POTENTIAL ECONOMIC IMPACT OF A HYPERSCALE DATA CENTER IN MONTANA

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Executive Summary

The development of artificial intelligence (AI) has created massive growth in data center investment across the United States. Because hyperscale data centers require large areas of land, can create noise and other impacts on immediate neighbors, and are often co-developed with new electricity generation, developers are increasingly considering sites in low population density states such as Montana. Hyperscale data centers are generating multibillion-dollar investments around the United States, and Montana would certainly receive economic benefits if this investment occurred in the state. However, there is substantial controversy around environmental and other potential negative community impacts from large scale data center development, and questions arise on how those concerns compare to potential economic benefits. This report does not address all of the questions surrounding data centers. Its objective is to provide better information and clarity around the scale and structure of potential economic benefits from hyperscale data centers in the unique context of the Montana economy.

Economic benefits include employment, income, tax revenue, and economic output from the construction and operation of new hyperscale data centers and power-generation facilities that may be co-developed alongside them. We examine four data center sizes: 500, 1,000, 1,500 and 2,000 megawatts (MW). We also consider two scenarios in which power generation is built alongside the data center. In the first scenario, a single natural gas plant supplies power sized to match the data center's demand capacity. In the second, a hybrid scenario pairs utility-scale solar and battery storage with a smaller natural gas plant to meet the same level of demand. Our analysis utilizes conservative assumptions to model both construction and operations adapted to Montana economic conditions. Data centers are increasingly built using manufactured modular systems which reduces the demand electricians and construction workers on-site and makes their construction of these massive complexes more viable in rural areas, Montana currently has no producers of the servers or modular systems that make up the vast majority of data center capital expenditures, and thus the construction economic impacts only include the site work and building shell. Property taxes payments from data centers are modeled in a separate section, and the equipment expenditures that are excluded from the modeling of employment and income impacts play a prominent role in driving property tax revenues.

All estimates assume the data center and associated power plants are located near Broadview, a town of about 140 people roughly 30 miles north of Billings in Yellowstone County. This is the location of Quantica Infrastructure's proposed Big Sky Digital Infrastructure Campus, the largest data center proposal in Montana. Quantica plans the campus on a 5,000-acre site, and NorthWestern Energy signed a letter of intent to provide up to 1,000 MW of power to the project. Quantica has since requested up to 7,235 MW of interconnection capacity, though the company has stated the campus may not use all of that capacity (West 2025).

We model construction impacts as a two-year project for each 500 MW increment. Thus, larger projects just extend the construction impacts over a longer construction phase – four

years for a 1,000 MW data center, and up to eight years of construction for a 2,000 MW data center. During each year of the construction phase, we estimate hyperscale data center development would:

- directly create about 500 construction jobs,
- support a total of 1,500 jobs statewide when considering indirect effects, and
- increase personal income to Montanans by $93 million annually.

Economic impacts during operations would vary according to the size of the data center and whether it was co-developed with new electric power generation. Even the smallest hyperscale data center we consider, 500 MW, would be a nearly $20 billion capital investment. Operating jobs do not grow in direct proportion to data center size. Using a conservative modeling approach, we estimate annual operating impacts of a:

500 MW data center

- 168 direct jobs at the data center
- 308 total jobs statewide
- $22.3 million in personal income

1,000 MW data center

- 250 direct jobs at the data center
- 452 total jobs statewide
- $34.3 million in personal income

Additional impacts from new power generation at a 500 MW data center, include:

- Natural gas facility: 42 additional jobs and $4.6 million in personal income
- Hybrid solar, battery storage, and gas facility: 72 additional jobs and $8.2 million in personal income

The hybrid option that pairs utility-scale solar and battery storage with a smaller natural gas plant supports more jobs because it covers a larger footprint and uses more generating equipment, all of which increase maintenance and operating spending.

Property tax payments from a hyperscale data center may be the greatest source of public economic benefit for the public. While the billions of dollars invested in computing equipment in a data center does not directly support Montana employment, the value of this equipment would drive enormous property tax payments, which ultimately help fund local government operations, public education, and public services. Even when considering the reduced property tax rates for data center created by the state legislature in 2017, we estimate:

- a 500 MW data center would generate approximately $26 million in annual average property tax payments
- a 1 GW data center would generate $47 million in average annual property taxes
- a 1 GW data center co-developed with new power generation would result in annual average property tax payments as high as $54 million.

Hyperscale data centers would reduce mill rates in the school district and county where the data center was located due to the expanded local tax base. As a result, about half of the new tax payments would fund property tax mill rate reductions that benefit other taxpayers. In addition, because local property tax mills would decrease as a data center expands, the estimated property tax payments from a data center itself would not increase in proportion to its size.

We report an average annual tax payment because a data center's taxable value and property tax payments vary substantially from year to year. Rapidly depreciating computer servers, which are replaced frequently, drive most of this volatility. For example, we estimate the assessed market value of a 500 MW data center could fall from $15 billion to $5 billion over five years before its servers are replaced.

These property tax estimates rest on three assumptions:

- Appraisers value the facilities using the cost approach, which sets taxable value at the cost to replace the buildings and equipment new, minus depreciation for age and wear.
- The data center and power plants qualify for a 0.9% tax rate under Class 17, the reduced rate incentive created in 2017.
- The facilities sit within the Broadview school district in rural Yellowstone County.

A different location, changing market conditions, equipment replacement schedules, and property tax policy could all change these property tax estimates substantially.

Many additional scenarios and methodological details are included in the full report. The estimates of economic benefits represent current conditions, and could change over time given the fast-changing nature of data center technology, markets, and future policy. While continuing change is inevitable, these estimates made under current conditions show that hyperscale data centers could deliver large economic benefits to Montana. In addition to the scale of benefits, this report illustrates the structure of economic impacts, the characteristics of data centers that drive job creation and tax revenue, as well as sources of uncertainty.

Introduction

Rapid advances over the past few years in artificial intelligence (AI) have fueled a massive expansion in the demand for data centers. Hyperscale data centers designed to support AI have a much larger scale than the data centers that have been in existence for decades to support growing internet use. Investment in these multibillion-dollar facilities brings economic benefits to the communities that host them but also generates public concerns about energy and water consumption, noise, and other environmental impacts. The public debate around data centers is increasingly heated and has resulted in confusing and often conflicting information regarding both economic and environmental effects.

This report aims to provide reliable estimates of the economic benefits of a hyperscale AI data center in Montana to better inform the public and policymakers. We estimate the jobs, income, and tax revenue that would be created by a hyperscale data center. Property taxes are especially important to this analysis as data centers' enormous capital investment creates a large new property tax base that can have enormous community impacts, especially in rural communities. Montana's property tax system is complex, and thus it is important to consider the composition of property taxes that would be generated by data centers. While economic impacts and tax revenue are important areas for public consideration regarding data centers, this report is not a comprehensive assessment of all effects that data centers can have on communities.

These questions surrounding data centers are of increasing importance to Montana as hyperscale AI data centers are shifting toward rural locations as they grow in scale. While Montana does not currently have any hyperscale data centers in operation or in an active construction phase, these centers have located in neighboring Wyoming and North Dakota. NorthWestern Energy's 2026 Montana Integrated Resource Plan identifies three factors that have begun attracting data center developer interest to the state:

- major long-distance fiber-optic lines that cross Montana and give data centers high-capacity internet connections,
- comparatively low land and energy costs,
- cool winter climate that reduces cooling costs.

Despite these advantages, not every data center proposal has moved forward. Developers have proposed a few large data centers over the past year, but some have withdrawn or stalled for reasons such as uncertain timelines for securing electric power and local community opposition (McGonigal 2025; Producer 2026). The largest proposal, Quantica's Big Sky Digital Infrastructure Campus in Yellowstone County, remains active, and additional proposals are likely to emerge.

Concerns about power availability help explain why data center developers increasingly bring their own power by building dedicated power plants alongside their facilities. Onsite power plants limit impacts on electricity rates, speed up development, and reduce uncertainty about whether utilities can meet a data center's power demands. Big Sky Digital Infrastructure follows this approach, planning a mix of new solar, battery storage, and natural gas generation for its campus.

This analysis considers two hypothetical scenarios in which developers build new power plants alongside a data center: a conventional natural gas facility, and a hybrid facility that pairs solar and battery storage with a smaller natural gas plant. Because Big Sky Digital Infrastructure is the largest and most advanced data center proposal in Montana, we designed both scenarios to meet the power needs of a facility similar in size and location. The hybrid scenario also reflects the general power mix the project has publicly described. We developed these scenarios independently, using only publicly available information, and they do not represent the developer's actual plans or data. The hybrid scenario would also include one of the first utility-scale battery storage installations in Montana.

Structure and Assumptions of the Analysis

This analysis estimates the economic contribution of a potential data center facility in Yellowstone County across three phases: construction, ongoing operations, and onsite electricity generation. To contextualize scale, a hyperscale facility is generally defined as one exceeding 100 MW, where a megawatt measures a facility's total power consumption capacity when running at full utilization. A 500 MW facility could theoretically draw 500 megawatts of electricity at peak demand. While a 500 MW facility represents a substantial undertaking for Montana, it falls in the moderate range nationally, where facilities now routinely exceed 1,000 MW (1 gigawatt or GW). Thus, our economic modeling considers data centers in 500 MW increments up to a maximum of 2,000 MW (2 GW) where each 500 MW increment requires two years to construct and become operational. Quantica's Big Sky Digital Infrastructure proposal is for an 1,100 MW data center constructed in two phases – similar to one of the scenarios in this analysis.

Several additional limitations warrant transparency. Data centers are an emerging industry, particularly at the scale of this project. Existing economic models and published research typically focus on smaller facilities, so very few historical examples exist, and none in the state of Montana. The absence of comparable facilities shaped how we structured the economic model.

Montana's economy does not currently include a substantial IT equipment manufacturing industry or a specialized data center workforce. Most of the advanced chips that power AI data centers are also manufactured outside the United States. Domestic production of these chips began only recently, at a handful of facilities in Arizona and Oregon, and most production remains overseas. Whether a single hyperscale data center would lead either industry to develop in Montana remains uncertain. Developers increasingly rely on modular, prefabricated components, with most electrical and mechanical systems assembled in off-site factories. Shipping these components to the site reduces the need for specialized onsite labor, which also makes data center development more feasible in rural states like Montana. Given this uncertainty, the analysis applies conservative assumptions and excludes IT equipment and specialized technical labor from the modeled economic activity.

