers is extremely energy intensive and gives off huge amounts of waste heat, creating the need for even more energy intensive cooling technology (Tarczynska 2016). Electricity accounts for about three-fourths of a typical data center's operating expenses. Many states that are hubs for data centers—Washington, Texas, Virginia, North Carolina, and Oregon—also have the lowest cost electricity in the country (US

Energy Information Administration 2022). Like other industrial users of electricity, some data centers negotiate lower rates with electricity providers, which can save them millions on power costs. Electricity is such an essential consideration in the design of a data center that, unlike most commercial projects that are measured in cost per square foot, data center projects are designed and measured in cost per megawatt.[2]

Economic development subsidies and tax incentives are typically only considered during the last phase of the data center site selection process after possible choices have been reduced to a short list based on the risk of natural disasters, the current infrastructure, and electricity costs. Some prior research suggests that subsidies carry limited weight. Although subsidies are not the primary factor in data center site selection, companies aggressively seek subsidies from states and localities.

Conclusions vary widely among researchers as to the effectiveness of tax exemptions in attracting data centers to a given location. Competition among states for data centers is viewed by critics as a "race to the bottom" that awards tax breaks to already large and profitable companies (Tarczynska 2016). For example, in 2009, North Carolina and Virginia were competing for an Apple data center. At first, North Carolina seemed to be the prime candidate for Apple's site selection. When Apple indicated it was more interested in Virginia, the North Carolina legislature quickly enacted a tax incentive that was estimated to save the company $300 million over three decades. Though Apple ultimately chose North Carolina for the site of the data center in question, Virginia enacted a sales and use tax exemption on computer equipment to appear more competitive to future high-tech companies.

Echoing Tarczynska's point, Good Jobs First, a public policy resource center, published a 2025 report highlighting generous tax breaks for data centers as a significant drain on state budgets, with at least 10 states losing over $100 million annually in foregone sales and use tax revenue, totaling an estimated $3.1 billion collectively. The study cites, in particular, over $1 billion in data center tax breaks in Texas and $732 million in foregone sales tax revenue in Virginia, while the study appears to implicitly assume a "but for" percentage of zero. The study cites Minnesota as number 8 on the list, with reported tax revenue losses of $114.2 million attributed to data centers. The study goes on to say that these tax revenue losses are rapidly accelerating, driven by data center construction booms and AI growth, while the centers themselves create minimal permanent jobs.

In contrast, a nationwide study conducted jointly by the Data Center Coalition and PwC in 2025 found that the industry's annual contribution to US GDP rose from $355 billion in 2017 to $727 billion in 2023 with total tax contributions (federal, state, local) grew from $66.2 billion in 2017 to $162.7 billion in 2023.

[2] Based on industry representative interviews.

Because data centers are capital- rather than labor-intensive projects, the primary benefit these facilities have on the state or local economy is tax revenue. However, fiscal benefits are significantly reduced when governments abate a large portion of those taxes. States often allow for the abatement of three main types of taxes generated by data centers: state and local sales and use taxes on purchases, real property taxes, and personal property taxes (Tarczynska 2016). Of these three main types of tax abatement, Minnesota's data center incentive only exempts these businesses from sales and use tax on certain construction materials and computer equipment, and prior to July 1, 2025, electricity. In this way, Minnesota's data center incentive is comparable to most other states in the Upper Midwest.

According to national analyses by CNBC, about 42 states either exempt data centers from sales tax or have no state sales tax at all, thus effectively providing the same benefit. Of those, 37 have enacted specific legislation granting sales tax exemptions for data centers. (CNBC, 2025) According to industry stakeholders, sunset dates are one of the most impactful factors of these tax exemptions. Data centers require large amounts of capital investment, and planning takes place over decades, so uncertainty surrounding future tax burdens can create risks for decision-makers in the industry. Twenty-six states have tax incentives that last for 10 or more years, with 11 of these states offering incentives with no sunset date (Mangum Economics 2022).

Several Upper Midwest states apply sunset provisions or time-limited structures to their data center sales and use tax incentives, while others allow the benefits to operate indefinitely. Iowa, following 2025 legislative changes, now limits the sales tax exemption on electricity and backup fuel for new large data centers to 10 or 15 years, depending on local population size, while grandfathering existing facilities. Illinois imposes a clear program lifespan: its Data Center Investment Program grants exemptions for 20 years, administered through renewable five-year certificates. Michigan also uses explicit sunset dates; sales and use tax exemptions for qualified or enterprise data centers expire on December 31, 2050 or 2065 for facilities on certain redevelopment sites, and the state will stop issuing new exemption certificates after 2029.

In contrast, Wisconsin's new data-center exemption includes no sunset provision, allowing qualifying facilities to benefit indefinitely as long as they meet statutory requirements. North Dakota likewise places no defined expiration on its exemption, although the state limits the number of facilities that may qualify. Ohio does not use a statutory sunset; instead, it grants exemptions through negotiated, project-specific agreements, which may vary in duration but do not follow a uniform expiration schedule.

