KEY FACTS

Data Center Power Play in Wisconsin

How Clean Energy Can Meet Rising Electricity Demand While Delivering Climate and Health Benefits

Based on new Union of Concerned Scientists analysis:

- **With forward-looking policies that reduce harm and protect ratepayers, Wisconsin can avoid the risks of unmitigated growth of electricity demand from data centers.**
  Clean energy policies can prevent overreliance on fossil fuels by meeting new load with renewables and minimizing the costly impacts of heat-trapping emissions.

- **In the near term, data centers are the biggest driver of Wisconsin's electricity demand growth.**
  Data center demand growth is expected to accelerate by 2030, with slower but continued growth in the long term. This reinforces the need for flexible and sustainable resource planning.

- **Wisconsin can meet the challenge of increased electricity demand with renewables and energy storage.**
  By adopting a Clean Energy Standard and implementing a carbon dioxide (CO_2) reduction policy, Wisconsin can generate 83 percent of its electricity with clean energy technologies such as wind and solar by 2050.

- **Clean energy policies reduce heat-trapping emissions and help avoid the negative health impacts of burning fossil fuels.**
  By adopting clean energy policies, Wisconsin can reach net-zero CO_2 in the power sector by 2050, substantially reducing climate and health damages caused by pollution.

Union of Concerned Scientists

As part of the boom in artificial intelligence (AI) technology, companies like Microsoft and Vantage have proposed building large data centers across Wisconsin. Utilities, in turn, are rushing to expand fossil fuel infrastructure to supply power to these data centers. Prime examples are the recently approved methane gas plants in Oak Creek and Paris. However, methane poses irreversible risks to the climate and to the health of Wisconsin communities and beyond. A study conducted in partnership with the Union of Concerned Scientists (UCS) and Healthy Climate Wisconsin showed that the addition of these two gas plants could result in millions of dollars annually in health-related costs (Chavez 2025).

In Wisconsin, coal- and methane gas–fired power plants made up 75 percent of in-state electricity generation as of 2023; renewables provided around 9 percent (EIA 2024). The state has a history of proactive energy planning, but decisionmakers must renew their commitments with tangible policy. For example, the state's renewable energy portfolio standard has been achieved, but it has not been updated since 2015. Integrated resource planning (IRP), which the state once had, would direct utilities to consider the state's energy needs further into the future. And while efforts like Governor Evers's Clean Energy Plan, established through the governor's Executive Order #38, set a goal of 100 percent carbon-free electricity by 2050, stronger policy levers are necessary to hold utilities and decisionmakers accountable for meeting climate goals (Evers 2019).

In April 2025, state lawmakers, alongside a coalition of energy advocates that included UCS, announced their support for the Climate Accountability Act (CAA), a plan to lower economy-wide carbon emissions in Wisconsin. Partner advocates support the establishment of a Clean Electricity Standard (CES) and a comprehensive IRP process, both of which are crucial to achieving Wisconsin's priorities of affordable and clean energy, as well as to prepare the state for uncertain demand growth.

In November 2025, state legislators introduced the Data Center Accountability Bill, which aims to place guardrails around data center development to protect consumers from disproportionate energy costs and an overreliance on fossil fuels. The bill outlines transparency requirements for data centers on their energy and water use, directs new fees towards state energy programs, ensures fair labor practices, provides a pathway for data centers to adopt new clean energy, and more.

UCS explored how Wisconsin can meet new electricity demand by utilizing policies and pathways that prioritize the needs of its residents to access clean, healthy energy. We focused on the role of data centers and the implications for Wisconsin's energy system of data centers' rapid—and highly uncertain—load growth.

Methodology

Using the Regional Energy Deployment System (ReEDS) power sector expansion model from the National Renewable Energy Laboratory,[1] UCS examined several electricity demand and policy scenarios to estimate the impacts of data center load growth nationally and at the state level. Model results provide information on the generation mix, costs, emissions, and health impacts observed in different scenarios. *For a more detailed look into the analysis, see the national report on the project's webpage. For more information on methodology, see the technical appendix*.

The Wisconsin analysis explored the following scenarios:

The **Current Policies scenario** reflects recent changes in federal tax credits as enacted by the One Big Beautiful Bill Act (OBBBA) in 2025, as well as various state electricity sector policies. We modeled this scenario under three different levels of data center electricity demand.