Our approach isolates the employment, income, and tax revenue that can reasonably be attributed to the facility within Montana's existing economy. Hyperscale data centers continue to evolve rapidly, as developers adopt new technologies and work around physical and political constraints. Our modeling reflects our best estimate of how a hyperscale data

center would most likely be built under current conditions, and future updates could consider new scenarios as conditions change and more details about specific proposals become public. The following sections describe how we implemented these and other assumptions in the REMI economic model.

REMI Modeling Methodology

The REMI model produces estimates based on a defined set of structural and forecasting assumptions common to all REMI-based studies. The model treats Montana as an open economy that trades goods, services, and labor with the rest of the nation and the world, so wages, prices, and migration all respond over time to changing economic conditions, and workers and firms can move into or out of the state as job opportunities change. This assumption matters for the current analysis because a substantial share of the project's inputs, including microchips and other IT hardware, are manufactured outside the United States and enter Montana's economy as imports rather than local production.

Results reflect direct, indirect, and induced effects. Direct effects come from the spending or employment associated with the activity itself. Indirect effects come from regional businesses purchasing inputs from other regional suppliers. Induced effects come from employees spending their wages in the regional economy. Reported results reflect the combined total of all three unless direct effects are broken out separately.

The baseline forecast assumes current law and policy, with no other major structural changes to the regional economy over the 2026 to 2041 forecast horizon. Because the baseline already embeds the region's underlying growth trajectory, the estimated impact reflects the activity's effect relative to that trajectory, not a prediction of the region's total future economic output.

All dollar values are reported in real, inflation-adjusted terms unless otherwise noted. The model does not account for spending that displaces other economic activity in the region, so analysts are responsible for ensuring that spending entered into the model represents genuinely new economic activity. As with any forecasting model, REMI results are estimates, not precise predictions, and actual outcomes may differ from projections.

Applying these principles to the current analysis, the project involves four distinct pieces of economic activity, each of which enters the model separately: data center construction, data center operations, onsite power facility construction, and onsite power facility operations. We separate the analysis this way because construction and operations affect different parts of the Montana economy and unfold on different timelines. Construction activity is temporary and concentrated in site preparation and building shell construction, while operations activity is ongoing and concentrated in industries such as data processing and electricity generation.

Table 1: Activity to REMI Industry Mapping

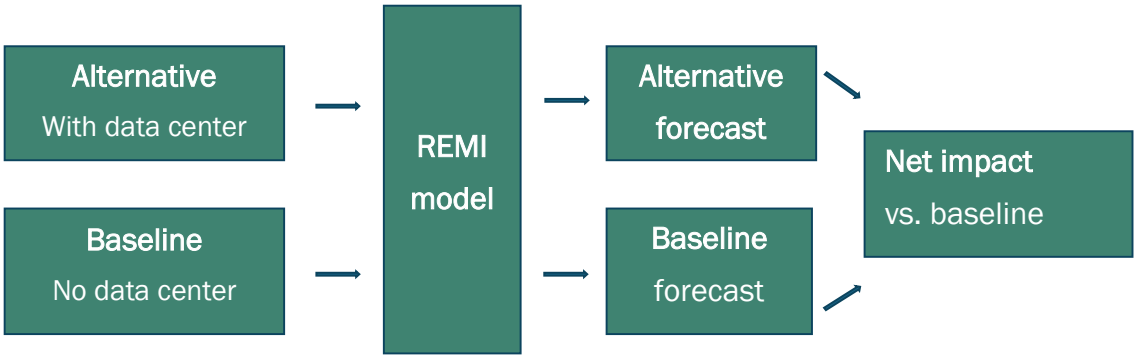
Activity	*REMI Industry*
Data Center Construction	Office and commercial structures
Power Facility Construction	Power and communication structures
Data Center Operations	Data processing, hosting, and related services
Power Facility Operations	Electric power generation, transmission, and distribution

A hyperscale data center or power facility bears little resemblance in its construction methods, inputs, and labor requirements to a generic office building or utility, so these standard industries served only as a starting point. Data center construction increasingly relies on modular, prefabricated components, power skids, cooling units, and in some cases entire equipment pods, manufactured off-site and assembled on location, a process that more closely resembles manufacturing production than conventional onsite commercial building. Custom industries were built from the standard classifications and adjusted to reflect this practice.

The base REMI industries in Table 1 were adjusted to reflect the lower labor intensity and faster build times that result from modular, prefabricated construction relative to conventional commercial building, where most work occurs sequentially onsite using general trades labor. The operations industries were adjusted to reflect the lower labor intensity of running an automated, highly standardized data center or generation facility compared to standard industry averages.

One major adjustment addresses IT hardware and specialized cooling equipment, a cost category that often greatly exceeds the cost of the building that houses it. Because this equipment is typically manufactured outside Montana and does not correspond to any existing Montana industry, specialized equipment expenditures were excluded from the capital spending entered into the model. The input mix for each custom industry was adjusted to more closely resemble published construction and equipment cost breakdowns for facilities of this type. While the substantial investment in imported equipment and manufactured modular components were excluded from the economic impact model, we do account for this costly equipment in the property tax analysis at the end of the report because this equipment makes up the majority of a data center's property tax base.

Figure 1: REMI Flow Chart



The rest of the economic impact analysis proceeds in two steps, illustrated in Figure 1. The analysis starts with a baseline projection for Montana under status quo conditions. The analysis then employs the REMI model a second time, simulating an alternative scenario in which a data center is constructed and begins operations. The difference between the baseline scenario and the with-data-center scenario constitutes the magnitude of the project's construction and operations impact on Yellowstone County and Montana's economy.

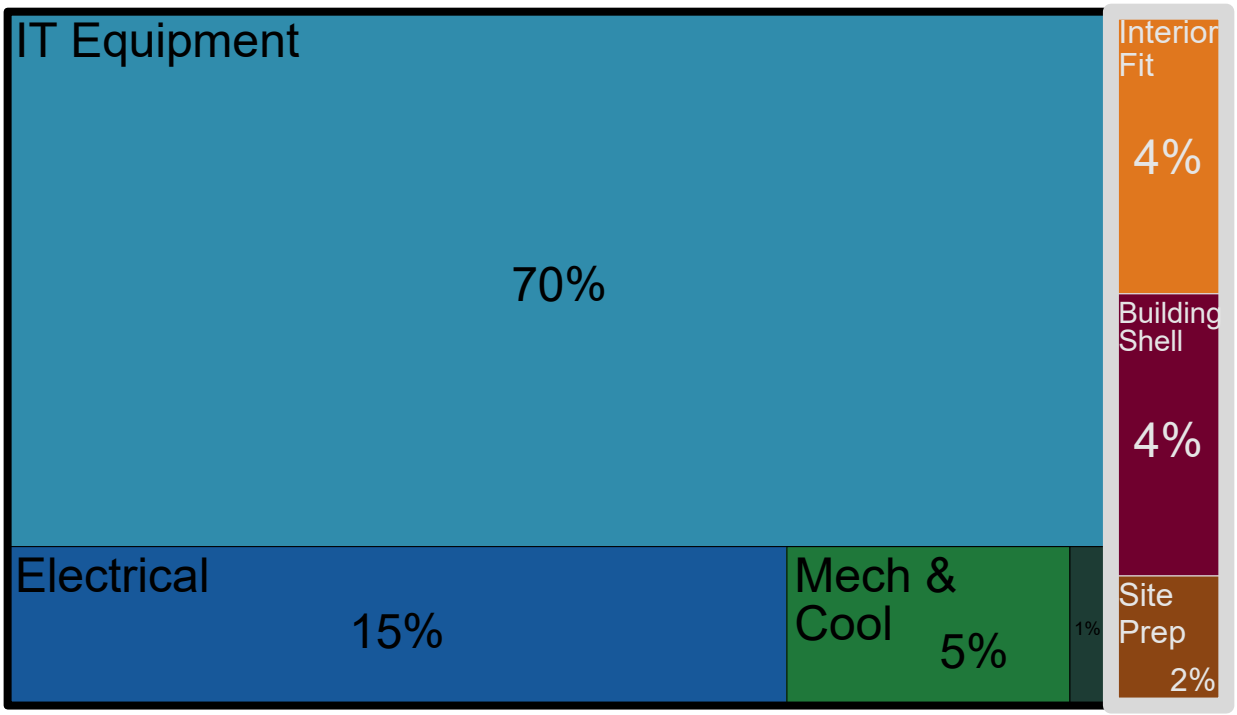
Data Center Economic Impacts

This section presents the estimated economic impacts of the project across four possible facility sizes: 500 MW, 1,000 MW, 1,500 MW, and 2,000 MW of total demand capacity, each modeled as a complete facility with integrated onsite power generation. Consistent with the modeling approach described above, impacts are reported separately for the construction phase and the ongoing operations phase, since the two draw on different parts of the Montana economy and unfold on different timelines. Results reflect only the portion of project spending expected to generate new economic activity within Montana; capital and inputs sourced from outside the state, as discussed in the methodology, are excluded.

Data Center Construction

As described above, we analyzed four facility sizes, ranging from 500 MW to 2,000 MW of total demand capacity. Even the smallest of these represents a large capital undertaking. We assume total capital expenditures of $19.131 billion for a 500 MW data center, consistent with published estimates ranging from $14 billion to $26 billion (Vila 2025). Figure 2 displays the composition of this capital expenditure by component.

Figure 2: Tree Map of Data Center Capital Expenditures



The single largest constraint on local economic impact is the composition of capital spending. Approximately 70% to 75% of total capital costs consist of IT equipment, servers, networking hardware, and related infrastructure, none of which is manufactured or sourced within Montana. These costs, while essential to the project, generate economic activity primarily outside the state and are therefore excluded from our local impact analysis.

Electrical equipment, mechanical and cooling systems, and fire and security systems make up an additional share of capital costs, together with IT equipment totaling 91 % of total capital expenditures. Like IT hardware, this equipment is manufactured off-site by specialized national and international suppliers and installed rather than fabricated locally, so the bulk of its value similarly accrues outside Montana's economy. These costs are therefore excluded from the Montana impact analysis alongside IT equipment.