Competition among states leads not only to the implementation of incentives but also causes states to lower eligibility requirements to compete with one another. From 2012 to 2016, one-third of states lowered eligibility requirements for their data center incentive programs (Mangum Economics 2016). Over the past five years, only a few Upper Midwest states have

made meaningful changes that lower or broaden eligibility for data-center sales and use tax incentives. Iowa expanded access in 2025 by allowing tenants—not just owners—to qualify for the exemption, although the same legislation also introduced new limits on the duration of electricity-related benefits. Wisconsin significantly broadened eligibility by creating an entirely new statewide exemption in 2023, setting investment thresholds that allow a wide range of large-scale projects to qualify. In contrast, Illinois, North Dakota, Michigan, and Ohio have not reduced investment, job creation, facility size, or other requirements during this period, and their programs remain consistent with earlier standards. Overall, Iowa and Wisconsin represent the only states that have clearly eased eligibility conditions in recent years.

The implied purpose of lower employment and investment thresholds in data center tax incentives is typically to redirect data centers to less developed areas of a state. The main reason for focusing economic development policy on the people and places most in need of resources—besides the assertion that areas with higher poverty rates need more economic help than others—is that such a policy is more economically efficient. Unfortunately, research shows that, in most states, only a portion of newly created jobs go to target residents. Skills mismatch between the new company and the current residents reduces the effectiveness of aiming economic development at economically distressed localities (Peters and Fisher 2004). It is politically and practically difficult to maintain a program focused on one area or population without acceding to the demands of other areas and/or populations that want to be granted similar policy instruments.

OTHER STATE EVALUATIONS

Oklahoma (2019)

In 2019, Oklahoma contracted with PFM Group Consulting to evaluate the effectiveness of the state's computer services and data processing tax exemption. The evaluation showed that the sales and use tax exemption for computer services and data-processing firms had not been used in the previous five fiscal years and that no new jobs were created as a result of the incentive, despite job creation requirements being present (PFM Group Consulting 2019). However, the report also found that data center investment may generate increased property and sales tax revenue. The authors noted that lack of broadband coverage likely negatively impacted the rate at which data centers located in Oklahoma, while affordable industrial electricity rates may have had a positive impact. In light of its lack of use and unproven ability to create jobs in the state, the project team recommended repealing the program.

Virginia (2024)

The Virginia data center exemption is the state's largest incentive in terms of forgone revenue, representing more than one-fifth of Virginia's spending on all economic development incentives from fiscal year 2010 to 2017 (Virginia JLARC 2019). A 2019 review found the incentive to be effective at attracting data centers to the state; the authors estimated that only 10% of data center activity would have occurred but for the incentive. However, the report notes that

available data were insufficient to fully and accurately estimate the fiscal and economic impacts of the incentive. The report also concluded that, despite further incentivizing data centers to locate in "distressed localities," such areas have seen little benefit. Additionally, the report suggested that the increasing prevalence of tax incentives targeting data center firms in other states could affect Virginia's competitive position moving forward.

From fiscal year (FY) 2010 through FY 2017, Virginia spent $417.47 million on the data center exemption, representing around 21% of operating costs for new activity over a 20-year period. Based solely on this cost analysis, the exemption is estimated to induce up to 90% of the economic activity of these data centers. However, it is difficult to precisely estimate this impact, as business executives consider many factors when choosing a site location. Estimates also show that for each year in the study period, private-sector employment increased by 7,665 jobs, state GDP increased by $1.3 billion, and statewide personal income increased by $724.9 million, on average, due to the data center exemption. These estimates result in an annual average return on investment of $0.72 per $1 spent. The sizable tax revenue generated ($38 million) does not cover the costs of the exemption.

Ohio (2025)

A recently released study from the Ohio Chamber of Commerce Research Foundation found that Ohio data centers have generated $5.2 billion in tax revenue, contributing significantly to the state's economy despite debates about data centers' resource consumption and tax breaks. This state-level study reports that data centers in Ohio supported nearly 95,000 jobs in 2024 and contributed about $12 billion to the state economy. The study also finds that for every $1 the state gave in tax incentives, the state received about $2.10 back in state/local tax revenue.

ECONOMIC IMPACT

To estimate the economic and fiscal impact of the data center exemption, the Institute of Government research team utilized previous studies from other states, along with information from interviews with data center consultants and construction project managers. Actual construction and equipment cost data was taken, when available, from tax exemption applications provided by the Minnesota DEED and projections for other data centers were generated based on this information. The team projected an increase in the total cost of construction of data centers in the state each year from 2011, when the legislation was enacted, through 2025. This upward trend in construction costs was based on the growing size and sophistication of new data centers, namely the technology used to cool the servers and power backup systems used to keep them running during outages. The research team also projected permanent data center employment based on data center square footage, power rating, and type. Employee wages were based on average wages reported in tax exemption applications.

HOW ECONOMIC ACTIVITY IS MEASURED

Economic impact modeling is a technique used to estimate how a new firm, facility, or policy change will affect a specific region. Such estimates are often produced using an input-output model that first calculates a baseline forecast of economic activity for a geographic region and then estimates how shocks (inputs) to the economy alter economic activity (output). For this report, Institute of Government researchers estimated the economic impacts of Minnesota's data center equipment tax exemption.