- **Mid Demand Growth:** This scenario uses our core, mid-case assumption for data center demand growth.
- **No Demand Growth:** This counterfactual scenario isolates the impacts of data center demand growth.
- **High Demand Growth:** This sensitivity assumes data center demand growth is near the higher end of recent projections.

The **Wisconsin Clean Energy Standard and CO_2 Reduction Policy scenario** (WI Clean Energy Policies) uses our Mid Demand Growth assumption for data center demand growth and explores the adoption of a state CES (100 percent carbon-free electricity by 2050) and a reduction in power plant emissions of carbon dioxide (CO_2) in Wisconsin (requiring net-zero emissions by 2050). This scenario uses policies and emissions reductions in accordance with both prior advocacy work in Wisconsin and wider decarbonization research (GridLab 2022; Shukla et al. 2022).

The **Restored Tax Credits scenario** also uses the Mid Demand Growth assumption and includes the electricity sector tax credit provisions of the 2022 Inflation Reduction Act. This scenario serves as a point of comparison, making it possible to isolate the impacts of recent rollbacks in federal tax credits.

The Uncertainty of Data Center Load Growth

The rapid and unprecedented increase in proposals to build data centers in Wisconsin comes with challenges to predicting their growth trajectory. In practice, not all proposed facilities will actually be built, and notable data center plans have already fluctuated. Developers are not always transparent about their data center plans, and resource planning processes have not adapted enough to manage this industry's volatility. The lack of appropriate accountability for costs puts ratepayers at risk of getting stuck paying for powering data centers that may or may not exist.

Most of our scenarios use electricity demand projections developed by Evolved Energy Research and its reference growth trajectory for data center load growth. Given the high level of uncertainty of projected load growth from data centers, we adjusted the inputs based on announced builds and utility filings. We assumed that only half of the capacity of announced data centers would get built. We also used a higher demand projection as a sensitivity (Figure 1).

Total electricity demand in Wisconsin is projected to increase 29 percent by 2030 in the Mid Demand Growth case and 33 percent in the High Demand Growth case. Data centers are the biggest driver of expected demand growth in the near term (68 to 72 percent between 2025 and 2030). By 2050, that growth slows to 41 to 52 percent.[2] The Midwest is attractive to data center developers in part because of proximity to the Great Lakes, a source of the fresh water needed to cool servers (Volzer 2025).

Results

Electricity Generation and Capacity

In the Current Policies scenario, overreliance on fossil fuels results in continued use of coal and increased use of methane gas, together accounting for 70 percent of total state generation in 2050. Adopting a state CES policy could result in phasing out all coal generation and 95 percent of unabated gas generation by 2050 compared with Current Policies (Figure 2, p. 4). In the WI Clean Energy Policies scenario, wind and solar make up about 37 percent of generation in 2035 and 83 percent in 2050—more than three times as much in 2050 compared with estimates under Current Policies.

Under the Current Policies scenario, gas capacity quadruples between 2026 and 2050 (Figure 3, p. 5). Under the WI Clean Energy Policies scenario, the share of gas capacity drops from 40 to 18 percent (around 11 GW, 2 GW of which is gas plus carbon capture and storage—CCS). Wind and solar make up 74 percent of Wisconsin's total capacity in 2050. Battery storage also supports the state's transition to clean energy, reaching 3.5 GW of capacity in 2050 and helping support Wisconsin's grid as the state phases out the last remaining coal plants.

