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SPECIAL REPORT

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Wisconsin Energy Policy:

Innovating Within the Regulated Monopoly

& Dismantling the Climate Case Against Hydrocarbons

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About the Author

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Executive Summary

As Wisconsin faces unprecedented AI-driven energy demand, grid reliability is already compromised by years of flooding the system with artificially cheap intermittent renewables, while a 20th-century monopoly structure remains unable to meet new needs without overburdening ratepayers.

Wisconsin faces a potential energy crisis, with new reports projecting a high risk of blackouts by the winter of 2028. Residents are currently paying more for electricity than the rest of the Midwest, as energy prices continue to outpace inflation even as residential consumption has decreased.

There are two problems driving the coming energy crisis.

1. Policy Subordination: State leadership has prioritized renewable mandates over grid stability, utilizing a "climate crisis" determination to set a goal of carbon-free electricity by 2050.
2. Regulatory Constraints: Wisconsin's regulated monopoly structure is ill-equipped for the rapid capacity growth necessitated by modern industrial demand.

A simple legislative solution known as Consumer-Regulated Electricity (CRE) would address rising energy demand by shifting the financial risk of new infrastructure from ratepayers to private investors. Designed to work in conjunction with the current grid structure, CRE allows privately financed electric utilities to operate outside the traditional regulatory system to sell electricity directly to new industrial customers through voluntary contracts. This solution would give Wisconsin a competitive advantage over other states by reducing the time and uncertainty associated with large-scale energy deployments under the current system. By encouraging power providers to compete for contracts, this solution positions Wisconsin as a hub of energy innovation and capital investment.

While CRE eases the burden, preserving the legacy grid requires shifting Wisconsin's energy policy from carbon mitigation toward a technology-agnostic framework, where renewables compete with nuclear and hydrocarbon-based resources on their merit.

Statewide carbon reduction measures impose certain and disproportionate burdens on Wisconsin for the sake of negligible global benefit. Long-term data, corroborated by NASA satellite records, show that rural Wisconsin's average temperature remains unchanged since 1894; despite a 45% increase in atmospheric CO_2, the state has seen significant declines in extreme heat, cold, tornadoes, and drought.

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The Foundation of Flourishing

In the modern age, reliable and affordable energy is the foundation for economic growth and human flourishing. But Wisconsin now faces an energy crisis with three colliding forces: electricity demand is surging from data centers and industrial growth at unprecedented rates, climate-based energy policy is causing a rapid shift to intermittent energy sources, and the century-old monopoly structure prevents the grid from adding reliable capacity at the speed industry requires. This report examines how these forces interact to threaten Wisconsin's energy security—and proposes a path forward.

Wisconsin's monopoly structure dates to 1907, when the state granted utilities exclusive geographic areas where only one provider can sell power. In exchange for this guaranteed monopoly, utilities receive a regulated rate of return on all capital investments, with costs passed directly to ratepayers. This framework was designed for the electrical age of the early 20th century; it was never intended to accommodate the speed and scale of energy innovation required today.

In recent years, a climate-driven agenda has forced a rapid transition away from the state's most reliable hydrocarbon-powered electricity toward intermittent sources like solar and wind that cannot be dispatched on demand. This shift stems from the determination of a CO_2-driven "climate crisis," prioritizing immediate economic sacrifice over the long-term reliability of the electrical grid.

As demand surges and these two structural failures compound one another in making the grid less reliable and more expensive, experts have flagged Wisconsin as entering a "high-risk" window for energy shortages by 2028. The monopoly structure forces new industrial demand onto a grid that CO_2 policy is actively destabilizing, while requiring ratepayers to fund infrastructure buildout for these power-hungry facilities. Ratepayers thus bear the cost of both an unreliable energy transition and industrial expansion. This report demonstrates that there is no rational basis for connecting Wisconsin's carbon reduction actions to measurable benefits for its residents. With this justification dismantled, the legacy monopoly system can return to operating with reliable baseload power, including hydrocarbons.

Additionally, this report proposes an alternative regulatory pathway for off-grid energy investment using any technology, relieving pressure on the legacy grid while protecting ratepayers from subsidizing industrial power demands. Together, these reforms ensure Wisconsin can meet surging demand with reliable, affordable energy.

Energy Demand & Reliability

As Wisconsin transitions its energy portfolio, the margin for error is shrinking. The North American Electric Reliability Corporation's (NERC) 2025 Long-Term Reliability Assessment serves as a stark warning for Badger State policymakers: the grid is approaching a critical inflection point. [1]

Wisconsin's power authority, the Midwest Independent System Operator (MISO), is currently at normal levels of risk but is projected to reach "high risk" beginning in 2028. A major cause of this instability is the lagging infrastructure investment. Under normal market conditions, higher demand naturally attracts investment, but actual pace of construction is hampered by permitting hurdles and interconnection delays.

Dispatchable power can be ramped up or down quickly as demand changes. This flexibility generally comes from intermediate and "peaker" natural gas plants, which act as the grid's on-call responders.

The electric grid requires instantaneous, real-time balancing between generation and demand to maintain a stable frequency. Failure to do so causes voltage instability and widespread blackouts.[2] Replacing dispatchable and baseload power with intermittent technologies such as solar and wind adds additional stress to the system because these sources cannot be "called upon" during peak demand.

While traditional plants are available around the clock, intermittent sources have much lower capacity factors. A capacity factor measures how much energy a plant actually produces compared to the maximum amount it is capable of generating. In 2022, solar panels in Wisconsin produced just 16.9% of their capacity and wind 28.2%, compared to nuclear at 91% and natural gas at 63.2%.[3] This unpredictable cycle forces dispatchable power plants to operate below full capacity much of the time.

However, the more critical metric for reliability is capacity accreditation, which accounts for how much a resource can be trusted during the grid's most "high-risk" hours. For the 2025-2026 planning year, MISO accredited solar at just 5% for the winter season.[4] This means that to replace coal-fired power with solar, nearly twenty times the installed capacity would be required to maintain the same level of reliability.

This creates an enormous cost burden for ratepayers, who are forced to fund the construction of 18 times more equipment just to maintain the same level of reliability. Beyond the massive capital expense of overbuilding, consumers are hit with a "redundancy tax": they must pay to build and maintain thousands of acres of solar while simultaneously paying to keep backup plants on standby for when those panels underperform.