This study focuses on the $1.9 billion in construction spending expected to occur within the Montana economy for a single 500 MW hyperscale scenario. This spending covers what the industry calls a warm shell. A warm shell is a finished building with power and basic systems in place, but without the computing and specialized systems that make it a data center, highlighted in Figure 2. This represents the proportion of capital expenditures that overlap with conventional commercial and industrial construction activity that would most directly impact the Montana economy. Table 2 itemizes this spending by component for a 500 MW facility. We scale construction spending for the larger scenarios in proportion to facility size,

so the 2,000 MW scenario has four times the construction spending of the 500 MW scenario. Operations do not scale this way, as described in the following section.

Table 2 The Assumed Local Components of the Data Center Structure's Warm Shell Construction, 500 MW (millions of dollars)

Component	*Montana*	*Total*
Electrical	$0	$2,999
Mechanical & Cooling	$0	$1,088
Interior Fit and Finish	$788	$788
Building Shell/Structure	$788	$788
Site Prep	$362	$362
Fire and Security	$0	$158
Total Warm Shell	*$1,937*	*$6,183*

Construction of a single 500-megawatt phase over 24 months would directly employ an average of 482 workers across trade, engineering, and project management roles. The economic impact on Montana extends beyond this onsite construction workforce.

- Indirect employment captures jobs at businesses that supply goods and services to the construction effort. For example, a Montana-based concrete supplier or equipment rental company would hire additional staff to meet the project's demand, jobs that exist because of the project but sit outside the construction site itself.
- Induced employment captures jobs created when construction workers spend their earnings in the local economy. For example, increased construction payroll supports additional hiring at local restaurants, grocery stores, and housing providers as workers spend their wages on everyday goods and services.

Together, direct, indirect, and induced employment bring total employment to approximately 1,478 jobs per year throughout the regional economy, a multiplier of roughly 3. That annual figure, however, tells only part of the story: a facility's overall scale also shapes how long that employment lasts, which annual figures alone don't capture.

Annual employment and cumulative employment capture different effects on the regional economy. Annual employment reflects the workforce sustained in a typical year of construction, which determines whether local housing, contractors, and the available labor pool can absorb it. Cumulative employment, measured in job-years, reflects the total volume of work across the full construction period. One job-year equals one full-time job lasting one year, so 500 jobs sustained over two years equals 1,000 job-years.

A 500 MW facility requires roughly 984 job-years of direct construction labor, whether that work happens in one high-intensity year or spreads across two. This study assumes construction duration scales with facility size, from two years at 500 MW to eight years at 2,000 MW, reflecting the greater scope of site work, equipment installation, and

commissioning at larger capacities. As a result, larger facilities accumulate more job-years without employing dramatically more workers each year. Instead, they sustain a similar workforce over a longer build-out.

Table 3 shows this pattern across the four electricity demand capacity scenarios. Annual onsite employment holds near 480 to 490 workers regardless of facility size, while job-years scale with construction duration. A single 500 MW facility employs 492 workers over two years, generating 983 job-years. The largest 2,000 MW facility sustains 482 workers over eight years, generating 3,854 job-years. Despite similar annual employment, the largest scenario delivers nearly four times the cumulative direct employment of the smallest, along with the corresponding regional earnings and spending that follow from a longer build-out.

Table 3: Cumulative Direct Employment and Job-years, by Scenario

Facility Size	*Average Annual Construction*	*Duration*	*Onsite Job-Years*	*Job-year per MW*
500 MW	492	2 years	983	1.97
1,000 MW	489	4 years	1,955	1.96
1,500 MW	486	6 years	2,913	1.94
2,000 MW	482	8 years	3,854	1.93

Construction labor needs were estimated at 1.97 to 1.93 job-years per megawatt, decreasing marginally with facility size. This range falls at or modestly below the middle estimate of 2 job-years per megawatt for hyperscale data center construction, reflecting an assumption that this project relies on the same modular construction, prefabrication, and standardized building sequences used in smaller 100 MW facilities, methods that reduce onsite labor needs and allow billions of dollars of construction activity to occur within short, 18-to-24-month timelines (Ryu and Hiatt 2025).

Having established a range of estimates for a single 500 MW phase, we can now estimate the broader economic impact that activity would generate. Table 4 summarizes the average annual impact of one 24-month, 500 MW construction phase, capturing direct onsite effects alongside the indirect and induced effects that ripple through supplying industries and worker spending. A single phase of this scale generates roughly $514 million in value-added and over $1 billion in economic output for Montana during a construction year.

Table 4: Average Annual Construction Impacts, 24 Months 500 MW Phases

Category	Direct	Total
Total Employment	488	1,483
Value-Added	$376.0	$513.7
Output	$784.0	$1,024.9

These annual figures describe what a single phase contributes in a typical year, but they understate the full scale of the undertaking for larger facilities, which require multiple phases built back-to-back over longer buildout timelines. Table 5 aggregates construction impacts across the entire buildout period for each of the four capacity scenarios, from the 500 MW facility's two-year build to the 2,000 MW facility's eight-year build. Because employment, income, and output all accumulate with construction duration, cumulative impacts scale up substantially with facility size even though annual employment on any given phase remains fairly constant.

Table 5: Total Construction Impacts by Project Scale, Cumulative Over Buildout Timeline

Category	*500 MW*	*1 GW*	*1.5 GW*	*2 GW*
Impact Years	*2 years.*	*4 years.*	*6 years.*	*8 years.*
Total Employment	1,478	1,486	1,485	1,482
Personal Income	$84.2	$92.8	$101.3	$110.0
Disposable Personal Income	$71.1	$78.7	$86.2	$93.9
Value-Added	$512.4	$513.6	$514.1	$514.7
Output	$1,025.9	$1,025.2	$1,024.3	$1,024.0

To put the 1 GW scenario in concrete terms, over its four-year buildout period the project is projected to support:

- 1,486 total jobs, on average per year of construction. This counts full- and part-time positions equally by place of work, including proprietors.
- $92.8 million in personal income per year. This is income Montana households receive from all sources.
- $53,000 in average income per job supported. This reflects total income across all sources, not wages alone.
- $78.7 million in disposable personal income per year. This is what households have left after taxes to spend or save.
- $513.6 million in value added per year, output minus intermediate inputs, the project's average annual contribution to Montana GDP during construction.
- $1,025.2 million in output per year, or gross receipts received by Montana businesses. This includes intermediate purchases along with value added, and measures the new economic activity generated by the project on an average annual basis.

Construction employment is temporary. Once each phase is completed, onsite workers either move to other large capital projects in Montana or leave the state if equivalent projects are unavailable, delivering a concentrated boost to earnings and local spending during the building period. When operations begin, the regional economy shifts to a smaller but permanent employment base that sustains local economic activity for the facility's

operational life. Estimating this ongoing employment requires empirical data on staffing patterns at comparable facilities, a task made difficult by the general scarcity of published headcount data for operational hyperscale data centers in the United States.

Ongoing Data Center Operations

Once construction concludes, the region's data center-related employment shifts to a permanent set of jobs that are supported by the facilities' ongoing operations. Estimating permanent employment of the facility itself presents its own challenge. Very few large hyperscale facilities greater than 500-megawatt demand capacity currently operate in the United States, leaving limited statistical evidence on staffing patterns. Published estimates of operational employment per megawatt vary considerably across studies, though a broad consensus suggests operational employment is less than one job per MW. In addition, jobs per MW decrease as data center size increases (Ryu and Hiatt 2025).

To develop an estimate for this analysis, we compiled project announcement data from 14 operational or announced data center facilities across the country, using announced facility size and employment figures to derive an empirical distribution of ongoing data center jobs per MW of demand capacity. Table 6 summarizes the resulting estimates from these comparable facilities. The data reveal a clear pattern: each additional megawatt of demand capacity requires fewer workers than the last, reflecting the similar economies of scale in data center staffing that Ryu and Hiatt find.

A 500 MW facility would be expected to employ approximately 170 workers. A 2,000 MW data center, four times the size, would employ about 380, roughly double. Rather than growing proportionally with capacity, permanent employment grows at a slower rate because fixed overhead costs, such as security, management, and core technical roles, distribute across a larger facility.

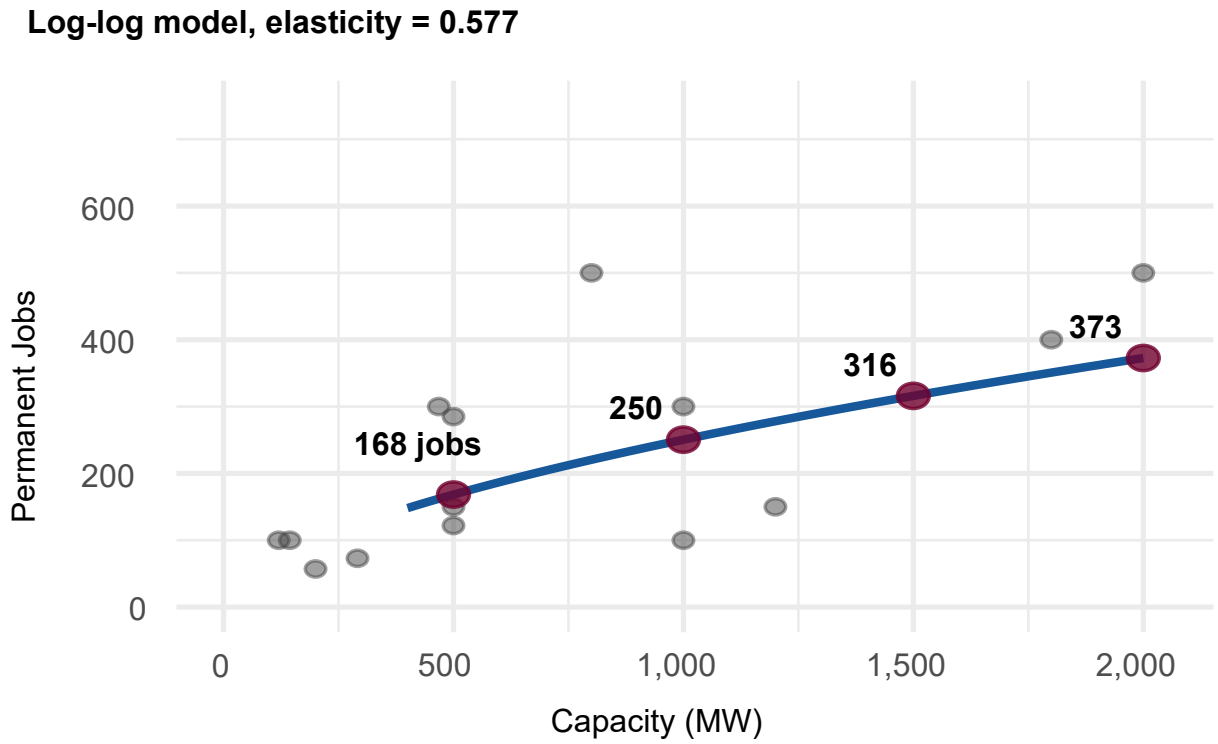
Table 6: Estimated Operational Employment per MW by Facility Size