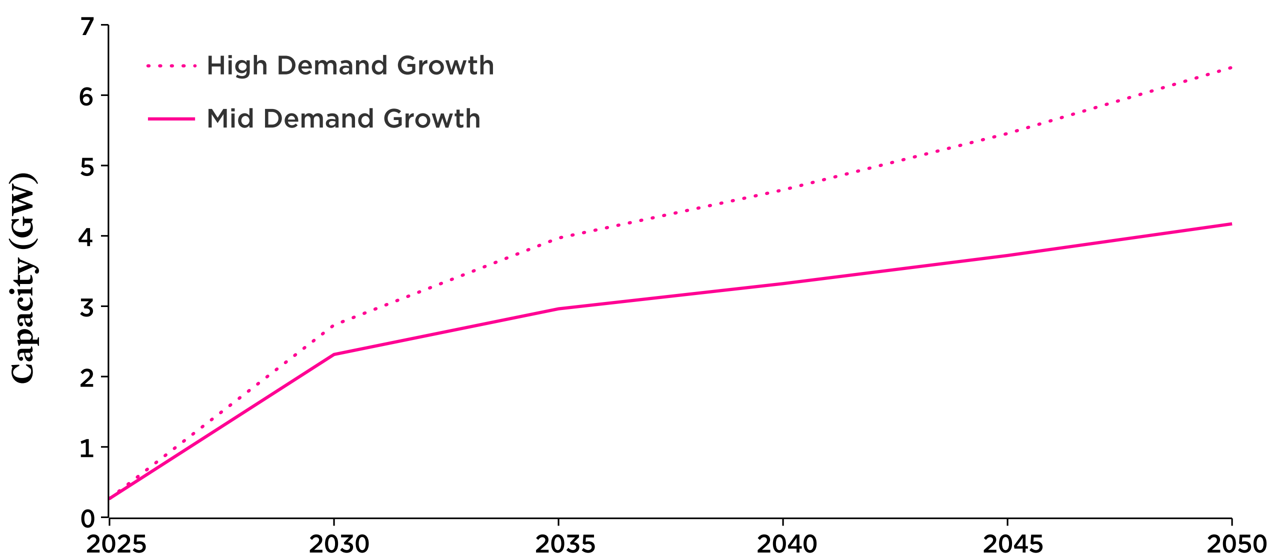
Emissions Reductions

Compared with a 64 percent increase in CO_2 emissions by 2050 under Current Policies, the WI Clean Energy Policies scenario shows a 40 percent reduction from 2023 levels of CO_2 emissions by 2035 and 77 percent by 2041 (Figure 4, p. 5). Emissions reach net-zero CO_2 by 2050 in accordance with the CO_2 reduction policies.

Health and Climate Impacts

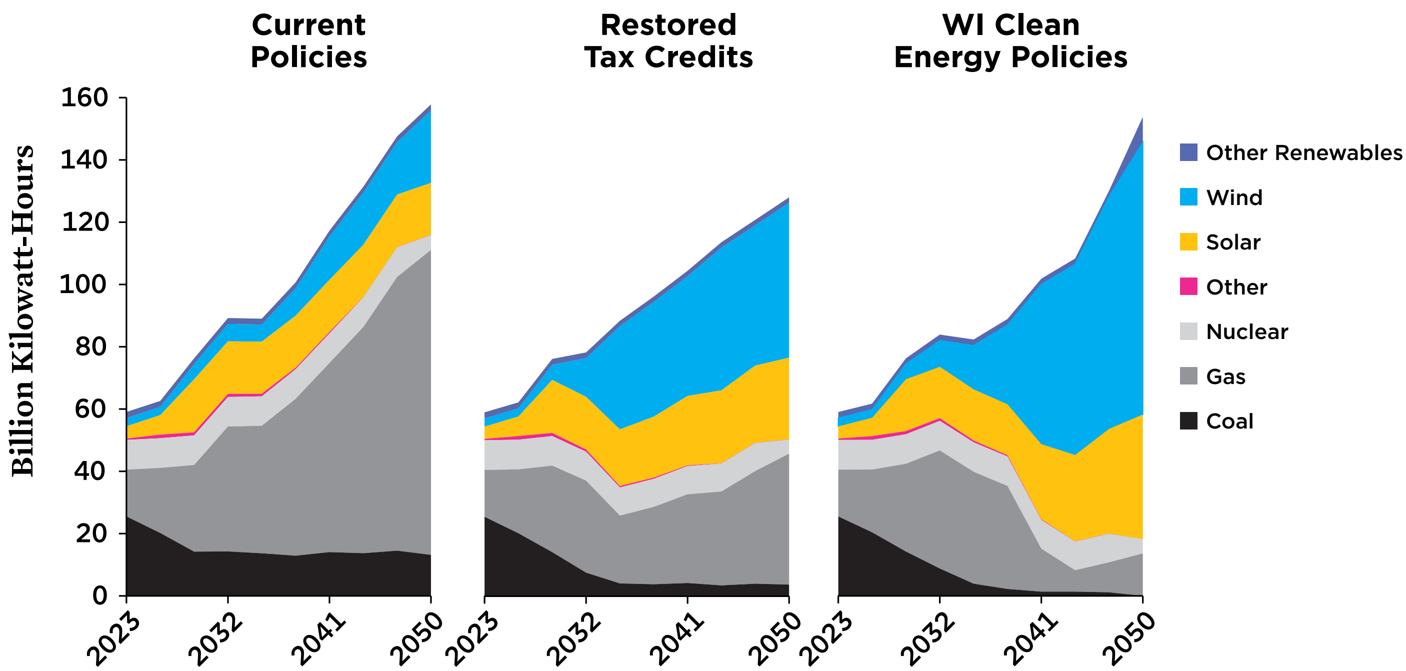
Adopting clean energy policies in Wisconsin yields public health benefits through avoided health-related costs from respiratory illnesses, heart attacks, and even mortalities. Avoided impacts are about $346.9 million per year on average by 2050. This scenario also helps avoid significant climate damage costs globally. In Wisconsin, severe weather events such as storms, flooding,