While the grid faces stress from both increased demand and wavering supply, the NERC report recommends states "expedite new resources to meet growing demand and carefully manage generator deactivation." However, Wisconsin is moving in the opposite direction. Climate policy has become the primary lens through which the state views energy production, serving as the underpinning justification for the very deactivations NERC warns against.

Recognizing these immense technical hurdles with renewables, this report takes a technology-agnostic stance. Solar, wind, and battery storage very well may have a place in the modern energy mix. However, for these technologies to truly benefit Wisconsin, they must win on their own merits rather than through government subsidies that mask their true cost to the grid.

The NERC report warns that "As older fossil-fired generators retire and are replaced by more battery and solar resources, the resource mix is becoming increasingly variable and weather-dependent." To address this, many utilities have delayed the retirement of hydrocarbon baseload power to mitigate the effect. In Wisconsin, the retirement of the Oak Creek and Colombia Energy coal-fired plants have been delayed several times. However, when they do retire by 2029, 10% of the state's electric generating capacity retires with it.[5]

Recently proposed solutions

Both sides of the political aisle support expanding nuclear energy, citing either its superior baseload generating capacity or its zero-emissions status. In fact, Wisconsin lawmakers want the state to be known as the "Silicon Valley" for nuclear power development in the country.

The state currently operates the Point Beach nuclear plant, whose two reactors produce about 15% of Wisconsin's electricity. As power demand surges, legislators are looking for ways to attract new nuclear capacity. Currently under consideration, Assembly Bill 472, which passed with a bipartisan 86-11 vote in the assembly on January 22, 2026, would prioritize nuclear energy above wind and solar and incentivize its construction. The bill is now under consideration by the Wisconsin state senate. It aims to create an environment where commercial nuclear energy can succeed as the premier energy choice to power new data centers.

To achieve this, the bill offers a tax credit of $10,000 per megawatt (MW) of installed capacity. For a plant as large as the Point Beach facility, this would equate to $12 million in annual tax credits for ten years before ostensibly being throttled down to $1,000 per MW.

The bill protects ratepayers by requiring data centers to pay for their own power infrastructure directly, rather than allowing utilities to fund these projects through broad rate increases. However, because it operates within the monopoly structure, the bill opens a backdoor option that defeats its own purpose. If the utility builds a nuclear plant for the "general grid," they can use a "pay-as-you-build" scheme known as concurrent capital cost recovery. This allows the utility to charge ratepayers for construction and permitting costs immediately, forcing families to fund the project before it ever produces power. This regulatory structure strips away market incentives for efficient plant commissioning. Utilities earn a "reasonable" return throughout construction regardless of outcomes. Georgia's recently constructed nuclear plant, Vogtle reactor 3 and 4, operated under this mechanism, taking twice as long as projected and running nearly $23 billion over budget while ratepayers funded the overruns.

Nuclear energy is a rare technology that satisfies both reliability and zero-emissions goals, yet even this consensus solution cannot escape the structural problems of the monopoly framework because the current regulatory architecture is fundamentally incapable of delivering massive new energy needs without punishing the ratepayer or taxpayer. The bill will almost certainly spark interest in every utility operating in Wisconsin to build nuclear power, but it is almost as certain to be over cost, over budget, and all at ratepayers' expense.

The grid's inability to accommodate surging industrial demand, however, is itself a symptom of a deeper problem. Wisconsin's grid might have absorbed new data centers and industrial growth if it weren't already stressed by climate policy that has forced a transition away from reliable baseload power toward intermittent sources. The monopoly structure prevents fast solutions, but climate-driven restrictions created the fragility in the first place.

Wisconsin's Climate Crisis Determination

As the previous section established, climate policy has created the grid fragility that now struggles to absorb new demand**.** Under Governor Tony Evers's leadership, the state has committed to a transition toward objectively less reliable energy sources based on a "climate crisis" determination. This transition amplifies the structural inadequacies of the grid that forces all progress through a single, rigid regulatory channel.

In 2019, Governor Evers signed Executive Order #38, which established *the Office of Sustainability and Clean Energy* to implement a plan for Wisconsin's electricity to be carbon-free by 2050.[6] This was bolstered by Executive Order #52 which assembled a task force on climate change. The governor's task force has declared climate change a crisis in Wisconsin, claiming extreme weather, higher summer temperatures, and cold spells are on the rise.[7] In a collaboration between the University of Wisconsin-Madison and the Department of Natural Resources (DNR), the 2021 Wisconsin Initiative on Climate Change Impacts (WICCI) report claims we are entering an era of unprecedented extremes.[8]

Current state policies are pushing for the removal of reliable power sources just as the grid enters a high-risk period. In the name of reducing emissions, the current agenda focuses on:

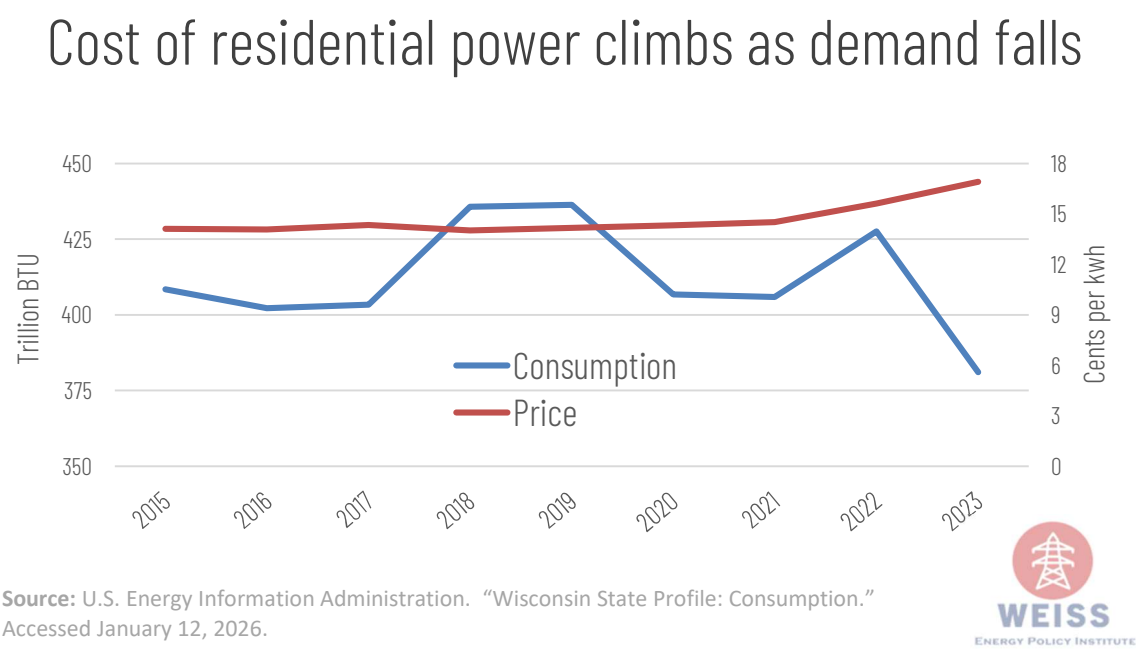
- **Forcing Early Retirements:** Pressuring utilities to shut down reliable coal plants years ahead of schedule.
- **Blocking New Infrastructure:** Opposing the construction of new natural gas facilities, which are essential for grid stability.
- **Utility Mandates:** Imposing strict carbon-reduction targets that prioritize emissions over reliability.
- **Vetoing Consumer Protections:** Blocking legislation that would have prevented local governments from banning gas appliances and vehicles.
- **Regulatory Hurdles:** Using executive power to embed climate criteria into the state permitting process, creating new ways to stall traditional energy projects.