MW	*Jobs per MW*
500	0.34
1000	0.25
1500	0.21
2000	0.19

Figure 3 shows the relationship between data center size and permanent employment that underlies our operations employment projections. We estimated this relationship using a log-log regression model based on 14 existing data centers, shown as grey points. A log-log model measures how a percentage change in one factor relates to a percentage change in another. Our model shows that a 1% increase in facility capacity leads to about a 0.58% increase in permanent employment. The red points along the curve show our estimates for

the four facility sizes in this study, and the pattern reflects the same economies of scale described above.

Figure 3: Data Center Capacity vs. Permanent Employment



The scaling function above drives the direct employment figures for each scenario. These estimates feed directly into the REMI model as the facility's ongoing operations employment. REMI then generated the corresponding indirect and induced employment shown in Table 7, so the direct employment figures in the table match the scaling function's estimates exactly, while indirect and induced employment reflect REMI's own multiplier effects.

Table 7: Employment Impact Summary Data Center Operations

Employment	*500 MW*	*1,000 MW*	*1,500 MW*	*2,000 MW*
Direct	168	250	316	373
Indirect	105	156	196	231
Induced	35	46	52	57
Total	308	452	564	661

Total employment multipliers remain relatively stable across each scenario, ranging from 1.77 to 1.83. The indirect, supply-chain-related employment multiplier holds nearly constant at approximately 0.62 across all scenarios, while the induced multiplier decreases from 0.21 to 0.15 as facility size increases. Together, these patterns indicate the model's supply-

chain relationships (indirect effects) scale proportionally with facility size, while consumption-driven effects (induced) scale slightly less than proportionally.

Beyond employment, ongoing operations generate household income, value-added, and output for the regional economy each year the facility runs. Table 8 summarizes these broader impacts across the four capacity scenarios.

Table 8: Economic Impact of Data Center Operations

Category	*500 MW*	*1 GW*	*1.5 GW*	*2 GW*
Total Employment	308	452	564	661
Personal Income	$22.3	$34.3	$44.7	$54.5
Disposable Personal Income	$18.5	$28.6	$37.3	$45.4
Value-Added	$44.5	$66.3	$84.0	$99.7
Output	$82.7	$123.3	$156.4	$185.9

Unlike the one-time construction impacts described above, these operations figures represent a recurring annual contribution that continues for as long as the facility operates, providing the region with a durable, ongoing economic presence throughout its operational life.

To put the 1 GW scenario in concrete terms, over its operational life the facility is projected to support annually:

- 452 jobs. This counts full- and part-time positions equally by place of work, including proprietors.
- $34.3 million in personal income. This is income Montana households receive from all sources.
- $76,000 in average income per job supported. This reflects total income across all sources, not wages alone.
- $28.6 million in disposable personal income. This is what households have left after taxes to spend or save.
- $66.3 million in value added, output minus intermediate inputs, the project's contribution to Montana GDP.
- $123.3 million in output, or gross receipts received by Montana businesses. This includes intermediate purchases along with value added and is a measure of the new economic activity expected from the project.

Total Data Center Impacts

The following four figures and tables depict the economic impact of construction and operations phases under the four demand capacity scenarios. Each figure plots direct employment only, the onsite construction and operations workforce, from 2027 through 2041, with construction and operations shown as bars. The stacked bars in Figures 4 through 7 represent periods in which construction and facility operations occur simultaneously, as completed phases begin generating revenue while later phases are still under construction. The tables that follow each figure report total economic impact, combining direct employment with the indirect and induced effects generated through supplying industries and worker spending, alongside personal income, disposable personal income, value-added, and output.

The employment pattern is consistent across all scenarios. Direct onsite construction employment rises sharply and then declines as each phase completes, giving way to a lower but permanent data center operations workforce. Moving from 500 MW to 2,000 MW, the construction phase extends larger impacts across more years while annual ongoing employment holds near 480 to 490 workers, so total construction job-years increase from 983 to 3,854 nearly linearly, reflecting near-constant returns to scale. The operations baseline remains modest relative to construction intensity but establishes a durable regional economic presence that persists through the data center's operational life.

Figure 4: Employment Trajectory 500 MW project, 2027 - 2041

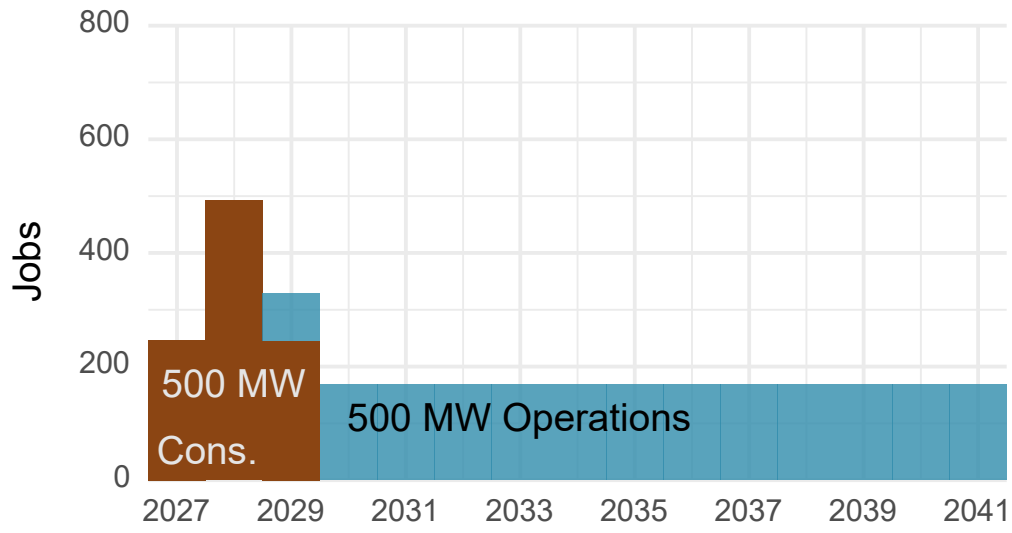


Table 9: Total Economic Impact of the 500 MW Data Center, Construction and Annual Operations

Category	*Construction (2 yrs.)*	*Operations*
Total Employment	2,956	308
Personal Income	$168.4	$22.3
Disposable Personal Income	$142.2	$18.5
Value-Added	$1,024.8	$44.5
Output	$2,051.9	$82.7

Figure 5: Employment Trajectory 1,000 MW project, 2027 - 2041

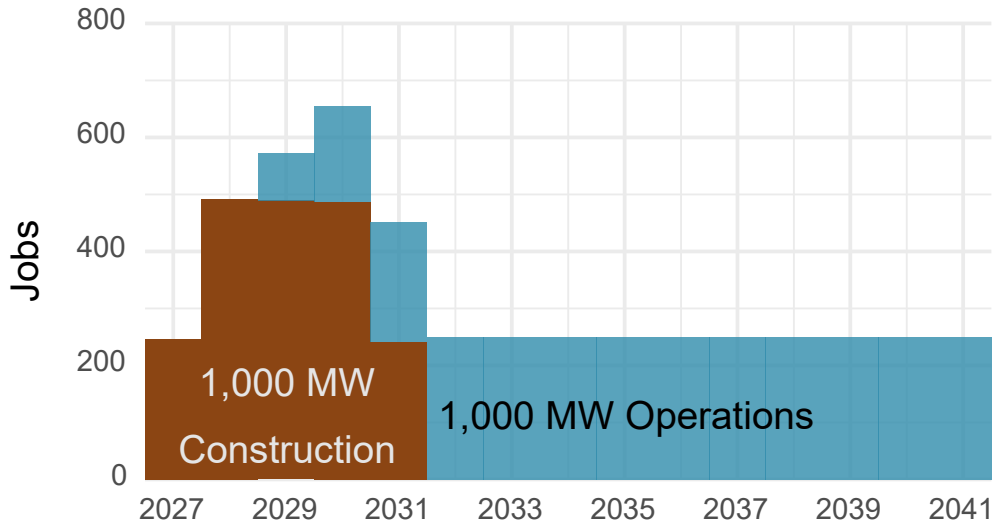


Table 10: Total Economic Impact of the 1 GW Data Center, Construction and Annual Operations

Category	*Construction (4 yrs.)*	*Operations*
Total Employment	5,944	452
Personal Income	$371.4	$34.3
Disposable Personal Income	$314.8	$28.6
Value-Added	$2,054.5	$66.3
Output	$4,100.9	$123.3