Institute researchers use IMPLAN, a widely used and accepted county-level economic model of the United States, to estimate the economic impacts of projects and changes to public policy (IMPLAN 2023). This model produces a baseline economic forecast using data from the US Census Bureau, the North American Industry Classification System (NAICS), the Bureau of Economic Analysis, and the Bureau of Labor Statistics as well as other data from the US Department of Commerce.

An input, or change to the economy, is added to the model. Inputs can be new jobs, labor income, increased demand for goods and services, or a variety of policy changes, such as tax incentives. IMPLAN estimates the increase in economic activity resulting from the change. The measures reported by the model include the number of jobs supported, the labor income associated with those jobs, the value added (or lost) to the economy in the particular geographic region being studied, and the total economic output added (or lost) as a result of the change. In the case of this evaluation, impacts are estimated separately for the construction and operation phases of data centers qualifying for the tax exemption.

It is widely acknowledged that the data center industry creates quality jobs. The benefits of quality jobs do not only accrue to those employed in the technology field; there is a positive spillover effect attributed to indirect and induced activity in the surrounding area. An estimate of economic impact should capture all jobs created by the tax credit, including the jobs from direct employment, indirect jobs (associated with the supply chain), and induced employment. Employees of a data center constitute the direct workforce and are paid directly by the company. Indirect jobs primarily come from vendors who supply data centers with all the goods and services required for the firms' operations, including the cashiers at the janitorial supply store and plant workers at electrical utilities. Finally, induced employment includes all of the satellite businesses that spring up due to increased spending in the region.

Total output impacts are the most inclusive, largest measures of economic impact. Because of their high dollar value, total output impacts are often the most quoted figures in economic impact studies and receive the most media attention. One problem with total output as a measure of economic impact, however, is that it includes the value of inputs produced by other industries, which means that there is inevitably some double-counting of economic activity. The other measures of economic impact—employment, labor income, and value-added—are free from double counting and provide a more realistic measure of the true economic impact.

IMPLAN's value-added figure equates to an increase in state GDP, which consists of employee compensation, proprietor income, property income, and indirect business taxes. Value-added is equivalent to gross output (sales or receipts and other operating income, commodity taxes, and inventory change) minus intermediate inputs (consumption of goods and services purchased from other industries or imported). Because value-added impacts exclude expenditures from foreign and domestic trade, they are a more accurate measure of the actual economic benefits flowing to businesses and households in a region—in the case of this evaluation, Minnesota—than the more inclusive output impacts.

GROSS ACTIVITY

To produce the most accurate estimates of economic impact, the Institute of Government researchers divided data center activity into three primary economic inputs: construction of the building shell and its accompanying equipment, annual operating impacts of the data center, and the impact of additional electricity generation required to power the equipment once operational. The initial server purchases required to fill a newly constructed data center were adjusted for leakage in the impact calculation. Servers and other electrical components are largely imported from overseas, contributing to economic impact only primarily through shipping and setup.

Purchases outside of the region are commonly referred to by economists as "leakage," meaning that dollars spent on these purchases leak from the local economy of the study region (i.e., Minnesota) to other regions. Consequently, the associated indirect impact— that is, the impact

of materials and labor used to produce the equipment—does not add dollars to the state economy.

Using information from Minnesota DOR, DEED, and other sources, Institute of Government researchers estimated that construction spending between 2011 and 2025 reached its highest point in 2013 with total spending of $346.8 million. Based on IMPLAN estimates, construction of facilities in 2013 would employ 2,292 workers (Table 3). In other words, for every $1 million in construction output, 3.93 jobs in the construction industry are created. Dividing direct labor income by the number of direct employees yields the average annual wage. A typical data center construction job in Minnesota paid approximately $97,000 in annual wages plus benefits in 2013. A significant number of indirect and induced jobs are also created by construction, as contractors purchase supplies and workers spend their wages on goods and services. Including indirect and induced jobs, for every $1 million in construction output, 6.1 total jobs are created in the state of Minnesota.

Table 3. Economic Impact of $346.8 Million in Direct Construction Output in 2013

Impact	Employment	Labor Income	Value-Added	Output
Direct	2,292	$223,307,000	$303,808,000	$581,831,000
Indirect	507	$49,160,000	$73,496,000	$156,702,000
Induced	776	$47,204,000	$93,510,000	$150,780,000
Total	3,575	$319,671,000	$470,814,000	$889,313,000

Source: Institute of Government estimates; IMPLAN 2023 data.

Institute researchers projected permanent, full-time employment in exemption qualifying data centers in Minnesota to be 677 in 2024. The value-added impact of annual operations to the state is $164.3 million (Table 4). The value of annual operations includes employee salaries, utilities, and maintenance. IMPLAN estimates the direct labor income of data center employees at $57.1 million, which includes both employee compensation and proprietor income. The relatively high cost of inputs to data centers and the high salaries of their employees translates to a large proportion of indirect and induced jobs. For each direct job in a data center, 1.03 indirect and induced jobs are created across the state.