FIGURE 1. Potential Wisconsin Data Center Capacity, 2025–2050



Total Wisconsin data center capacity increases from 0.27 GW in 2025 to 2.3 GW in 2030 and 4.2 GW in 2050 under the Mid Demand Growth case; it increases to 2.7 GW in 2030 and 6.4 GW in 2050 under the High Demand Growth case.

FIGURE 2. Wisconsin Electricity Generation, Mid Demand Growth



By adopting stronger state policies under the WI Clean Energy Policies scenario, Wisconsin could generate most of its electricity with clean energy.[3]

Notes: "Other renewables" includes hydropower, biopower, and biopower with carbon capture and storage. "Other" includes oil and gas steam plants.

and drought have resulted in billions of dollars in climate damages in recent years (Smith 2020).

Because pollution can drift across state lines, estimates of pollution and climate impacts are not necessarily bound to Wisconsin. Likewise, they do not account for pollution impacts from other states' emissions.

The health impacts of pollution *do* disproportionately harm those residing near the source of emissions. The harms are further exacerbated by the disproportionate exposure to pollution that people of color are subject to in Wisconsin and the nation at large (Mathewson 2022).

Energy cost estimates rarely include health and climate savings, but the overall benefits of investing in clean energy policies in Wisconsin should include consideration of those avoided costs. Clean energy policies can also prevent loss of life, with an estimated 57 percent fewer mortalities compared with Current Policy estimates (Table 1, p. 6).[4]

Costs of New Demand

The Current Policies scenario could result in a cumulative net present value of bulk electricity system costs in Wisconsin totaling $113 billion in the Mid Demand Growth case and $130.2 billion in the High Demand Growth case from 2026 to 2050. Most of this value comes from capacity investments and fuel costs.

Under the WI Clean Energy Policies scenario, total system costs would be $133.8 billion between 2026 and 2050. While there is an estimated increase in costs under CO_2 reduction policies due to investments in expanding clean energy capacity, this does not account for the health and economic benefits resulting from decreases in pollution and climate damages. Investing early in clean energy can also help avoid the economic risks of overreliance on fossil fuels, with their volatile costs and the danger of stranded assets.