These policies are forcing reliable power investment out of the state. Just last year, a gas-fired plant that would have brought $1 million annually in tax revenue and 350 construction jobs to northern Wisconsin was rescinded after its permits expired – while waiting on more permits.[9]

The government-forced transition to renewable energy doesn't make sense outside the context of a "climate crisis." It remains economically viable largely because taxpayer dollars support it. Since 2018, Wisconsin has spent $6 billion, including nearly $3 billion in federal subsidies, on renewable energy infrastructure, even exempting large solar farms from local property tax.[10]

As utility-scale renewables expand, ratepayers bear the cost of this artificial transition while also funding infrastructure for large industrial users like data centers. This has led to increasing energy prices for residential consumers even as consumption has declined. Rate increases have outpaced inflation, with Xcel Energy and Alliant Energy requesting cumulative rate hikes of up to 19% over the next two years.[11] Wisconsin is uniquely disadvantaged, with residential power costs consistently higher than both Midwest and U.S. averages.

Figure 1



Source: U.S. Energy Information Administration. "Wisconsin State Profile: Consumption." Accessed January 12, 2026.

For the state to justify this economic burden, it must demonstrate two things: first, that CO_2 is the primary driver of the specific weather events the policy seeks to mitigate; second, and more critically, that reducing Wisconsin's emissions will produce measurable benefits for Wisconsin residents. Without establishing this rational connection, the policy fails the statutory requirement for reasoned decision-making.

This report evaluates Wisconsin's long-term climate trends to demonstrate that the "unprecedented extremes" cited by the WICCI report are not supported by the historical record. The state is sacrificing grid reliability and imposing substantial costs on ratepayers for a crisis lacking a rational basis in fact. The following analysis examines Wisconsin's temperature, precipitation, and extreme weather data.

Wisconsin's Climate Record: A Data Analysis

As defined by the WICCI report, climate is "the long-term average of weather conditions in a specific location" determined through "statistical analysis of weather data collected over a long period of time".[12] Consequently, this report bypasses shortened mid-century datasets in favor of the complete available record, often dating back to the late nineteenth century, to distinguish between genuine regional trends and localized or time-based artifacts. The first and most critical step in this analysis is isolating the Urban Heat Island (UHI) effect to obtain Wisconsin's true climate signal.

Urban Heat Island

An Urban Heat Island forms when man-made surfaces such as concrete and rooftops retain and emit more heat from the sun than natural terrain. This causes areas with high concentrations of manufactured surfaces, specifically urban areas, to be warmer than the surrounding area. The Environmental Protection Agency (EPA) estimates the effect to be between 1 and 7°F warmer than outlying areas.[13]

In a study of Madison, Wisconsin, researchers deployed 150 sensors to monitor how the Urban Heat Island effect intensifies during extreme weather.[14] During summer, urban areas recorded twice as many hours warmer than 90°F as rural surroundings, with nighttime minimums averaging up to 9.4°F higher. Conversely, during winter, the city's dense core remained warmer, experiencing 40% fewer hours below 0°F.

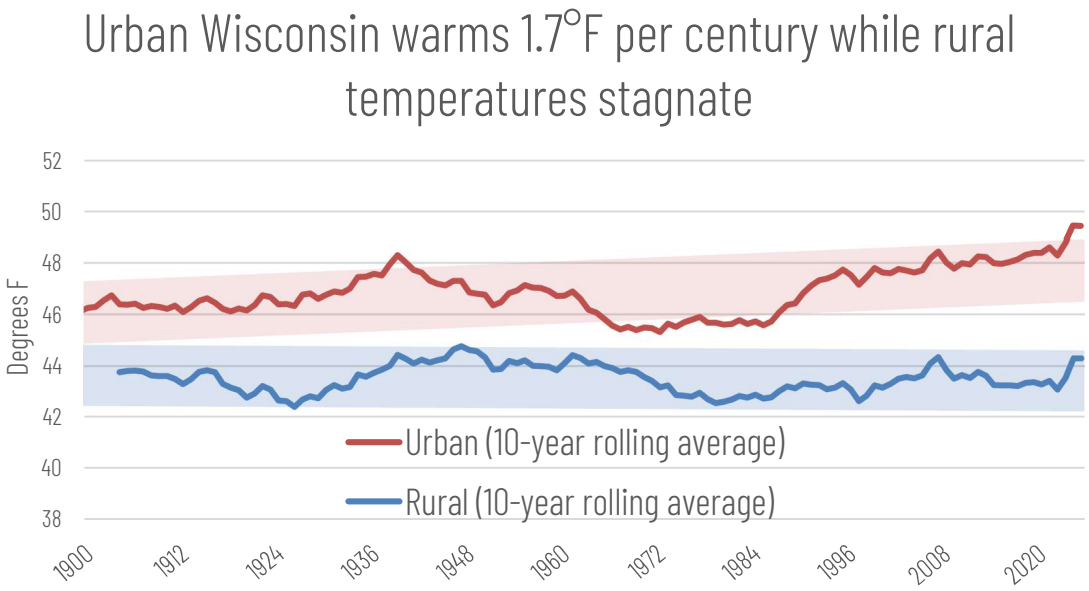
The research in this report corroborates these findings by analyzing weather station data obtained by the National Oceanic and Atmospheric Administration (NOAA).