Table 4. Economic Impact of $58.8 Million in Direct Operations Output in 2024

Impact	Employment	Labor Income	Value-Added	Output
Direct	677	$57,134,000	$75,698,000	$141,202,000
Indirect	315	$25,540,000	$40,819,000	$72,238,000
Induced	385	$25,905,000	$47,784,000	$77,477,000
Total	1,377	$108,579,000	$164,301,000	$290,917,000

Source: Institute of Government estimates; IMPLAN 2023 data.

Value-added impact figures for data center activity in Minnesota between 2011 and 2024 are displayed in Table 5. Based on DEED application data, the Institute research team projected data center construction activity to increase between 2011 and 2013, and then slowly decline through 2021. The value-added impact from data center construction and equipment ranges from $4.9 million in 2011 to $25.6 million in 2021, peaking at $499.1 million in 2013. Operations and electricity generation impacts grow cumulatively as new data centers continuously come online for the entire period shown. The total value-added impact from data center operations grows from $4.9 million in 2011 to a high of $500.9 million in 2013, before declining steadily to $89.2 million by 2024 as anticipated construction slows.

Table 5. Gross Value-Added Impacts from the Construction and Operation of Data Centers in Minnesota, 2011-2024 (Not Adjusted for "But For")

	2011	2012	2013	2014	2015	2016	2017
Construction and Equip Impact	$4,913,000	$240,078,000	$499,118,000	$377,786,000	$135,400,000	$55,250,000	$80,087,000
Operations Impact	$0	$0	$430,000	$10,601,000	$29,667,000	$32,204,000	$37,400,000
Electricity Generation Impact	$0	$0	$1,385,000	$8,507,000	$15,114,000	$20,411,000	$23,633,000

	2018	2019	2020	2021	2022	2023	2024
Construction and Equip Impact	$7,436,000	$2,286,000	$36,073,000	$25,624,000	$0	$0	$0
Operations Impact	$38,532,000	$40,826,000	$42,665,000	$41,916,000	$43,113,000	$52,130,000	$51,861,000
Electricity Generation Impact	$25,306,000	$29,220,000	$32,011,000	$26,604,000	$31,330,000	$38,283,000	$37,310,000

Source: Institute of Government estimates; IMPLAN 2023 data.

"BUT FOR" ANALYSIS

Though local, state, and federal governments use subsidies as a means of stimulating target industries, the behavior of private business is ultimately driven by maximizing profits and minimizing risks. Even substantial subsidies offered by state or local governments cannot outweigh certain aspects of the site selection process. Governments have little control over several important site selection factors, including the availability of both construction workers and qualified permanent employees, construction material supply chains, and the risk of natural disasters. Likewise, according to industry sources, clustering of the data center industry in certain locations often occurs organically, influenced by factors such as the development of a trained construction workforce and supply chains for necessary construction materials. Those studying the economic relationship between public policy and the behavior of private firms must ask an essential question: how much of this activity would have occurred without (i.e., "but for") the incentive or subsidy of interest?

To calculate the return on investment (ROI) of Minnesota's data center incentive, the Institute researchers had to first estimate the amount of activity that would have occurred "but for" the incentive. As previously discussed, data centers consider a myriad of factors when choosing a site, with electricity, low risk of natural disasters, and utility infrastructure ranking high on the list of considerations. However, with at least 37 states now offering some form of subsidy for data centers (Mangum Economics 2022), the presence or absence of an incentive likely plays a larger role in site selection than some previous studies have suggested (Bruns 2014). Although the presence of a tax incentive would likely not add a state to the site selection short list, the absence of a tax incentive could certainly eliminate a state from the list.

Institute of Government researchers estimated a fixed effects regression model to determine the "but for" value of Minnesota's data center sales tax exemption. The fixed effects approach controls for unobservable, time-invariant characteristics across states and time that could bias estimates of the share of economic activity attributable to the exemption. The model also accounts for time-varying factors influencing data center location decisions, including average industrial and commercial electricity rates, local labor availability, and average wages in the data processing and web hosting sector (used as a proxy for data center wages). Institute of Government researchers also considered a variety of other causal inference techniques to estimate the "but for" value of Minnesota's data center sales tax exemption. One of these methods known as the "synthetic control method" is notable for its recent popularity in state-level case studies and policy evaluations. However, this alternative approach was not pursued by Institute of Government researchers on account of concerns around internal validity and data availability that the fixed-effects regression model does not share.

Data center employment used in the model was derived from a proprietary national dataset developed by ATERIO, which catalogs all US data centers, combined with Institute estimates of employees per thousand square feet based on DEED application data from tax exemption applications. Although alternative causal modeling techniques were considered, data limitations made those methods less reliable for estimating the "but for" value in this study.

Institute researchers estimated that 50% of data center activity in Minnesota was attributable to the presence of its tax incentive in 2011, with the other 50% of data center activity likely occurring but for the incentive. By 2025, the amount of data center activity attributable to the incentive was estimated to have declined to 24% as other states relaxed qualifying incentives in order to compete for data centers.