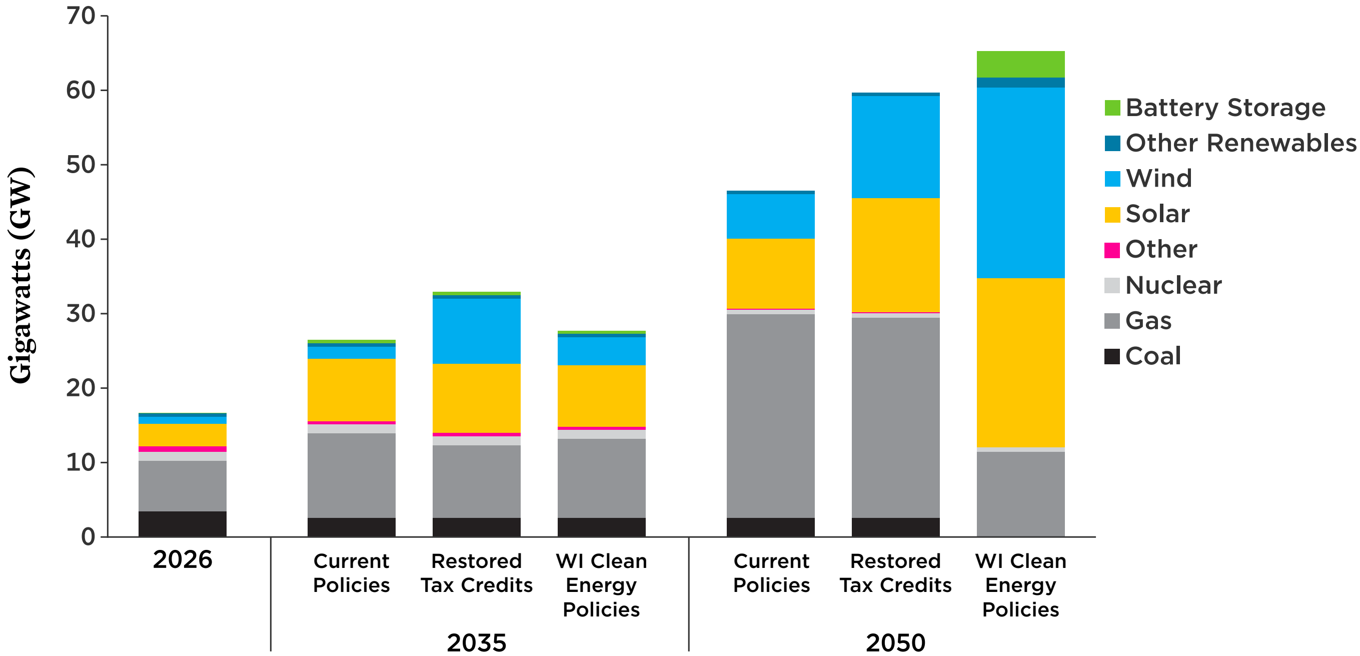
Federal policies like the Inflation Reduction Act allow for a smoother, faster transition toward clean energy. The impact of restoring federal clean energy tax credits would further lower the costs of transitioning to clean energy by 14 percent—and that, too, does not include health and climate savings.

Data Center Impacts

While the future of data center development remains uncertain, projections for data center growth illustrate a substantial increase in electricity demand—demand that could rival that of entire

(continued on p. 6)

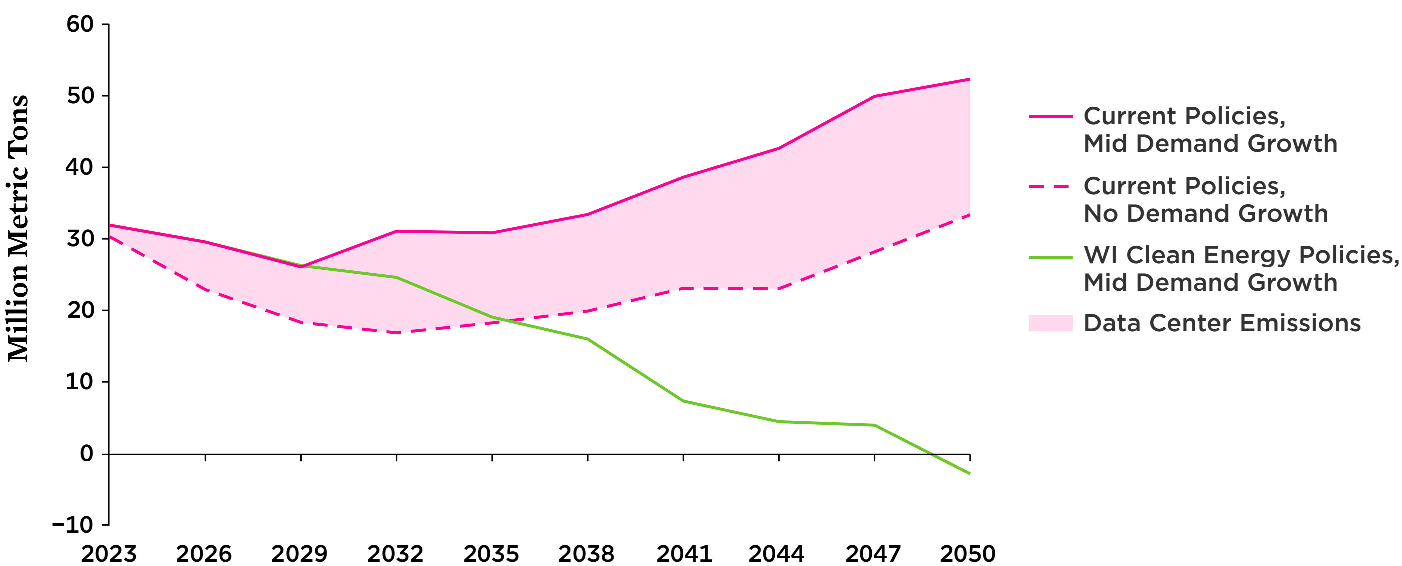
FIGURE 3. Wisconsin Electric Generating Capacity, Mid Demand Growth



Pursuing clean energy policies in Wisconsin results in a growing share of renewable capacity and a decreased share of fossil fuels compared with Current Policies.