Figure 6: Employment Trajectory 1,500 MW project, 2027 - 2041

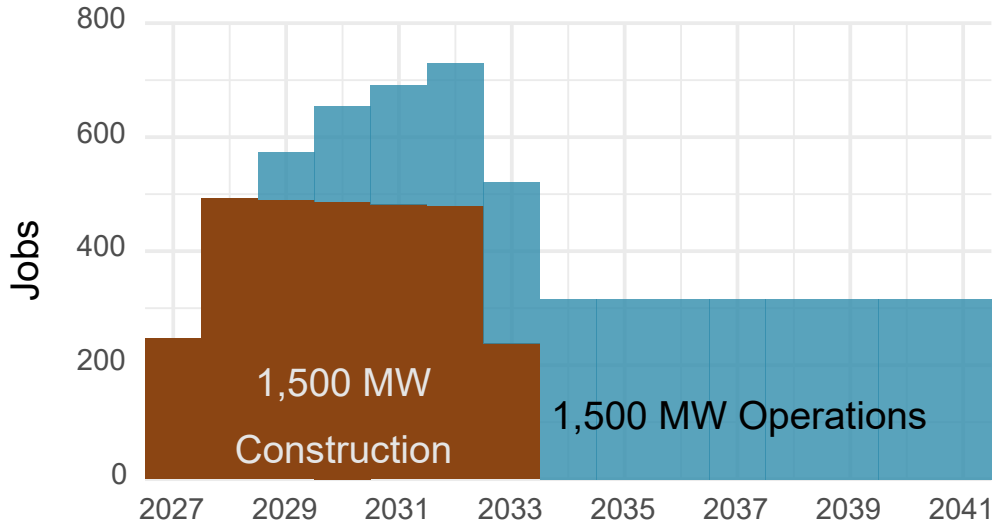


Table 11: Total Economic Impact of the 1.5 GW Data Center, Construction and Annual Operations

Category	*Construction (6 yrs.)*	*Operations*
Total Employment	8,912	564
Personal Income	$607.9	$44.70
Disposable Personal Income	$517.3	$37.30
Value-Added	$3,084.4	$84.00
Output	$6,145.8	$156.40

Figure 7: Employment Trajectory 2,000 MW project, 2027 - 2041

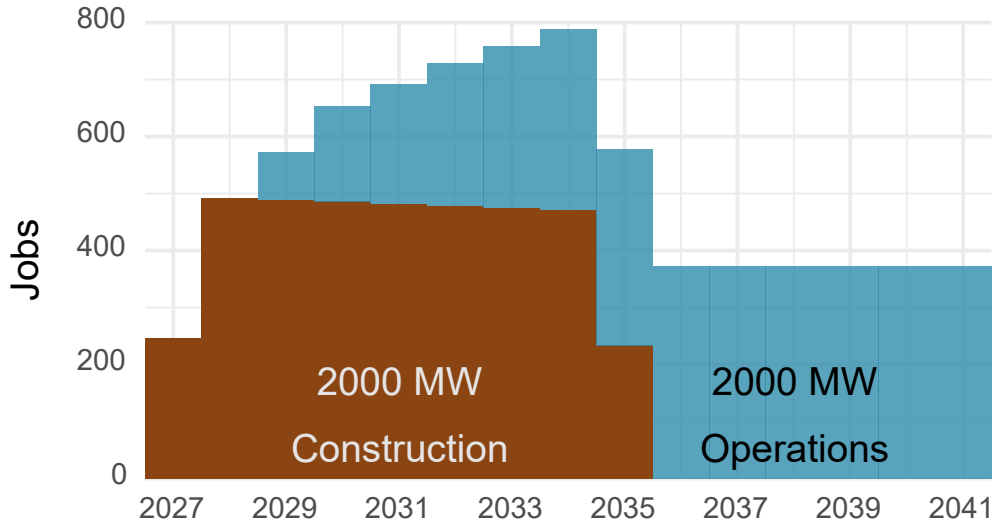


Table 12: Total Economic Impact of the 2 GW Data Center, Construction and Annual Operations

Category	*Construction (8 yrs.)*	*Operations*
Total Employment	11,853	661
Personal Income	$879.8	$54.50
Disposable Personal Income	$751.3	$45.40
Value-Added	$4,117.5	$99.70
Output	$8,192.1	$185.90

Onsite Power Generation

Hyperscale data centers require enormous amounts of power and would substantially increase Montana's energy demand. A 500 MW data center operating at 90% capacity would consume 3.94 million megawatt hours (MWh) annually. Montana as a whole

consumed 15.6 million MWh in 2024 (EIA 2025). Even the smallest data center examined in this report would therefore represent roughly a 25% increase over statewide consumption.

Meeting that demand requires onsite generation, and the facility that generates it can be built in different ways. We compare two configurations: a natural gas-only facility, and a hybrid facility pairing solar generation and battery storage with a smaller natural gas facility. Both are sized to reliably deliver the same 500 MW to the grid, or 4.38 million MWh per year, so any differences in cost and economic impact come from how each facility is built and operated rather than from how much power it delivers.

Sizing each facility requires distinguishing between nameplate capacity, the maximum output a facility could theoretically produce, and the power it reliably delivers over the course of a year. A solar facility, for example, only generates electricity when the sun is shining, so it must be built with far more nameplate capacity than the power it reliably contributes. Pairing it with battery storage helps but does not eliminate this gap. The two facilities in this analysis, therefore, differ substantially in nameplate capacity even though both deliver the same 500 MW.

Table 13: Annual Power Generation Assumptions, 500 MW Generating Facility

	Gas	*Hybrid Total*	*Solar + Battery*	*Gas*	*Units*
Nameplate Capacity	541	1000/400	1,000/ *8GWh**	400	*MW*
Capacity Factor	92.5%	35.7%	25%	62.5%	*% of Max Production*
Production	*4.38M*	*4.38M*	*2.19M*	*2.19M*	*MWh*

**8 GWh of storage applies only to the PV+BESS component*

Maximum production assumes the facility operates at full nameplate capacity for all 8,760 hours in the year. The gas-only facility requires 541 MW of nameplate capacity to reliably deliver 500 MW, reflecting a 92.5 percent capacity factor for natural gas generation. The hybrid scenario meets half of that demand, 2.19 million MWh, from a 1,000 MW solar facility paired with 8 GWh of battery storage, and the other half from a 400 MW natural gas facility. We assume a 25 percent capacity factor for the solar facility, consistent with the U.S. Energy Information Administration's reported capacity factors for utility-scale solar over the past decade, which ranged from 23.2 to 25.6 percent.

Because both scenarios serve the same energy demand at the same price, their ongoing electricity generation impacts differ only in labor demands and intermediate inputs. We estimate construction costs using the National Renewable Energy Laboratory's Jobs and Economic Development Impact (JEDI) model, supplemented by cost estimates for typical natural gas and solar-plus-storage facilities developed by Idaho National Laboratory and Oak Ridge National Laboratory for the U.S. Department of Energy (Jenson et al. 2024).

Power Generation Construction

The two power generation configurations differ across three dimensions of construction activity: labor intensity, total capital expenditures, and the share of that spending captured by Montana's supply chain. Each of these differences shapes how much economic activity construction generates in the state, and where that activity concentrates.

First the hybrid configuration requires roughly six times the total capital spending of the gas-only facility, $3,645 million compared to $596 million, to deliver the same 500 MW. Compared to a gas power plant, solar and battery power have high capital costs but lower operating costs since there are no fuel expenditures. Construction costs excluding land and equipment show a narrower but still substantial gap, $1,102 million for a hybrid scenario versus $295 million for gas only.

Table 14: Onsite Generation Scenarios, 500 MW Deliverable Capacity

	~500 MW Gas	*~500 MW Hybrid*	*1000 MW* Solar + Battery*	*400 MW* Gas*
Total Spending	$596	$3,645	$3,203	$441
Construction Costs (Less land and equip)	$295	$1,102	$884	$218

Second, the two configurations differ sharply in labor intensity. A solar facility occupies far more land and demands considerably more site preparation than a gas plant of equivalent deliverable capacity, and installing it requires roughly three times as much labor per megawatt. Solar panel installation is more labor-intensive than gas plant construction, since a solar field involves laying out and connecting large numbers of repeated modular components, while gas plant construction concentrates spending in fewer, more specialized, capital-intensive trades tied to turbine and combustion systems.

That spending and labor intensity difference drives a correspondingly large gap in construction employment. The gas-only facility supports 191 total job-years, including 67 direct onsite job-years. The hybrid configuration supports 1,036 total job-years, including 415 direct onsite job-years, more than five times the gas-only figure.

Table 15: Construction Phase Employment by Impact Type

Employment	***Natural Gas***	***Hybrid Total***	*Solar + Battery*	*Gas*
Direct	67	415	363	52
Indirect	5	108	105	3
Induced	119	511	419	92
Total	***191***	***1,036***	***888***	***148***

Table 16: Total Construction Phase Economic Impact by Generation Scenario

Category	***Gas***	***Hybrid Total***	*Solar + Battery*	*Gas*
Total Employment	191	1,036	888	148
Personal Income	$13.1	$76.6	$66.4	$10.2
Disposable Personal Income	$11.0	$64.0	$55.6	$8.5
Value-Added	$21.6	$98.2	$81.6	$16.6
Output	$39.2	$183.6	$153.6	$30.0

Value-added accounts for 55% of output for the gas-only facility, compared to 54% for the hybrid configuration and 53% for the Solar and Battery component alone, a gap of only two to three percentage points. Construction spending pays for labor, materials, and business services regardless of the technology being built, so the mix of wages and business income embedded in that spending looks similar across a solar field and a gas plant. This value-added pattern will look different once each facility is operating, a distinction we return to in the Operations section below.

Ongoing Power Generation Operations

Once built, the two facilities would require ongoing staff and would generate ongoing economic activity, and here the pattern shifts. The configurations differ most sharply in direct, onsite employment. The hybrid configuration supports 36 direct jobs, nearly half again as many as the 22 direct jobs at the gas-only facility. This gap points to solar and battery storage being more labor-intensive to operate onsite than natural gas generation, which runs largely on automated combustion and turbine systems that require fewer permanent staff per megawatt.

Table 17: Employment Impacts by Impact Type

Employment	***Gas***	***Hybrid Total***	*Solar + Battery*	*Gas*
Direct	22	36	20	16
Indirect	20	19	4	15
Induced	0	23	23	0
Total	*42*	*78*	*47*	*31*

Indirect employment moves in the opposite direction, and by a much wider margin. The gas-only facility generates 20 indirect jobs, a little more the 19 indirect jobs tied to the hybrid configuration. This difference traces back to natural gas extraction and processing activity in Montana. The gas-only facility burns roughly twice the volume of natural gas that the hybrid configuration's smaller gas component does, which pulls substantially more demand

through the state's upstream gas supply chain. Cutting gas consumption in half, as the hybrid configuration does, removes some of that upstream indirect activity.

Induced employment, driven by household spending from wages and business income, favors the hybrid configuration by a wide margin, 23 jobs compared to none for gas-only.