Table 6 compares projections of forgone state tax revenue with the economic impact of construction and operations spending incentivized by that forgone revenue. After applying the "but for" reduction, the economic impact of data center construction ranges from a low of $2.5 million in 2011 to a high of $253.4 billion in 2013. Annual operations impact from data centers ranges from a low of $218,000 in 2013 to a high of $12.5 million in 2023, with no impact in either 2011 or 2012. The sum of all impacts, including that from additional electricity generation, are added together for a low of $2.5 million in 2011 and a high of $254.3 million in 2013. The corresponding return on investment (ROI), calculated on an annual basis (excluding 2011 and 2012), ranges from a low of -79.0 in 2022 to a high of 1,106.6% in 2013. Annual ROI figures are negative for all years after 2014, as foregone revenue builds relative to additional economic impact as data center construction slows. A projected overall ROI for the 2013-2024 time period eliminates the volatility associated with construction as well as with amended and extended annual report filing and tax exemption claims by data centers. The projected overall ROI is -2.0%, implying that for each $1 of forgone tax revenue from Minnesota's Data Center Equipment Exemption, the state accrues approximately $0.98 in value-added impact. This ROI is significantly lower than the alternate use scenario, which yields a value-added impact of $1.19 for each $1 of state revenue collected and spent on public services. In other words, the dollars forgone to this tax expenditure would have a higher ROI if they were instead collected by the state and spent in a manner similar to other state tax dollars.

Table 6. Return on Investment Calculation Based on "But For" Adjusted Value-Added Impacts, 2011-2024

	2011	2012	2013	2014	2015	2016	2017
Net Forgone State Tax Revenue (Includes Elec)	$218,000	$10,886,000	-$21,078,000	-$53,462,000	-$88,085,000	-$82,028,000	-$76,631,000
Const and Equip Impact*	$2,494,000	$121,886,000	$253,399,000	$172,947,000	$41,898,000	$17,096,000	$24,782,000
Operations Impact*	$0	$0	$218,000	$4,853,000	$9,180,000	$9,965,000	$11,573,000
Electricity Gen. Impact*	$0	$0	$703,000	$3,894,000	$4,677,000	$6,316,000	$7,313,000
Total Impacts*	$2,494,000	$121,886,000	$254,321,000	$181,695,000	$55,755,000	$33,377,000	$43,668,000
Return on Investment			**1,106.57%**	**239.86%**	**-36.70%**	**-59.31%**	**-43.02%**

	2018	2019	2020	2021	2022	2023	2024
Net Forgone State Tax Revenue (Includes Elec)	-$90,706,000	-$85,865,000	-$84,317,000	-$78,946,000	-$85,076,000	-$71,005,000	-$53,927,000
Const and Equip Impact*	$2,052,000	$631,000	$9,954,000	$6,150,000	$0	$0	$0
Operations Impact*	$10,633,000	$11,266,000	$11,773,000	$10,061,000	$10,348,000	$12,512,000	$12,448,000
Electricity Gen. Impact*	$6,983,000	$8,063,000	$8,833,000	$6,386,000	$7,520,000	$9,189,000	$8,955,000
Total Impacts*	$19,668,000	$19,960,000	$30,561,000	$22,597,000	$17,868,000	$21,701,000	$21,403,000
Return on Investment	**-78.32%**	**-76.75%**	**-63.75%**	**-71.38%**	**-79.00%**	**-69.44%**	**-60.31%**

Source: Institute of Government estimates; IMPLAN 2023 data.

*Impact estimates are Value Added estimates from IMPLAN and are adjusted by "But For" estimates.

ALTERNATE USE OF FORGONE REVENUE

When evaluating tax credits, it is important to consider not only what is being gained by stimulating the desired activity, but also what is being given up. The analysis presented in Table 7 explores the economic impact of the forgone revenue if the state had collected and spent it on social programs and other services. Based on Minnesota's General Fund Balance Analysis for FY 2024-2025, state spending from the general fund was assigned to IMPLAN's state spending categories of education, health and human services, investment, and all other government services.

The Institute research team calculated the economic impact of the alternate-use scenario using 2024 as an example year (Table 7). By collecting and spending the projected $53.9 million in revenue, Minnesota would have created a value-added economic impact of $64.3 million through direct, indirect, and induced employment and spending. That $53.9 million in state revenue would generate revenue sufficient to create the equivalent of an additional 368 direct jobs, meaning that eight state government jobs are created for each $1 million in revenue. If indirect and induced jobs are included, each $1 million in revenue supports 10 jobs across the state, including jobs in private industry.

Table 7. Alternate-Use Impact of Forgone State Tax Revenue for 2024

Impact	Employment	Labor Income	Value-Added	Output
Direct	368	$32,931,000	$40,752,000	$48,278,000
Indirect	27	$2,346,000	$3,765,000	$6,926,000
Induced	160	$10,735,000	$19,804,000	$32,111,000
Total	555	$46,012,000	$64,321,000	$87,315,000

Source: Institute of Government estimates; IMPLAN 2023 data.