Notes: "Other renewables" includes hydropower, biopower, and biopower with carbon capture and storage. "Other" includes oil and gas steam plants.

FIGURE 4. CO_2 Emissions, 2023–2050



The WI Clean Energy Policies scenario offers a trajectory toward net-zero CO_2. The Current Policies scenario leads to increased emissions, even without data centers (No Demand Growth). Negative CO_2 emissions in later years result from CCS and other carbon-negative technologies.

TABLE 1. Avoided Health and Climate Impacts of Stronger Policy Adoption

Impact Type	Avoided Impact, Annual Average	Cumulative Avoided Impact, 2026–2050
Mortalities	23 to 88	576 to 2,191
Health Costs	$346.9 million	$8.7 billion
Climate Damages	$17.1 billion	$428.2 billion

Notes: Dollar estimates represent median values. Results compare Wisconsin Clean Energy Policies to Current Policies, Mid Demand Growth.

sectors of Wisconsin's economy. Using a counterfactual scenario that models no data center growth demand, UCS isolated the impacts of data center demand growth from electrification of other sectors and other demand drivers.

In the Current Policies scenario, data centers account for 26 to 36 percent of total electricity costs from 2026 to 2050 (Figure 5). In the absence of specific policy that addresses responsibility for data center costs, utilities may pass cost increases down to consumers through ratemaking processes, regardless of the energy pathway chosen by the state.

The generating capacity needed for data centers in the Current Policies scenario is primarily met with methane gas (Figure 6, p. 7). Less wind capacity is built, in both the near and long terms, with data centers than without. It may be that the assumed high load factor for data centers (in this case, 80 percent, indicating a constant power draw throughout the day) is resulting in a shift away from wind to something like gas in the absence of gas-limiting policy. The model could also be selecting more gas capacity in Wisconsin instead of wind to not only meet the state's own demand but to export electricity to other states seeking to meet their own increasing demand. In contrast, in the WI Clean Energy Policies scenario, the impact of data center demand growth results in an increase of total wind and solar capacity, and gas capacity drastically declines compared with Current Policies. Battery storage capacity also increases in the long term under WI Clean Energy Policies.

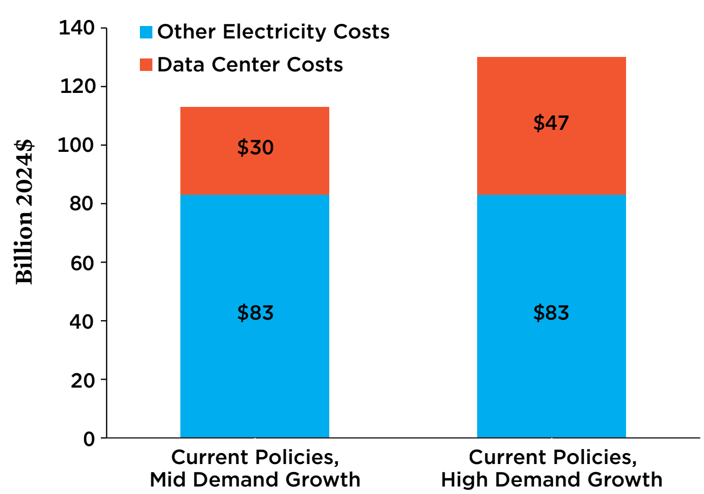
In the Current Policies scenario, the increase in fossil fuels to power data centers results in increased carbon emissions. Data centers could be responsible for more than 41 million cumulative tons of CO_2 between 2026 and 2035 and more than 130 million cumulative tons of CO_2 from 2026 and 2050. In contrast, under the WI Clean Energy Policies scenario, cumulative CO_2 emissions are 44 percent and 87 percent lower compared with Current Policies during those periods.