Table 18 : Economic Impact Summary Power Generation Operations, 500 MW Facility

Category	*Gas*	*Hybrid Total*	*Solar + Battery*	*Gas*
Total Employment	42	78	47	31
Personal Income	$4.6	$8.2	$4.8	$3.4
Disposable Personal Income	$3.9	$7.0	$4.1	$2.9
Value-Added	$15.0	$30.4	$19.3	$11.1
Output	$27.2	$46.8	$26.7	$20.1

The hybrid configuration's larger value-added share comes mainly from capital recovery rather than higher wages. Hybrid jobs pay less on average than gas-only jobs: about $173,000 in personal income per job supported, compared to $170,000 for gas-only. That gap is modest, about 2%. But value added tells a different story. Value-added accounts for 65% of total output under the hybrid configuration, compared to 55% for gas-only, a gap of nearly 10 percentage points. Hybrid captures more value added per dollar of output even as it pays slightly less per job, and that combination reflects a return to the larger capital investment of a solar power plant,

Two forces produce this pattern. Natural gas generation sends roughly 45 cents of every revenue dollar to purchased inputs, primarily the gas itself, while solar and storage carry no fuel bill and thus spend much less on purchased inputs. More importantly, solar and storage require substantially more capital investment per unit of generating capacity, so a larger share of revenue returns to investors rather than workers.

The comparison within the hybrid facility itself offers the clearest test of this mechanism, since it isolates the capital effect from any difference in what's being sold. Solar and battery and the gas component of the hybrid facility sell identical generation at identical prices, so any difference between them comes from how each is built and financed rather than from what each produce. Total value added differs by about $15 million between the two, while personal income differs by only $4 million. Most of the additional value added under solar and storage reflects capital recovery, not wages.

Total Power Generation Impacts

The following four tables show the economic impact of construction and operations phases for the power generation scenarios. Table 19 shows a natural gas generation facility sized to exclusively serve a 500 MW data center. Table 20 shows the total impacts of a hybrid configuration that combines solar, battery storage, and natural gas plant to reliably serve a 500 MW data center. Tables 21 and 22 breakdown the hybrid configuration into each of its two component parts, and illustrates how the higher economic impact of the hybrid configuration stems from the larger upfront capital costs during the construction phase, as well as modestly higher labor intensity to maintain a large solar and battery facility during the operations phase.

Table 19: Total Economic Impact of Natural Gas Alone, Construction and Annual Operations

Category	*Construction*	*Operations*
Total Employment	191	42
Personal Income	$13.1	$4.6
Disposable Personal Income	$11.0	$3.9
Value-Added	$21.6	$15.0
Output	$39.2	$27.2

Table 20: Total Economic Impact of Hybrid Generation, Construction and Annual Operations

Category	*Construction*	*Operations*
Total Employment	1,036	78
Personal Income	$76.6	$8.2
Disposable Personal Income	$64.0	$7.0
Value-Added	$98.2	$30.4
Output	$183.6	$46.8

Table 21: Total Economic Impact of Hybrid Solar + Battery Generation, Construction and Annual Operations

Category	*Construction*	*Operations*
Total Employment	888	47
Personal Income	$66.4	$4.8
Disposable Personal Income	$55.6	$4.1
Value-Added	$81.6	$19.3
Output	$153.6	$26.7

Table 22: Total Economic Impact of Hybrid Natural Gas Generation, Construction and Annual Operations

Category	*Construction*	*Operations*
Total Employment	148	31
Personal Income	$10.2	$3.4
Disposable Personal Income	$8.5	$2.9
Value-Added	$16.6	$11.1
Output	$30.0	$20.1

Data Center Tax Impacts

According to "State Taxation of Data Centers," a report by the Tax Foundation, a national tax policy research organization, data centers typically pay four types of state and local taxes: property taxes on land and buildings, property taxes on business equipment, sales taxes, and state corporate income taxes (Walczak 2025). Montana has no sales tax, and data centers would likely pay little Montana corporate income tax. Companies that operate in multiple states divide their profits among those states for tax purposes, a process called apportionment. Since 2025, Montana has based this calculation only on the share of a company's sales made in the state, and most data center customers are located outside Montana. As a result, nearly all of a data center's Montana tax payments would come from property taxes on its land and buildings (real property) and on its equipment, such as servers and cooling systems (personal property).

As discussed earlier, we estimate a $1.936 billion construction investment into the structure of a 500 MW data center. This would be classified as real property for the purposes of property taxes. The critical power and cooling infrastructure is likely to be manufactured as modular units out-of-state that are installed in the facility and are thus assumed to be classified as removable personal property for taxation purposes. The capital cost of the critical power and cooling systems is estimated at $4.245 billion. Finally, the largest source of capital investment is the computing and IT equipment such as servers. This is estimated to cost nearly $13 billion and have the shortest estimated lifespan, with an assumed 5-year replacement cycle (Michael and Cottier 2026).

The market value is calculated using the State of Montana Department of Revenue Personal Property Depreciation Schedules and Trend Tables (MTDOR 2026). This document shows a "percent good" for each category of personal property over its lifespan. We use the percent good tables for computerized equipment for the data centers IT equipment with a five-year replacement cycle and critical systems use the industrial machinery and equipment table 11 for electrical power equipment. Because of the depreciation factors and replacement schedules, personal property taxes will show more variation over time than real property taxes, but for our purposes we use an average depreciated market value over its lifespan

since this is a large amount of equipment that will be replaced at various times and our purpose is to estimate tax payments in a typical year. The largest cost component of a data center are rapidly depreciating servers and computer equipment whose market value in an average year is estimated to be only 30% of its initial cost according to the Department of Revenue's depreciation scale for computerized equipment on a five-year replacement cycle. If the data centers replaced servers on a three- or four-year cycles, the average market and taxable values would be substantially larger. As shown in Table 23, the estimated average market value for a 500 MW data center is approximately $8.2 billion after accounting for depreciation. Last year, the total assessed market value of property in Montana was $338 billion, so a single 500 MW AI data center could reflect about 2.4% of total statewide market value if it existed today.

Table 23: Estimated Market and Taxable Value of 500 MW Data Center during an Average Year of Operations for Property Tax Calculations.

Component	*Cost (Millions, 2025$)*	*Depreciation & Replacement Cycle*	*Average Market Value (Mil, 2025$)*	*Average Taxable Value (Mil, 2025$)*
Structure – Real Property	$1,936	NA	$1,936	$17.4
Critical systems: power and cooling equipment	$4,245	10	$2,356	$21.2
Computers and IT equipment	$12,950	5	$3,885	$35.0
Total	$19,131		$8,177	$73.6

According to Montana Code 15-6-162, qualified data centers are Class 17 property. A qualified data center must be either i) at least 300,000 square feet and a $150 million investment, or ii) new or expanded area of at least 25,000 square feet and $50 million investment over 48 months. These Class 17 thresholds are easily exceeded by a 500 MW AI data center. Class 17 property is taxed at 0.9% of market value and it is inclusive of personal property such as the IT equipment and critical systems. Thus, the estimated average annual taxable value of the 500 MW data center is $73.6 million. The total statewide taxable value of property in Montana is about $4.9 billion in the most recent year, so a single 500 MW data center would represent about 1.5% of statewide taxable value if it existed today.

The property tax bill that will be paid by the data center depends on the mill rate in the location it is constructed. Because the data center is a large addition to the local tax base, it will result in a reduction in the local property tax mill rate as prescribed by Montana Code 15-10-420, which will result in lower property tax bills for existing taxpayers. This law

establishes a formula whereby some of the taxes paid by the new data center will result in new revenue to the county, a portion is likely to be set aside in a reserve account, and a sizable portion of the new tax payments by the data center will replace revenue lost from existing taxpayers from the lower mill rate. Local governments also have the option to approve a local tax abatement under Montana Code §15-24-1402 as an incentive for new or expanding industries. While local governments often approve these abatements as an incentive to attract new industry investment, our analysis assumes that local governments will not approve local abatements for data centers since Class 17 already specifies a lower tax rate for data centers than most other commercial and industrial investment that might be considered for new investment tax abatement.

Data center property tax payments depend on location due to variation in tax base and mills at the local level. Thus, we need to assume a specific location for property tax modeling. Specifically, we estimate property taxes for a data center in rural Yellowstone County in the Broadview school district, 30 miles from Billings. This is the suggested location for the proposed Quantica data center, which is the most prominent and advanced AI data center proposal in Montana at this time. While this is the location for an active proposal, we believe this location is also broadly illustrative of the type of location that is a likely location for an AI data center in Montana. Yellowstone County had a total taxable value of $460 million in 2025-2026, which is the fourth-highest taxable value among Montana counties, ranking behind Gallatin, Madison, and Flathead counties, which we view as unlikely locations for a large data center due to the availability and cost of suitable land. If a similar data center was constructed in a county with lower total taxable value, there would be a larger reduction in countywide mills than estimated for Yellowstone County in Table 2. Local school mills also vary widely by location due to student enrollment levels compared to the local property tax base and the state school funding formula.

Table 24 shows the mill rates for the most recent tax years and their estimated level if a 500 MW AI data center was added to the current tax base with no other changes to local conditions. In reality, a data center of this scale would be built over time and cause other changes, so these calculations should be viewed as broadly illustrative of the scale of potential tax payments and the distribution of property tax impacts between new revenue and lower mill rates for local property taxpayers. Thus, this estimate should not be viewed as a precise estimate of future mills and revenue, especially for local education due to the complexity of the state school funding system. Property tax revenue can be broadly divided into three categories, statewide education mills which are fixed, county mills which adjust according to Montana §15-10-420, and local education mills which for simplicity are assumed to float down to the level required to support a fixed budget determined by the state school funding formula.

Table 24: Estimated Property Tax Mill Levies With and Without a 500 MW Data Center, Yellowstone County, Broadview School district.