Weather station data in Milwaukee and Madison was compiled to serve as an urban baseline. The urban station data indicates a warming trend of about 1.7°F per century since 1869 with high statistical significance ($p < .001$).

To measure the UHI effect, five rural weather stations spread across each geographic region in the state were compiled to obtain a rural baseline.[15] This report finds that from 1893 to 2025, average annual temperatures in rural Wisconsin have remained remarkably stable.

While data show a cooling trend of about 0.1°F per century ($p = 0.81$) the weak statistical significance indicates there has been no change in annual average temperature in rural Wisconsin for the last 130 years.

Figure 2

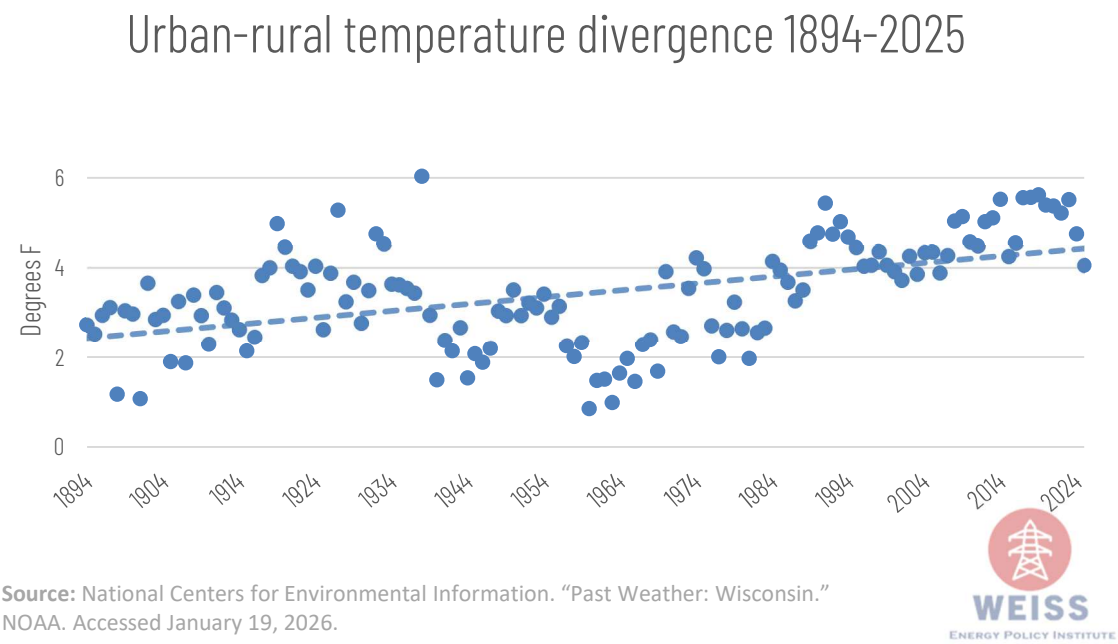


Source: National Centers for Environmental Information. "Past Weather: Wisconsin." NOAA. Accessed January 19, 2026.

Since rural areas show no statistically significant trend, they act as a stable control group for average annual temperature. This suggests that all urban warming relative to its surroundings can be attributed to localized effects.

Interestingly, as cities developed, the urban-rural divergence in temperature has intensified over the past century. Linear regression analysis confirms a highly significant positive trend in this divergence at a rate of 1.53°F per century ($p < 0.01$). As the combined Milwaukee and Madison population gained over 650,000 people since 1960, the communities hosting the rural weather stations average less than 6,300 residents. The rural-city divergence on its own explains 62% of the rise in temperature ($R^2 = 0.62$, $p < .001$).

Figure 3



Source: National Centers for Environmental Information. "Past Weather: Wisconsin." NOAA. Accessed January 19, 2026.

The intensifying magnitude of the UHI effect in Wisconsin could have a measurable effect on energy demand projections. These findings suggest that perceived climate-induced shifts in energy demand are primarily a localized signature of urban expansion rather than a fundamental change in the underlying regional climate.

Ground Network Validation Against NASA Satellite Data

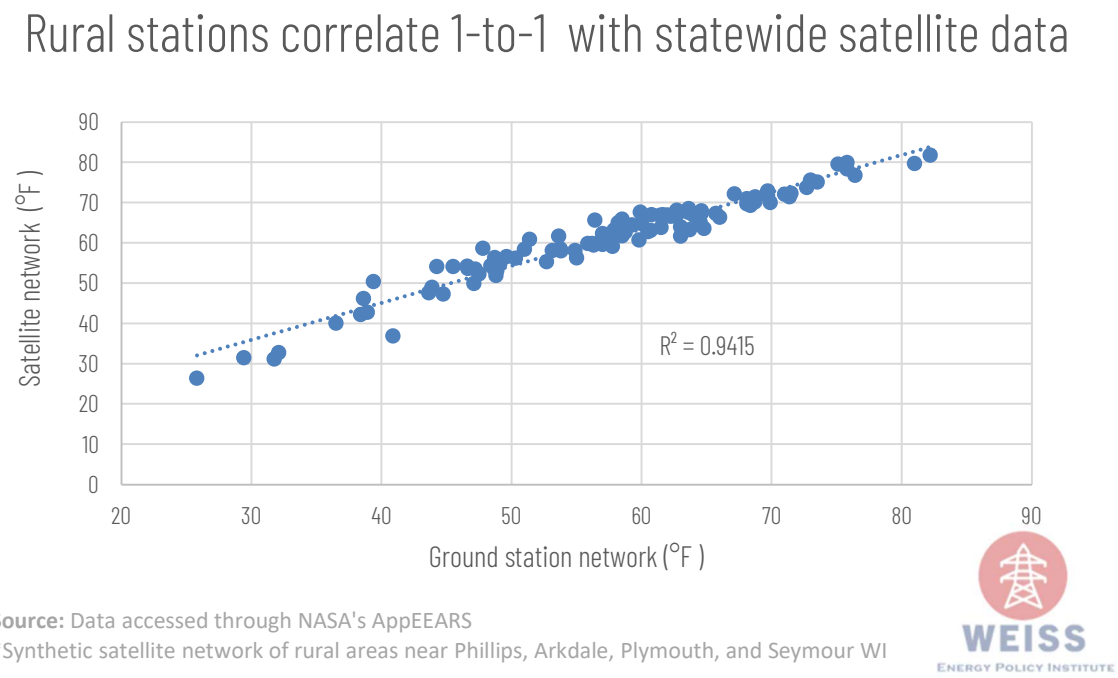
This report validates that the five-station rural network accurately represents rural conditions across the state and produces a climate signal defensible for state-level policy decisions.