Conclusions and Recommendations

Forward-thinking energy policies can enable Wisconsin to meet new load growth in ways that are cleaner and pose fewer harms for residents and businesses. Data centers are expected to be the main driver of load growth in the coming years, but the uncertainty of both their development and their cost to the electricity system must be confronted today. Wisconsin decisionmakers must enact policies that help meet new demand with clean energy resources and protect consumers from added costs brought on by data center growth.

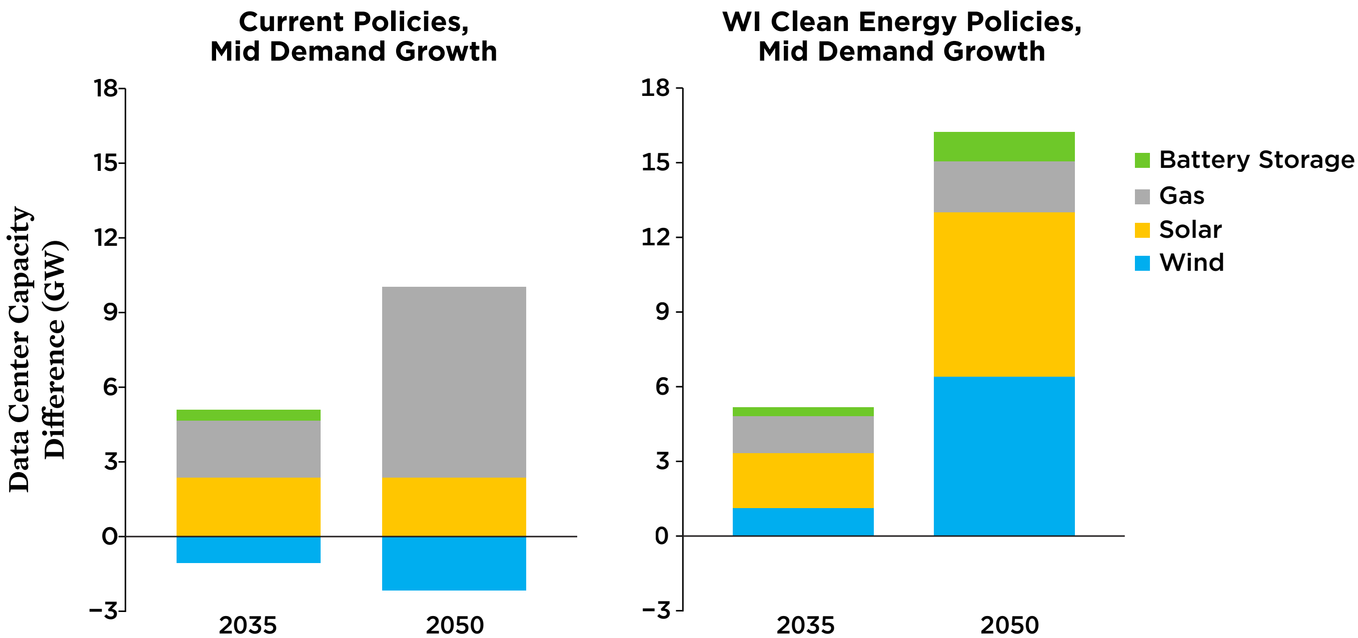
- **Wisconsin legislators must reintroduce Integrated Resource Planning.** With a comprehensive IRP, resource planning can adapt to the long-term needs of the energy system, including new demand from data centers. Utilities must be transparent about their investment plans and demonstrate how they plan to meet new demand with clean, affordable energy.[5]
- **Design energy legislation to benefit Wisconsin's future.** While reinstating federal clean energy policies is crucial for the country, Wisconsin legislators must prioritize a clean electricity standard to achieve emissions reductions and move away from overreliance on fossil fuels. Legislators can further protect their constituents by putting economic growth from data centers toward funding community energy and affordability programs.

FIGURE 5. Data Center Share of Total Electricity System Costs, 2026–2050



The cost of data centers as a share of the total electricity system costs in Wisconsin are substantial, arising primarily from investments in capacity investments.

FIGURE 6. Data Center Impact on Wisconsin Generating Capacity



Modeling results suggest that data centers could prompt more gas capacity and less wind capacity under Current Policies. Under WI Clean Energy Policies, Wisconsin meets new data center demand primarily with clean resources.