	2025-26 Mills	2025-26 with new 500 MW Data Center	Data Center Estimated Property Tax Payments (millions)
Statewide Education Mills	102.5	102.5	$7.544
Countywide Mill Levies	142.5	131.9	$9.711
Countywide Education – Transport/Retire	23.4	20.2	$1.485
County Road & Libraries (outside cities)	51.9	44.0	$3.237
Local Education – SD 21	109	53.9	$3.969
Grand Total Mills	**429.3**	**352.5**	**$25.946**

We estimate that a 500 MW data center would cause the total property tax mill rate in the school district that includes the data center to decrease from 429.3 to 352.5, an 18% decline. At the adjusted mill rate of 352.5, the data center's annual property tax bill would be $25.946 million per year. About 29% of the total bill, about $7.55 million, would be new state revenue generated by fixed education mills. The $9.7 million in new county-wide revenue and $3.2 million in new county road and library funding would be split with approximately 40% new revenue to Yellowstone County, 10% directed to a new large taxpayer reserve account, and roughly 50% offsetting reduced revenue from other Yellowstone County taxpayers due to the lower mill rate. Overall, the $26 million in property tax payments by the data center would result in $12 million in lower property tax payments to other property taxpayers through reduced mill rates from the county and school district, and about $14 million in new tax revenue to state and local governments. While we have characterized the taxes paid in statewide education mills as new revenue because the mill rate is fixed, it is important to note that 55% of these funds will go to the school equalization and property tax reduction (SEPTR) account which indirectly lowers local school district property taxes across the state. We aren't able to accurately estimate how SEPTR would result in new revenue from the statewide mills reduce local property taxes for education, but it reasonable to think of the data center's new property tax payments as an approximately even split between new government revenue and replacement funding for lower mill rates and tax bills received by other property taxpayers as the data center grows the property tax base.

A 1,000 MW data center would have double the market and taxable values of the 500 MW data center shown in Table 24. Thus, the 1,000 MW data center would have a taxable value of $147.2 million. The adjusted mill rates and estimated property tax payments shown in Table 24 can be recalculated for a 1,000 MW data center as shown below in Table 25. A 1,000 MW data center would have a total tax bill of $46.7 million and the fixed statewide

education mills share of its payments would increase to nearly 32% of the total, $15.1 million. Overall, a 1000 MW data center is estimated to make $46.7 million in property tax payments in an average year.

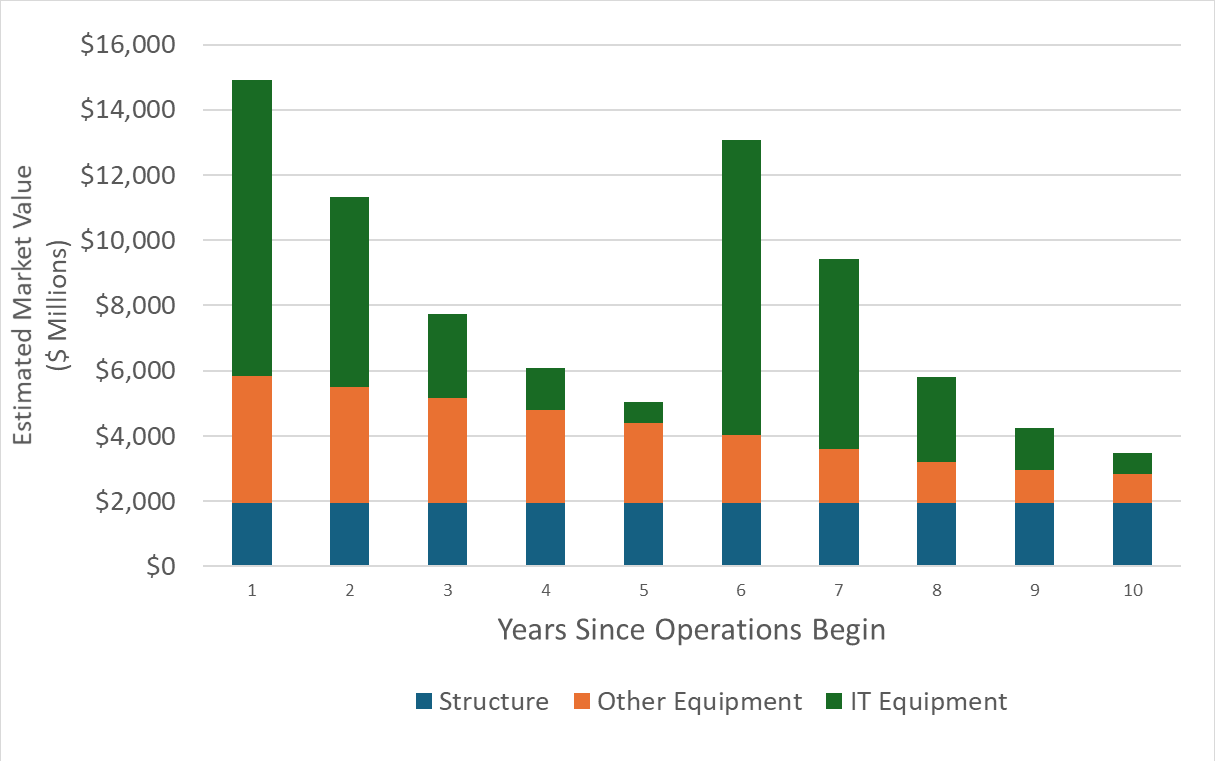
Table 25: Estimated Property Tax Mill Levies With and Without a 1,000 MW Data Center, Yellowstone County, Broadview School district.

	2025-26 Mills	*2025-26 with new 1,000 MW Data Center*	*Data Center Estimated Property Tax Payments (millions)*
Statewide Education Mills	102.5	102.5	$15.088
Countywide Mill Levies	142.5	122.8	$18.083
Countywide Education – Transport/Retire	23.4	17.7	$2.610
County Road & Libraries (outside cities)	51.9	38.2	$5.617
Local Education – SD 21	109	35.8	$5.273
Grand Total Mills	***429.3***	***317.1***	***$46.671***

As discussed above, the market and taxable values for a data center would change significantly over the years because the majority of its value is made up of depreciating equipment. In particular, the most valuable components – computer and IT equipment – depreciates rapidly on a five-year schedule, but it is also replaced with new equipment every three to five years. This results in a tax base that drops rapidly and then rises sharply before falling again. Figure 8 illustrates how the assessed market value of a 500 MW data center could vary across a decade of operation. Over a decade, the assessed market value varies between $14.9 billion and $3.5 billion. In years 1, 2, and 6, the market value exceeds $10 billion, while in years 5, 9, and 10 the market value is $5 billion or below. This illustration could actually understate volatility for two reasons. First, this simulation assumes the cost of replacing the servers after five years is the same as the initial $13 billion investment, whereas in reality the cost of IT equipment could change substantially and the servers could be replaced more frequently than the five-year replacement cycles assumed here. In addition, this simulation assumes a cost approach to appraisal with basic depreciation schedules applied. However, changes to the market and profitability of data centers could result in future appeals or reassessment based on current market values or income approaches. Finally, changes to policies could also cause taxable values to change as

legislators in Montana are likely to consider changes to data centers' Class 17 tax rates in the future. While a hyperscale data center will generate enormous property tax revenue, it is clear that this enormous tax base could rise and fall dramatically over time in potentially unpredictable ways. State and local policy makers need to be aware of this variation and consider using reserve funds and other tools to smooth out revenues and mill rates for other taxpayers across years.

Figure 8: Estimated Market Value of A 500 MW Data Center over its First 10 Years of Operations, by Major Component. ($ Millions)



Power Generation Tax Impacts

Hyperscale data centers have enormous electric power requirements such that their size is described in megawatts or gigawatts instead of square footage or other more traditional metrics. Increasingly, hyperscale data centers are co-developing their own power generation for both business reasons (faster completion, potentially lower costs) and to address public concerns about their potential impact on utility electricity rates. Public policies are also encouraging data centers to bring their own power. In Montana, recent changes to state law create a financial incentive to data center developers to co-develop new generation by applying favorable property tax rates to new power plants dedicated to data centers compared to other electricity generation facilities. Specifically, power generation constructed for the data center is now taxed at 0.9% Class 17 rate for 10 years after

construction commences, and after 10 years is taxed as Class 13 property (currently 6% of market value). To qualify for the lower property tax rate, at least 80% of the electricity generated by an onsite power plant must be used by the data center on an annualized basis unless the governor declares an electrical generation emergency.

As discussed earlier in the economic impact modeling, we have developed two scenarios to capture the co-development of power plant with a hyperscale data center. The first scenario is a gas fired power plant matched to the data centers size, which we estimate is a 541 MW gas-fired plant to reliably provide a dedicated electricity source for a 500 MW data center. The second scenario is renewable hybrid where approximately 50% of the data center's energy demand is supplied by a large-scale solar paired with battery storage, and the other 50% of power needs supplied by a 400 MW gas fired power plant. The property taxes generated by these two facilities are extremely different because the hybrid scenario has much higher capital costs.

The estimated market and taxable values of a gas power plant sized to serve a 500 MW data center is illustrated in Table 26. Based on our detailed cost estimate and state depreciation tables, we have allocated 79% of the total cost of development to depreciable equipment and applied a 19-year depreciation schedule. For the first 10 years of operation, the plant is Class 17 property and is estimated to have an average taxable value of $4.4 million. After 10 years of operation, it would switch to Class 13 property and be taxed at 50% of the full Class 13 rate for the next ten years of operation (MCA 15-6-156 (4)(c)). We focus on the first 10 years of operations for tax calculations as there is more uncertainty over assessed values and tax policy in the long term. The $4.4 million in additional taxable value from the gas power plant in the first 10 years is small relative to the 500 MW data centers average taxable value of $73.6 million over the same period and would bring the total taxable value of the data center and power plant combination to $78 million.

Table 26: Estimated Market and Taxable Values For 541 MW Gas Power Plant Supplying Data Center During First Ten Years of Operation.