Forgone state tax is projected to range from a low of $21.1 million in 2013 to a high of $90.7 million in 2018 as data centers accumulate in Minnesota (Table 8). Forgone revenue increases each year between 2013 and 2018 as data center construction accelerates and then declines from 2019 through 2024. ROI of the alternate-use scenario ranges from a high of 26.5% in 2016 to less than 1% in 2022. The cumulative ROI for the 2013-2024 time period is 18.64%, or approximately 19%,, meaning that for every $1 of tax revenue that the state collects and spends in a given year, $1.19 accrues to the state economy.

Table 8. Forgone State Tax and Alternate Use of Forgone State Revenue, 2011-2024

	2013	2014	2015	2016	2017	2018
Net Forgone State Tax Revenue (Includes Elec)	-$21,078,000	-$53,462,000	-$88,085,000	-$82,029,000	-$76,631,000	-$90,706,000
Alternate Use Impact	$26,606,000	$67,485,000	$111,187,000	$103,747,000	$95,575,000	$110,928,000
Return on Investment	26.23%	26.23%	26.23%	26.48%	24.72%	22.29%

	2019	2020	2021	2022	2023	2024
Net Forgone State Tax Revenue (Includes Elec)	-$85,865,000	-$84,317,000	-$78,946,000	-$85,076,000	-$71,005,000	-$53,927,000
Alternate Use Impact	$101,911,000	$96,906,000	86,338,000	85,443,000	$83,109,000	$64,268,000
Return on Investment	18.69%	14.93%	9.36%	0.43%	17.05%	19.18%

Source: Institute of Government estimates; IMPLAN 2023 data.

Note: ROI of the tax exemption is calculated based on Net Forgone State Revenue (i.e., gross foregone revenue less additional state taxes collected).

NET ECONOMIC ACTIVITY

Table 9 summarizes the results of the previous sections by directly comparing economic impacts and ROI of the data center sales tax exemption with the economic impacts and ROI of the alternate use scenario. Note that between 2013 and 2017, impact and ROI of the sales tax exemption is driven by the construction of new data centers and not by the ongoing operations of completed data centers. Beginning in 2018, the opposite is true as data center construction slows and permanent data center jobs grow cumulatively. The unusually large ROI numbers associated with 2013 and 2014 reflect the fact that sales tax rebates claimed under the exemption have not yet caught up with impacts generated by data center construction and operations.

Table 9. Projected Economic Impact of Minnesota's Data Center Equipment Tax Exemption, Alternate Use Economic Impact, and ROI by Year, 2018-2030

	2011	2012	2013	2014	2015	2016	2017
Net Forgone State Tax Revenue (Includes Elec)	$218,000	$10,886,000	-$21,078,000	-$53,462,000	-$88,085,000	-$82,029,000	-$76,631,000
Const and Equip Impact*	$2,494,000	$121,886,000	$253,399,000	$172,947,000	$41,898,000	$17,096,000	$24,782,000
Operations Impact*	$0	$0	$218,000	$4,853,000	$9,180,000	$9,965,000	$11,573,000
Electricity Gen. Impact*	$0	$0	$703,000	$3,894,000	$4,677,000	$6,316,000	$7,313,000
Total Impacts*	$2,494,000	$121,886,000	$254,321,000	$181,695,000	$55,755,000	$33,377,000	$43,668,000
Exemption Return on Investment			1,106.57%	239.86%	-36.70%	-59.31%	-43.02%
Alternate Use Impact			$26,606,000	$67,485,000	$111,187,000	$103,747,000	$95,575,000
Alternate Use Return on Investment			26.23%	26.23%	26.23%	26.48%	24.72%

	2018	2019	2020	2021	2022	2023	2024
Net Forgone State Tax Revenue (Includes Elec)	-$90,706,000	-$85,865,000	-$84,317,000	-$78,946,000	-$85,076,000	-$71,005,000	-$53,927,000
Const and Equip Impact*	$2,052,000	$631,000	$9,954,000	$6,150,000	$0	$0	$0
Operations Impact*	$10,633,000	$11,266,000	$11,773,000	$10,061,000	$10,348,000	$12,512,000	$12,448,000
Electricity Gen. Impact*	$6,983,000	$8,063,000	$8,833,000	$6,386,000	$7,520,000	$9,189,000	$8,955,000
Total Impacts*	$19,668,000	$19,960,000	$30,561,000	$22,597,000	$17,868,000	$21,701,000	$21,403,000
Exemption Return on Investment	-78.32%	-76.75%	-63.75%	-71.38%	-79.00%	-69.44%	-60.31%
Alternate Use Impact	$110,928,000	$101,911,000	$96,906,000	86,338,000	85,443,000	$83,109,000	$64,268,000
Alternate Use Return on Investment	22.29%	18.69%	14.93%	9.36%	0.43%	17.05%	19.18%

Source: IMPLAN (2023). *Impact estimates are Value Added estimates from IMPLAN and are adjusted by "But For" estimates.

Note: ROI is calculated based on Net Forgone State Revenue (i.e., gross foregone revenue less additional state taxes collected).