- **Data center developers must be transparent about their load flexibility reporting and plans for supplying their own power with clean energy.** Many companies that seek to develop infrastructure in Wisconsin have made climate and sustainability commitments. Decisionmakers should hold such companies accountable for reporting how their data centers affect their ability to meet those goals.
- **Regulators must direct utilities to protect ratepayers from higher electricity costs that result from the electricity needs of data centers.** Grid and environmental impacts predicted and resulting from data center growth should always be transparent to the public, with enough notice for communities to weigh in meaningfully in decisionmaking. Utilities should explain how their plans take into account the speculative load of data centers.

This fact sheet is part of a multistate analysis of ways to meet data center load growth with clean energy solutions. Learn more at www.ucs.org/resources/data-center-power-play.

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Acknowledgments

This report was made possible by the generous support of The Joyce Foundation, the Heising-Simons Foundation, the Philip J. Solondz Family Foundation, and UCS members.

For their thoughtful reviews and contributions to this Wisconsin fact sheet, we thank Huda Alkaff (Wisconsin Green Muslims) and Ciaran Gallagher (Clean Wisconsin), along with Marc S. Miller (for editing assistance). At UCS we thank Paul Arbaje, Rachel Cleetus, Bryan Wadsworth, Cynthia DeRocco, Heather Tuttle, and Jeff Deyette.

Organizational affiliations are listed for identification purposes only. The opinions expressed herein do not necessarily reflect those of the organizations that funded the work or the individuals who reviewed it. The Union of Concerned Scientists bears sole responsibility for the report's contents.

Endnotes

1. On December 1, 2025, the US Department of Energy announced that the National Renewable Energy Laboratory (NREL) would be renamed the National Laboratory of the Rockies. In our report and supporting materials, we have chosen to use the original name for clarity.

2. While projections account for some electrification in the transportation and building sectors, the long-term estimates of data center demand as a share of total electricity demand do not account for the more aggressive electrification that may occur in other sectors of Wisconsin's economy.
3. Carbon capture and storage is an eligible technology under our CES modeling assumptions. Goals for reducing carbon emissions may also contribute to the adoption of CCS to meet net-zero requirements.
4. Mortalities are estimated as part of the health-related impacts. The economic value assigned to this metric is included in the total avoided health costs cited in these results.
5. Energy efficiency and demand response programs, while not a focus of this study, are also key strategies for the clean energy transition.

References

Chavez, Maria. 2025. "New Analysis Shows Public Health Impacts of Proposed Gas Plants in Wisconsin." *The Equation* (blog). January 16. https://blog.ucs.org/maria-chavez/new-analysis-shows-public-health-impacts-of-proposed-gas-plants-in-wisconsin

EIA (US Energy Information Administration). 2024. "Wisconsin Profile." September. https://www.eia.gov/state/print.php?sid=WI

Evers, Tony. 2019. "Executive Order 38 Rerating to Clean Energy." Office of the Governor, Wisconsin. https://evers.wi.gov/Documents/EO%20038%20Clean%20Energy.pdf

GridLab. 2022. *Wisconsin's Roadmap to Net Zero by 2050*. https://gridlab.org/portfolio-item/wisconsins-roadmap-to-net-zero-by-2050-october-2022-summary-report

Mathewson, Paul. 2022. "Recent Study Provides Insight into Sources and Relative Burdens of Harmful Particulate Matter Air." https://www.cleanwisconsin.org/wp-content/uploads/2022/05/WI-particulate-exposure-analysis_public_5182022.pdf

Shukla, Priyadarshi R., Jim Skea, Andreas Reinhard Reisinger, Raphael Slade, Roger Fradera, Minal Pathak, Alaa Al Khourdajie, et al., eds. 2022. *Climate Change 2022: Mitigation of Climate Change*. Intergovernmental Panel on Climate Change.

Smith, Adam B. 2020. "U.S. Billion-Dollar Weather and Climate Disasters, 1980–Present (NCEI Accession 0209268)." NOAA National Centers for Environmental Information. https://doi.org/10.25921/STKW-7W73

Volzer, Helena. 2025. *A Finite Resource: Managing the Growing Water Needs of Data Centers, Critical Minerals Mining, and Agriculture in the Great Lakes Region*. Chicago, IL: Alliance for the Great Lakes. https://greatlakes.org/wp-content/uploads/2025/08/AGL_WaterUse_Report_Aug2025_Final.pdf

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https://doi.org/10.47923/2026.16051