Component	*Cost (Millions, 2025$)*	*Depreciation Schedule (Years)*	*Average Market Value*	*Average Taxable Value*
Structure, Land: Real Property	$125	NA	$125	$1.1
Equipment: Personal Property	$471	19	$367	$3.3
Total	*$596*		*$492*	*$4.4*

The hybrid power plant scenario generates more taxable value than the gas power plant as shown in Table 27. The hybrid scenario had total costs of $3,645 million because of the higher capital costs of a solar power plant. We estimate that over 96% of the total cost of the hybrid power plant would be depreciable equipment because almost all of the physical

elements such as the solar modules, racking systems, and batteries would all be classified as equipment. Overall, the taxable value is estimated at $25.9 million for the first 10 years of operation but would increase after 10 years, assuming that the solar facility was shifted to Class 13 tax rates. We focus on the first 10 years of operation for our tax revenue calculations because we believe that it is highly probable that the assessed value would be lowered under a market value or income approach if appealed and that tax policy regarding solar energy could change as well considering that other renewable sources are in a lower rate class. It should also be noted that the renewable power plant may not qualify for class 17 treatment if it sells less than 80% of its power to the co-located data center. This seems plausible given the variation of solar generation across time and the potential to sell solar power to other customers who may be willing to pay a premium for renewable power – especially during peak demand times. Our analysis assumes the class 17 assessment applies and focuses on the first 10 years, in which case the hybrid scenario creates $25.9 million in taxable value in addition to the $73.6 million average taxable value of the data center for a total taxable value of $99.5 million.

Table 27: Estimated Market and Taxable Values for Hybrid Power Supply with 1,000 MW Solar, Battery Storage, and 400 MW Gas Power Plant Supplying Data Center During First Ten Years of Operation.

Component	*Cost (Millions, 2025$)*	*Depreciation Schedule (Years)*	*Average Market Value*	*Average Taxable Value*
Real Property	$155	NA	$155	$1.4
Equipment: Personal Property	$3,490	19	$2,722	$24.5
Total	*$3,645*		*$2,877*	*$25.9*

Because these power plants are constructed specifically to serve a data center, the property tax payment estimates are made in combination with the data center scenarios rather than as standalone estimates for each power supply scenario. We show estimates for three possible configurations to illustrate the potential impacts: a 500 MW data center with each power plant scenario separately, and a 1,000 MW data center that includes both power plant scenarios. This last scenario most closely resembles the plan for the Big Sky Digital Infrastructure proposal which envisions a large solar and battery installation in combination with an 1,100 MW data center at full build-out.

As discussed earlier, a 500 MW data center and co-developed 541 MW gas power plant would have a combined taxable value that averages $78 million over the first 10 years of operation. Table 28 shows the resulting mill rates and property tax payments as if the data center and power plant were in operation today. We estimate an annual average tax bill of $27.284 million compared to $25.946 million for the data center alone. In addition to about

$1.3 million in additional property taxes during the first 10 years of power plant operation, we estimate the 541 MW power plant would generate about $525,000 annually in electrical energy producer's license taxes paid to the state.

Table 28: Average Property Tax Mill Levies With and Without a 500 MW Data Center and 541 MW Gas Power Plant During First 10 Years of Operation, Yellowstone County, Broadview School district.

	2025-26 Mills	*2025-26 with new 500 MW Data Center and gas power plant*	*Data Center Estimated Property Tax Payments (millions)*
Statewide Education Mills	102.5	102.5	$7.995
Countywide Mill Levies	142.5	131.4	$10.246
Countywide Education – Transport/Retire	23.4	20.0	$1.561
County Road & Libraries (outside cities)	51.9	43.6	$3.400
Local Education – SD 21	109	52.3	$4.083
Grand Total Mills	***429.3***	***349.8***	***$27.284***

If the hybrid power plant scenario that combines solar and gas generation were co-developed with the data center, the property tax payments would be significantly larger because of the higher capital cost and taxable value of the solar plant. In this scenario, the combined taxable value of the 500 MW data center and power generation is nearly $100 million over the first 10 years of operation. Table 29 shows the resulting mill rates and property tax payments as if the data center, solar and gas power plants and battery storage were in operation today. We estimate an annual average tax bill of $33.617 million compared to $25.946 million for the data center alone. Just as with the gas power plant alone, we estimate the combination of solar and gas power plants would generate about $525,000 annually in electrical energy producer's license taxes in addition to about $8.3 million in additional property taxes during the first 10 years of power plant operations.

Table 29: Average Property Tax Mill Levies With and Without a 500 MW Data Center, 1000 MW Solar Plant, Battery Storage, and 400 MW Gas Power Plant During First 10 Years of Operation, Yellowstone County, Broadview School district.

	2025-26 Mills	*2025-26 with new 500 MW Data Center and solar and gas plants*	*Data Center Estimated Property Tax Payments (millions)*
Statewide Education Mills	102.5	102.5	$10.199
Countywide Mill Levies	142.5	128.6	$12.795
Countywide Education – Transport/Retire	23.4	19.2	$1.914
County Road & Libraries (outside cities)	51.9	41.7	$4.153
Local Education – SD 21	109	45.8	$4.555
Grand Total Mills	***429.3***	***337.9***	***$33.617***

The final scenario combines a fully phased in 1,000 MW data center with both of our power plant scenarios. Thus, there would be 1,000 MW of solar, 941 MW of gas, and battery storage. This scenario most closely resembles Quantica's Big Sky Digital Infrastructure proposal in Broadview, and would have an estimated taxable value of $177.5 million during the first 10 years of operation. As shown in Table 30, total property tax payments in this scenario average $54.4 million annually, and property tax rates within the Broadview School District would decrease by nearly 123 mills, a 28.5% reduction. Other parts of Yellowstone County would see smaller but still significant reductions. For example, within the cities of Billings and Laurel, there would be a reduction of about 30 mills from countywide levies and countywide education. Areas in Yellowstone County outside the incorporated cities but not within the Broadview school district would see about a 45 mill decrease as their road and library taxes would decline. Since the Broadview School Districts spans multiple counties, areas within the school district outside Yellowstone County are estimated to receive a 77.5 mill reduction in local education taxes under this scenario. In addition to the $54.4 million in property tax payments, the power plants would pay just over $1 million per year in energy producer's license taxes.

Table 30: Average Property Tax Mill Levies With and Without a 1000 MW Data Center, 1000 MW Solar Plant, Battery Storage, and 941 MW Gas Power Plant During First 10 Years of Operation, Yellowstone County, Broadview School district.

	2025-26 Mills	*2025-26 with new 1,000 MW Data Center and power plants*	*Data Center Estimated Property Tax Payments (millions)*
Statewide Education Mills	102.5	102.5	$18.194
Countywide Mill Levies	142.5	119.5	$21.203
Countywide Education – Transport/Retire	23.4	16.9	$2.997
County Road & Libraries (outside cities)	51.9	36.2	$6.423
Local Education – SD 21	109	31.5	$5.587
Grand Total Mills	***429.2***	***306.5***	***$54.404***

Conclusion

This report quantifies the potential economic benefits of developing hyperscale data centers in Montana. In addition, it considers additional economic impacts that could result if data centers were co-developed with the new electric power generation capacity they would demand. Data centers have very unique characteristics and are a new industry to Montana, and thus estimating their economic impact is more complex than other industries. In addition, the economic benefits have a unique structure. For example, we estimate an operating hyperscale data center will pay more in property taxes than it generates in personal income – even when accounting for the fact that Montana has a lower property tax rate for data centers than other commercial and industrial property.

Although data centers generate relatively few jobs per square foot of facility or per dollars of capital investment, the enormous size of a hyperscale data center would still generate a substantial increase to employment and income to Montana. Employment impacts are largest during the construction phase and lower during operations. We estimate a 500 MW data center would create 500 direct construction jobs during the construction phase and 168 permanent onsite jobs during operations and would support a total of 308 jobs and $22.3 million in annual personal income when considering multiplier effects. For a 1,000 MW data center, the construction phase would last longer, and we estimate it would create

250 permanent, onsite jobs once operational, and would support 452 jobs and $34.3 million in personal income across Montana.

Property taxes may be the most important source of public benefits from a hyperscale data center. While the billions spent on imported computer equipment do little to create Montana jobs, this costly equipment creates a tremendous property tax base. We estimate a 500 MW data center is a $20 billion investment, and its annual assessed market value would be $8.2 billion during its first decade of operation after considering depreciation of business equipment. The $8.2 billion in assessed market value is 2.4% of the current total assessed market value in the entire state of Montana. The tax appraisal of a 1,000 MW data center would be nearly 5% of total statewide assessed value. After applying Montana's current 0.9% data center tax rate, the taxable value of a 500 MW and 1,000 MW data center would be 1.5% and 3% of current statewide taxable value. Assuming a location in Broadview in rural Yellowstone County, a 500 MW data center would pay an annual average of $26 million in property taxes during its first decade of operations. We estimate a 1,000 MW data center co-developed with its own power generation, similar to the Quantica Big Sky Digital Infrastructure proposal, would pay an average of $54 million per year in property taxes. The expanded tax base from a data center would result in lower local property tax mill rates, and thus about half of a data center's tax bill would offset reduced property tax payments by other property tax payers in the county and school district where the data center is located.

It is important to note that these are the best estimates of impacts under current conditions. These estimates of economic impacts and tax revenue will undoubtedly change as technology and markets evolve. For example, future property tax payments will depend critically on the price of AI computer servers and how often they are replaced. Even under steady conditions, the rapid depreciation and short reinvestment cycles for data center equipment will result in large year to year variation in appraisals and property tax payments, and local governments will likely need to utilize reserve funds and other measures to smooth out the volatility over time.

Overall, this report shows that building one or more hyperscale data centers in Montana would bring large economic benefits to the state. This report does not address environmental and community impacts of data centers and how these potential negative impacts could be mitigated. Montanans can use this report as an input to help weigh the benefits and costs of data centers and the economic contribution they could bring to their communities.

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This version of the report was completed on November 6, 2027 and has a few minor changes from the original October 29, 2027 report. The only substantive correction is to eliminate the 2nd decade property tax estimates in Tables 26 and 27 and correct the text to accurately describe MCA 15-6-156(4)(c) which taxes a qualified power plant at 50% of the Class 13 rate for the 2nd 10 years of operation. This has no effect on the key findings of the report which focus on the first 10 years of operation. Other edits are a misspelling and typos where a digit in the text differs from the same number reported in a table. We thank Calyx Intelligence for their very detailed review of the report, and Michael Lawrence at Calyx for bringing these discrepancies to our attention.

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About the Bureau of Business and Economic Research (BBER)

The Bureau of Business and Economic Research was established in 1948 to monitor Montana's business and economic conditions. Located in the Gallagher Business Building at the University of Montana, BBER serves as the research branch of the College of Business.

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