FISCAL IMPACT

This section presents estimates of the fiscal impact of Minnesota's Data Center Equipment Exemption on the state budget. This analysis provides a measure of the total change in state revenues attributable to the exemption. The largest component of the total fiscal impact is forgone tax revenue resulting from the direct cost of the exemption. This amount is shown in the first row of Table 10.

Because firms are assumed to spend additional dollars on construction and operations of data centers as a result of the tax exemption, the state will collect additional tax revenues on the direct, indirect, and induced spending associated with these purchases. IMPLAN's estimates of these additional state tax revenues are shown in the second and third rows of Table 10.

Other aspects of the fiscal impact calculation include additional state revenue, administrative costs, and reduced state spending. Because there are no application fees or other costs associated with utilizing the incentive, additional revenues to the state (typically fee revenue) are assumed to be zero. There are also no known reductions in state spending that result from the tax exemption; hence, this impact is also assumed to be zero and is similarly not included in Table 10.

Exclusive of 2011 and 2012, gross forgone state tax revenue ranges from a low of $43.9 million in 2013 to a high of $101.6 million in 2015 before slowly declining to $68.7 million by 2024. Forgone revenue increases and decreases in step with data center construction activity between 2011 and 2024. Increased state tax revenue from construction and equipment of data centers ranges from a low of $218,000 in 2011 to a high of $22.6 million in 2013. Increased state tax revenue from data center operations ranges from a low of $0 in 2011 to a high of $8.9 million in 2024 as the permanent data center workforce grows cumulatively over that time period. Increased tax collections from electricity generation grows from $0 in 2011 to $5.85 million by 2024. The total of increased state tax collections resulting from construction, operations, and electricity generation of data centers is not high enough to offset the forgone state tax revenue from the incentive after 2012; thus, the fiscal impact is negative in all subsequent years. The net fiscal impact of Minnesota' Data Center Equipment Exemption ranges from $218,000 in 2011 to -$53.9 million in 2024, reaching a peak of $90.7 million in 2018.

Table 10. Forgone State Tax, Increased State Tax Collected Due to Incentive, Total Fiscal Impact, 2011-2024

	2011	2012	2013	2014	2015	2016	2017
Forgone State Tax Revenue	$0	$0	-$43,931,000	-$73,659,000	-$101,643,000	-$93,769,000	-$90,758,000
Increased State Tax Collections from Construction and Equipment	$218,000	$10,886,000	$22,595,000	$17,148,000	$6,153,000	$2,522,000	$4,205,000
Increased State Tax from Elec. Generation	$0	$0	$179,000	$1,097,000	$1,948,000	$2,601,000	$3,248,000
Increased State Tax Collections from Operations	$0	$0	$79,000	$1,952,000	$5,457,000	$6,617,000	$6,674,000
Net Fiscal Impact	**$218,000**	**$10,886,000**	**-$21,078,000**	**-$53,462,000**	**-$88,085,000**	**-$82,029,000**	**-$76,631,000**

	2018	2019	2020	2021	2022	2023	2024
Forgone State Tax Revenue	-$101,613,000	-$97,796,000	-$98,891,000	-$93,601,000	-$98,316,000	-$85,458,000	-$68,674,000
Increased State Tax Collections from Construction and Equipment	$358,000	$137,000	$919,000	$1,064,000	$0	$0	$0
Increased State Tax from Elec. Generation	$3,529,000	$4,277,000	$7,188,000	$5,812,000	$5,205,000	$5,601,000	$5,850,000
Increased State Tax Collections from Operations	$7,020,000	$7,517,000	$6,467,000	$7,779,000	$8,035,000	$8,852,000	$8,897,000
Net Fiscal Impact	**-$90,706,000**	**-$85,865,000**	**-$84,317,000**	**-$78,946,000**	**-$85,076,000**	**-$71,005,000**	**-$53,927,000**

Source: Institute of Government estimates; IMPLAN 2023 data.

REVENUE NEUTRALITY, TAX INCIDENCE, AND COMPARATIVE EFFICIENCY

If Minnesota's sales tax exemption for the construction or refurbishment of data centers were repealed, the forgone revenue could be used to modestly reduce the statewide general sales and use tax rate. Based on estimated revenue impacts, repeal of the exemption would allow the general sales tax rate to decline from 6.875% to approximately 6.787%, holding overall revenue constant. This revenue-neutral rate illustrates that the exemption has a measurable, though relatively small, effect on the overall sales tax burden borne by taxpayers.

A formal incidence analysis specific to the data center sales tax exemption is not available in the State of Minnesota Tax Expenditure Budget. In the absence of such analysis, the incidence of the exemption is assumed to mirror the broader business portion of the general sales and use tax, as reported in the 2024 Minnesota Tax Expenditure Budget. That analysis indicates that business sales taxes are disproportionately borne by higher-income households and nonresidents. Nonresidents account for roughly one-third of the business portion of the sales tax, while households in the highest income decile bear more than one-fifth of the total business sales tax burden. Lower-income households bear comparatively smaller shares, reflecting the concentration of business tax incidence toward higher-income groups.