Using a "point-to-pixel" validation framework, the ground stations were compared to NASA satellite data. Each "pixel" represents one square kilometer of land area where the satellite measures land surface temperature. This exercise confirmed that the rural ground network used in this report accurately represents the regional rural landscape with a nearly perfect 1:1 relationship.

The ground station average was compared against a synthetic network of four independent rural pixels in geographically diverse zones including the Flambeau River State Forest and unpopulated areas surrounding Arkdale, Plymouth, and Seymour. The results show strong

agreement; 94% of the temperature variation in these unmonitored regions is captured by the rural ground stations ($R^2 = 0.942$). In addition, the rate of temperature change at the ground stations is statistically identical to that of the remote pixels (at 99% confidence interval). This means that for every degree of change recorded by the five-station ground network, a statistically identical change is occurring across the rest of rural Wisconsin.

Figure 4



When ground station temperatures were compared to their immediate surrounding areas via satellite, an even stronger statistical relationship emerged. In fact, 96.5% of the temperature variation observed by the satellite is explained by the ground data, with effectively zero error ($p < 0.001$). Unless otherwise noted, all subsequent temperature trends and historical comparisons in this report are derived from this validated regional signal.

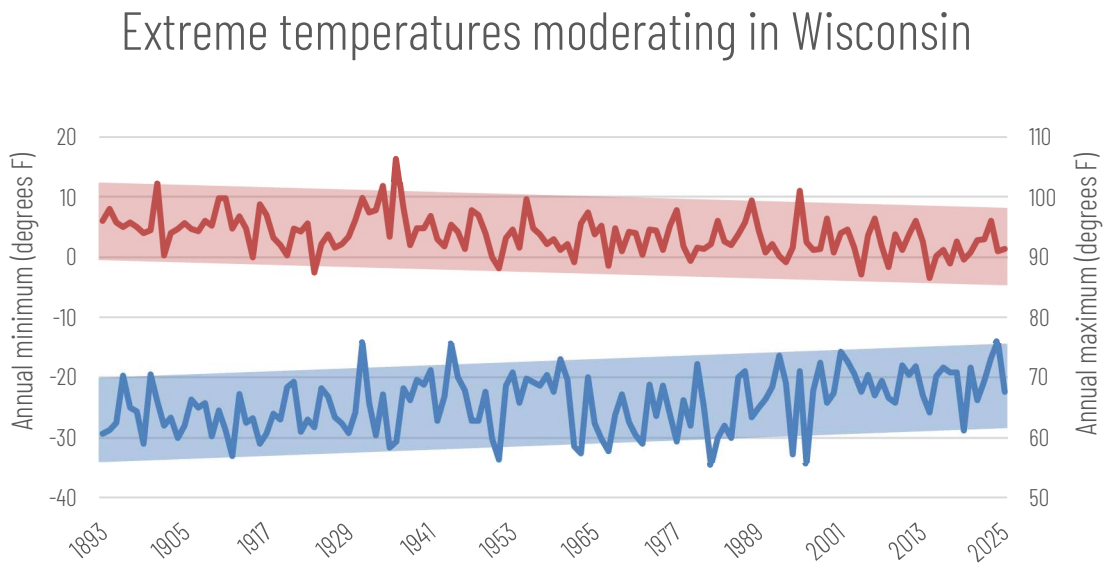
A Deeper Look at "Average" Temperature

While this report has established that there has been no statistically significant change in average temperature in rural Wisconsin, this doesn't mean temperature patterns haven't shifted.

The 2011 WICCI report, which utilized climate data from 1950 to 2006, projected a significant increase in thermal stress for the state, estimating that by 2050 Wisconsin would face "about one to four more weeks each year with daily high temperatures topping 90°F."[16]

However, the nineteen years of empirical data recorded since that report's cutoff date demonstrate that the predicted warming has not only failed to materialize but has moved in the opposite direction. Despite these trends, the 2020 Governor's Task Force on Climate Change doubled down on this projection, estimating a quadrupling in the number of hot days in Wisconsin by 2050.[17]

Figure 5



Source: NOAA (National Oceanic and Atmospheric Administration). 2025. "Past Weather: Wisconsin." National Centers for Environmental Information. Accessed February 3, 2026.

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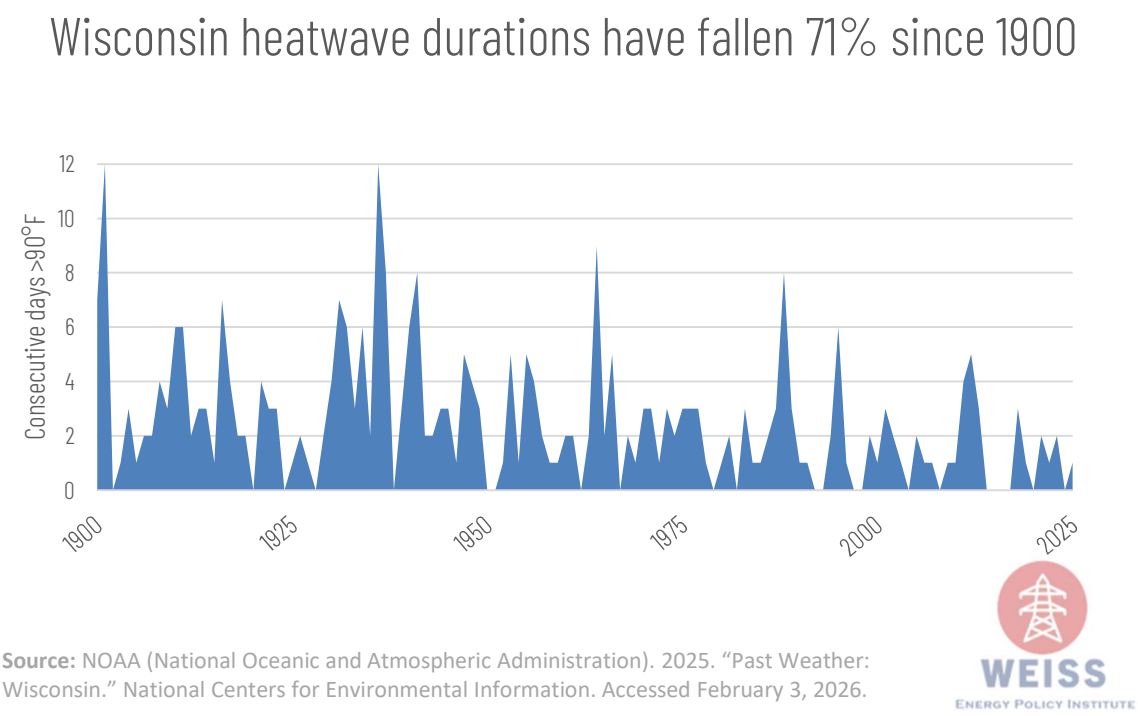
Over the period 2007-2025, the frequency of 90-degree days declined at a rate of 5.6 days per century. This recent pattern is part of a much larger trend that has persisted since the late 1800s, as displayed in figure 5.

In fact, since the late nineteenth century, the number of days topping 90°F has dropped significantly ($p < 0.001$), with typical summer peak temperatures sliding from 95.9°F down to 91.8°F. This shift means Wisconsin now sees 63% fewer 90-degree days than it did a century ago, averaging four fewer days of intense heat every summer.

Beyond the decline in the frequency of hot days, the duration of Wisconsin's heatwaves has also undergone a statistically significant collapse ($p < 0.001$). Today, the typical heatwave is 71% shorter than those recorded at the turn of the 20th century, marking a dramatic shift in the state's extreme weather patterns.

Figure 6



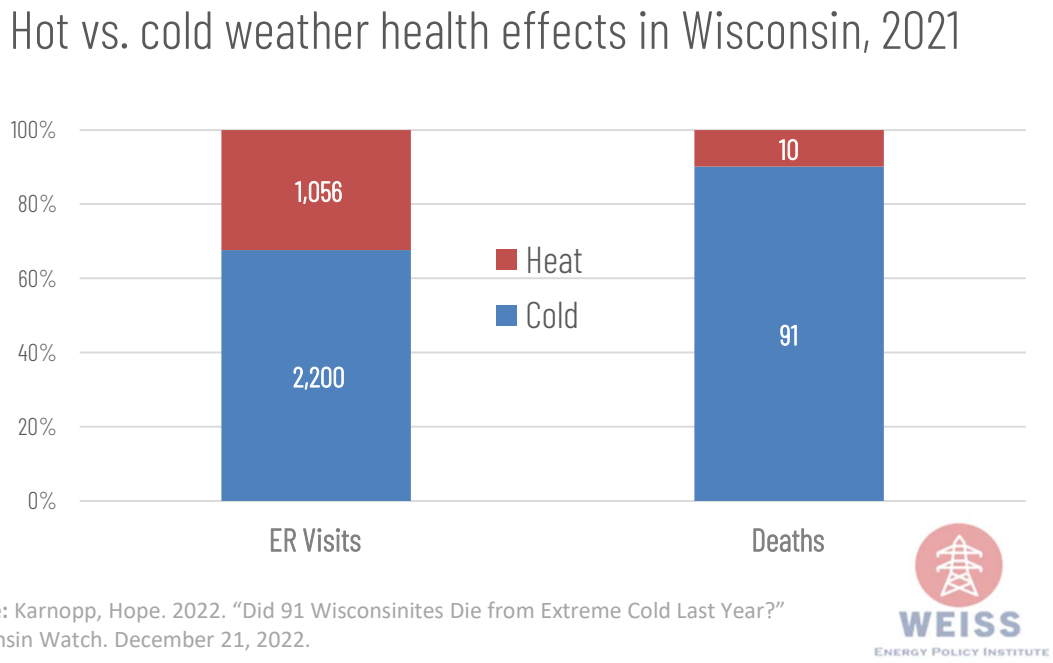
Source: NOAA (National Oceanic and Atmospheric Administration). 2025. "Past Weather: Wisconsin." National Centers for Environmental Information. Accessed February 3, 2026.

Extreme cold has also moderated. Since the beginning of the temperature record, annual frequency of nights below 0°F has decreased from 30.6 to 27.3 days per year, though this trend is statistically insignificant ($p = 0.34$). However, the coldest day of the year has warmed from -27.1°F to -21.5°F, a statistically significant trend ($p < 0.01$).

Wisconsin is no stranger to the cold; in fact, its residents live in a climate colder than 97.2% of the world's population. [18] Even as extremes moderate, today's typical annual low of -21.5°F remains far more lethal than the state's extreme heat. This danger was starkly illustrated in January 2026, when northern Wisconsin recorded wind chills as low as -56°F, capable of freezing exposed flesh in just five minutes. [19]

Within the state, the data reflects this disparity. In 2021, over nine times as many people were killed by extreme cold as by heat. Interestingly, this ratio of 9:1 cold-related deaths to heat-related deaths is well established in global epidemiological literature.[20]

Figure 7



Source: Karnopp, Hope. 2022. "Did 91 Wisconsinites Die from Extreme Cold Last Year?" Wisconsin Watch. December 21, 2022.

Historical context to temperature-induced thermal load

As this report provides important context to recent climate trends, this also applies to assessing temperature's effect on Wisconsin's long-term energy requirements. To achieve this, the report analyzes Heating Degree Days (HDD) and Cooling Degree Days (CDD)—the standard metrics used by utilities to estimate thermal load. These metrics measure

temperature departures from a comfortable baseline temperature of 65°F as a proxy for heating and cooling demand.