A comparison to a hypothetical direct expenditure provides additional context for evaluating the efficiency of the exemption. Between 2011 and 2024, the data center sales tax exemption resulted in net forgone sales tax revenue with an estimated return on investment of approximately –2.0%, indicating that the economic activity generated fell slightly short of the value of revenue foregone. By contrast, a direct expenditure of an equivalent amount targeted toward construction employment and permanent data center jobs would have produced an estimated 140.0% return on investment over the same period. This comparison suggests that, from a purely fiscal and economic efficiency standpoint, a direct expenditure approach could have generated substantially greater economic returns than the sales tax exemption mechanism.

ANCILLARY IMPACTS AND ALTERNATIVES

In most cases, tax incentives have intangible public benefits that cannot be captured by traditional economic impact estimates. These intangible benefits may be stated or implied as the intent—or part of the intent—of a credit, or the benefits may simply accrue as an externality, or side effect, of the credit. While the preceding estimates are based solely on projected tax expenditures and their resulting economic impacts, note that a number of intangible benefits of Minnesota's high-tech data center tax exemption, though immeasurable, likely exist.

Although data centers certainly bring jobs and capital investment to the regions where they choose to locate, they are also heavy utility users, which can have mixed effects on residents. One negative effect of a hyperscale data center could be strain on the electric grid and local water and sewer infrastructure. Data centers measure their electricity usage on the order of megawatts. The large-scale electricity needs of data centers could strain the power grid during peak times such as heat waves and cold snaps. Data centers often require constant water flow for cooling purposes, in some cases straining already aging pipes and water purification plants.

Heavy electricity usage by data centers could also have some positive effects on residents. Expansion or improvement of the electric grid would likely create new jobs at utility providers in Minnesota. Data centers also prefer sites with renewable energy, encouraging investment in solar, wind, hydroelectric, and nuclear energy, benefitting residents in the region via increased sustainability and possibly lower electricity rates. Another positive effect of a new data center might be the improvement of internet fiber infrastructure within a county. Although large economic development projects such as data centers are heavy utility users, such projects often provide the level of investment needed to update or expand aging infrastructure, especially in rural areas.

The projected economic impact calculations presented in this report are based on a relatively short-term projection of data centers and their economic impacts, along with accompanying forgone sales tax revenues. The assumption underlying these projections is that current trends in data center construction continue throughout the projection period. Unexpected changes in the current state of data center technology, or significant changes to investment in the artificial intelligence industry could lead to substantially different results. In the long run, however, a company factors tax incentives, along with other information, into its decision to locate in Minnesota or in another state. In other words, a data center may weigh other factors more heavily when initially selecting a site, but uncertainty surrounding tax policy may dissuade the center from investing long-term in a certain state, especially when building a campus with multiple hyperscale data centers. Sales tax exemptions represent a savings that could tilt the relative cost of doing business in favor of states with more generous incentives or longer sunset

dates. While analyzing Minnesota's overall competitiveness in attracting data centers versus other states is well beyond the scope of this analysis, some measure of Minnesota's attractiveness to high-tech companies deserves consideration prior to modifying the current data center tax exemption.

A tax exemption is one of many factors that creates a positive business climate. Even the most complex models cannot include or control for every factor relevant to business decision-making or economic growth (Buss 2001). Other factors include corporate tax rates, commercial real estate prices, utility rates, the risk of natural disasters, the talent pool, and proximity to transportation hubs such as airports and ports. While a tax incentive may not be the primary factor in location selection, it is certainly one of a group of factors impacting that decision. Consequently, a lack of incentives, or a repeal of existing incentives, may signal a negative business climate and can create an atmosphere of uncertainty for firms planning to relocate or expand. Note also that a large concentration of industry-leading high-tech corporations may serve to improve the business-friendly reputation of a state, whereas an exodus of those same corporations may have the opposite effect.

Note additionally that state sales tax incentives, such as the one analyzed here, are incremental. That is, if a data center fails to locate in a given state due to lack of a tax incentive (or any other factor), the potential sales tax is never collected. If that same data center chooses to locate in a state because of the exemption, the sales tax is still not collected, but the state stands to collect secondary taxes induced by the presence of the business. The assumption that tax revenue is actually forgone ultimately rests on the estimated, but ultimately unknown, "but for" parameter.

In the most optimistic scenario, Minnesota's data center equipment tax exemption supports both the growth of a burgeoning industry and workforce development efforts by creating quality jobs in both construction and data center operations. This exemption has been a factor in attracting new and well-known companies that enhance Minnesota's reputation as a good location to do business. The high concentration of tech companies in Minnesota, specifically the Twin Cities area, builds the state's reputation as a technology hub.

Enhancing the ROI of an exemption may generally be accomplished in one of two ways. First, steps could be taken to reduce the amount of forgone tax revenue, and second, requirements for qualifying expenditures could be directed towards areas that produce a greater economic impact. With data centers, for example, foregone tax revenue might be reduced by restructuring those items that are exempted from state sales tax. Similarly, economic impact might be increased by requiring greater investment in activities that generate relatively more impact, such as construction, which draws more heavily on in-state resources than electrical components, which are largely imported from outside the state.

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