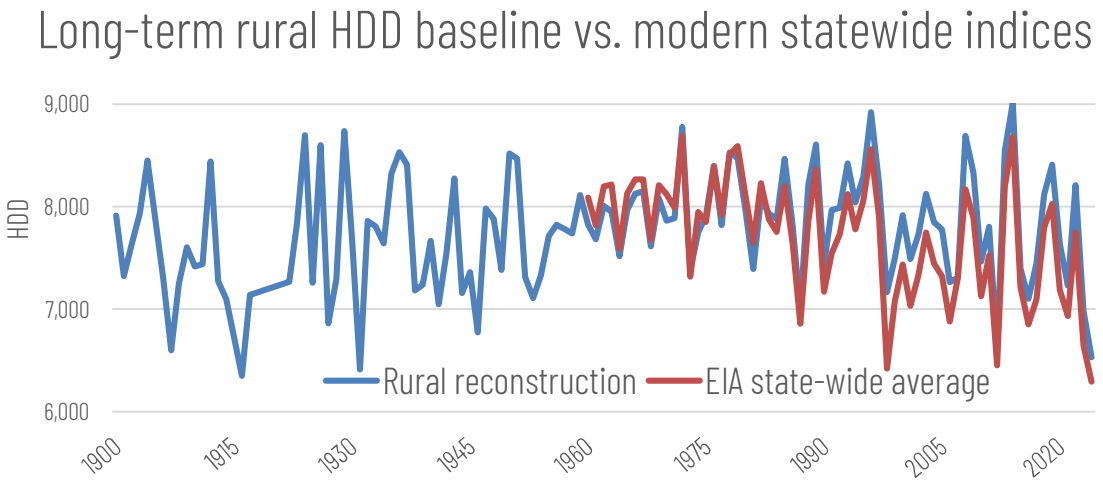
Standard energy indices of heating and cooling days from the Energy Information Administration (EIA) are currently limited to a post-1960 timeframe. While these records are a reliable modern baseline, they possess a significant limitation: they begin at a mid-century peak for heating demand and a relative valley for cooling demand. By starting at these volatility points, shortened datasets can inadvertently create the appearance of a false underlying climate trend.

To provide the necessary context, this report utilizes a manual reconstruction of rural thermal demand dating back to 1900. This 125-year perspective reveals that while the post-1960 trend in thermal demand is an observable reality, using a temporally constrained assessment could lead to misinformed perceptions of climate driven changes in thermal load.

EIA data indicate a significant reduction of 15.9 HDD per year ($p < 0.001$), meaning less heating demand. The full rural reconstruction, on the other hand, shows a nominal *increase* of 2.5 HDD per year ($p = 0.083$). This suggests that, since 1900, the local thermal load for heating has remained statistically unchanged and may even be following a subtle long-term increase.

Below is the reconstruction of the state's regional heating load requirements since 1900, alongside the EIA data. Higher HDD values indicate colder winters and increased heating requirements.

Figure 8



Source: National Centers for Environmental Information. "Past Weather: Wisconsin." National Oceanic and Atmospheric Administration. Accessed January 19, 2026. .U.S. Energy Information Administration. "Wisconsin Electricity Profile 2024." November 14, 2024. Accessed January 12, 2026.

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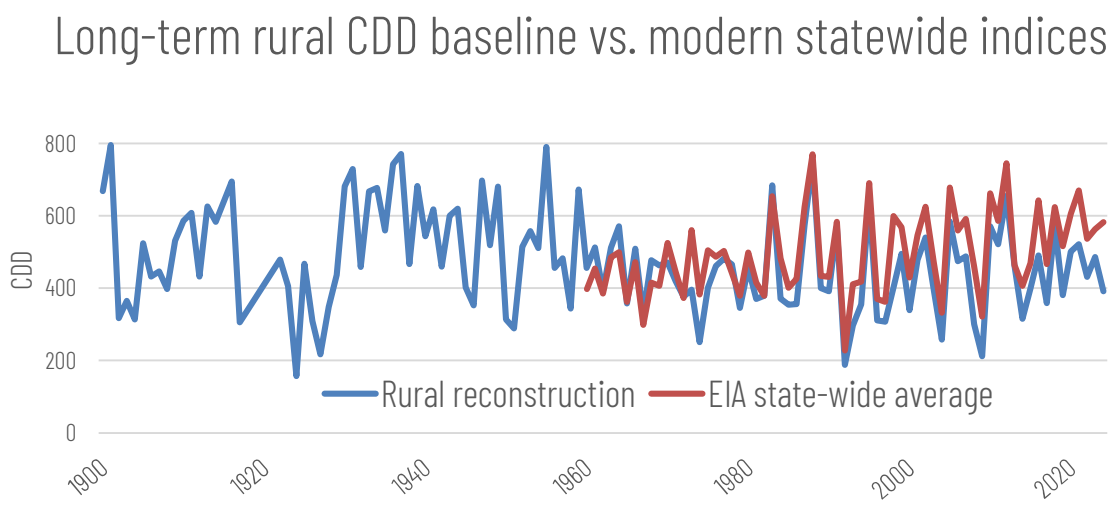
While heating requirements show long-term stability, Cooling Degree Days (CDD) reveal an even more stark difference between short-term indices and the full historical record.

EIA statewide data show a significant increase of 2.4 CDD per year ($p < 0.001$), meaning warmer summer months and therefore higher demand for cooling. The full record, however, reveals a statistically significant *decrease* of 0.8 CDD per year ($p = 0.023$) indicating cooler summer temperatures, and less demand for cooling.

Figure 9



Source: National Centers for Environmental Information. "Past Weather: Wisconsin." National Oceanic and Atmospheric Administration. Accessed January 19, 2026. .U.S. Energy Information Administration. "Wisconsin Electricity Profile 2024." November 14, 2024. Accessed January 12, 2026.

In summary, when the thermal demand horizon is expanded to include all available data, short-term trends prove unrepresentative. HDD reverses from a significant decline to a potential increase, while the CDD flips from a significant rise to a statistically significant decrease.

If trends in thermal demand are used to project climate driven changes in future energy demand, using short-term benchmarks may introduce a risk of miscalculating the long-term

energy requirements of the region. While this report does not attempt to project future energy demand, it provides a much more robust climate signal regarding thermal load trends.

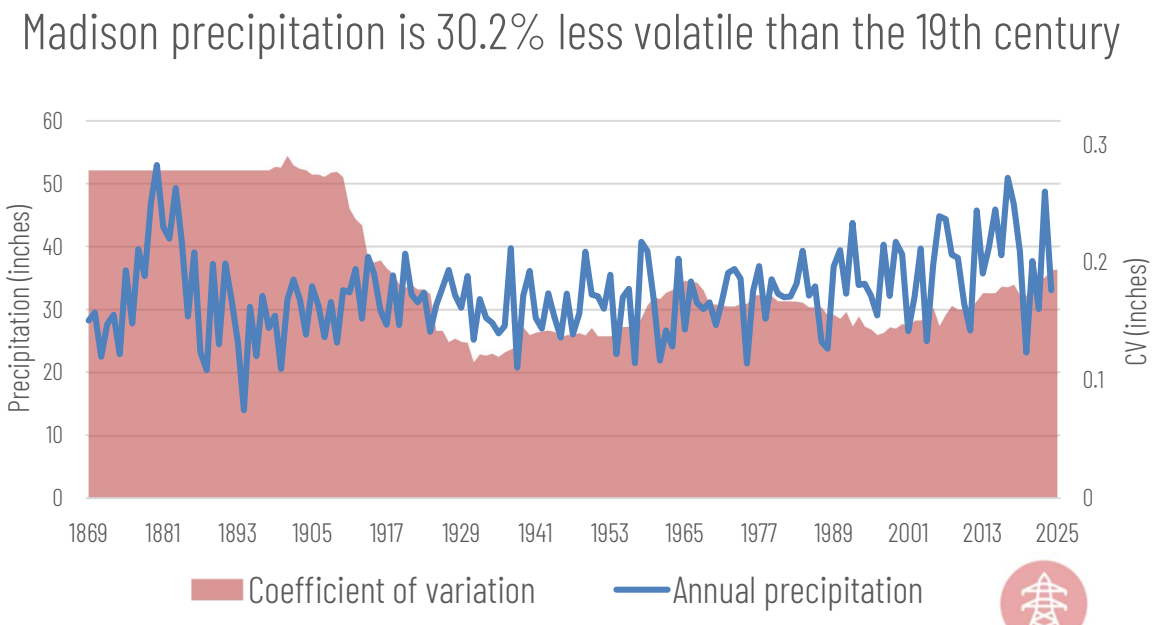
Precipitation Variability

The historical record of Madison's precipitation reveals a transition from an era of erratic 'boom-and-bust' cycles to a modern regime defined by high-volume stability.

The Wisconsin State Climatology Office shows an increase of 3.42 inches per century since 1869, receiving over 5 inches more today than in the late 19th century ($p < 0.01$).

To assess Madison's long-term volatility, this report employed the coefficient of variation (CV) to measure variability. The data shows a 30.2% decrease in relative volatility since the first 30 years of the record ($p < 0.02$). This indicates a 98.4% confidence level that the annual precipitation in Madison was fundamentally more volatile in the late 19th century than it is today. In fact, both the wettest and driest year in Madison history occurred just 14 years apart (1881 and 1895).[21]

Figure 10



Source: Wisconsin State Climatology Office. 2024. "Historical Madison Precipitation Data." July 25, 2024. Accessed January 12, 2026

While the total volume of precipitation is higher, the unpredictability of how much rain will fall in a given year has collapsed by nearly a third, moving the region toward a more consistent, high-moisture climate.

While annual totals provide the broad context of Wisconsin's shifting precipitation patterns, the specific character of this trend is best revealed by examining the frequency and behavior of extreme rainfall events.

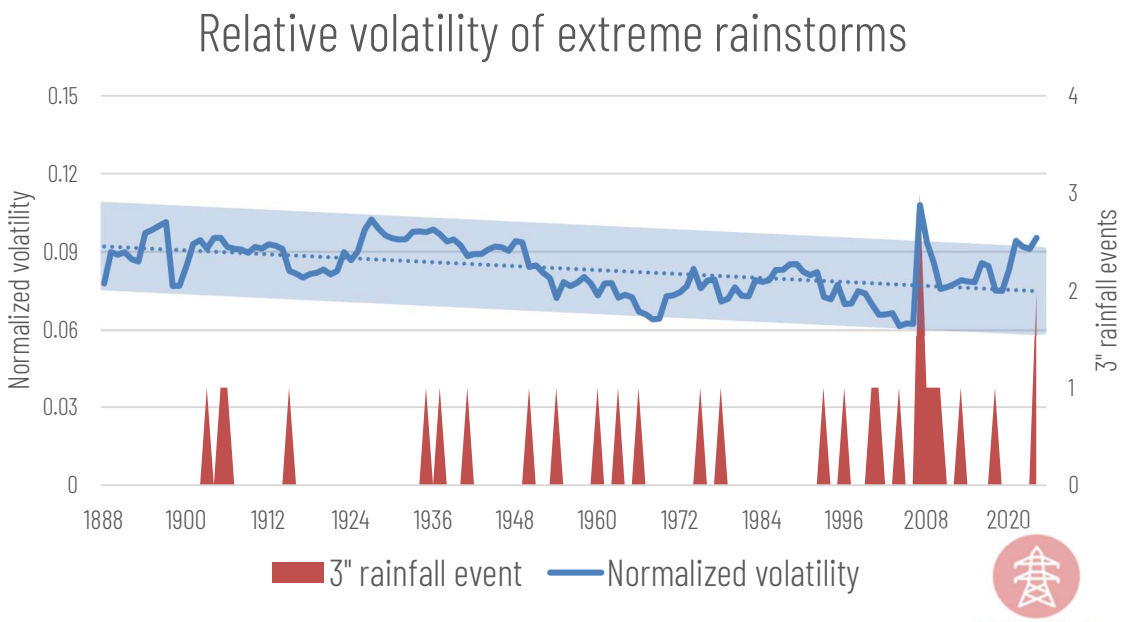
Extreme Rainfall

"Extreme" rain is relative to the climate. For example, in an arid climate like Yuma, Arizona, a 3-inch rainstorm represents Yuma's entire annual rainfall. Conversely, for Miami, Florida, that same 3-inch storm represents only about two weeks' worth of precipitation.[22] As this report has established, Wisconsin's annual precipitation baseline has increased significantly since the preindustrial era. As Wisconsin's long-term climate has nudged away from Yuma towards Miami in terms of annual precipitation, the definition of extreme rainfall changes.

Wisconsin now averages one 3-inch rainstorm every other year. By contrast, from 1869 to 1996, such storms occurred only once every five years on average. While this increased frequency provides vital data for agricultural insurance or municipal planning, the shift should not be viewed as an increase in climatic chaos; it is a natural statistical byproduct of the established increase in annual precipitation.

To quantify this phenomenon statistically, this report utilizes a standardized Index of Dispersion to calculate the relative volatility of extreme rainfall events while controlling for the volume bias of increasing annual totals.

Figure 11



Source: Wisconsin State Climatology Office. 2024. "Historical Madison Precipitation Data." July 25, 2024. Accessed January 12, 2026

This gives insight on whether the frequency of extreme events is disproportionately increasing, or if it is simply scaling in tandem with the rising annual baseline. When adjusted for the long-term trend in precipitation volume, the volatility of these large rainfall events has decreased significantly ($p < 0.01$).

Far from becoming more erratic, the relative volatility of high-volume storms remains well within the normal historical range. This suggests that Wisconsin is not witnessing a destabilization of its weather patterns, but rather a proportional scaling of rain events within a higher-capacity environment.

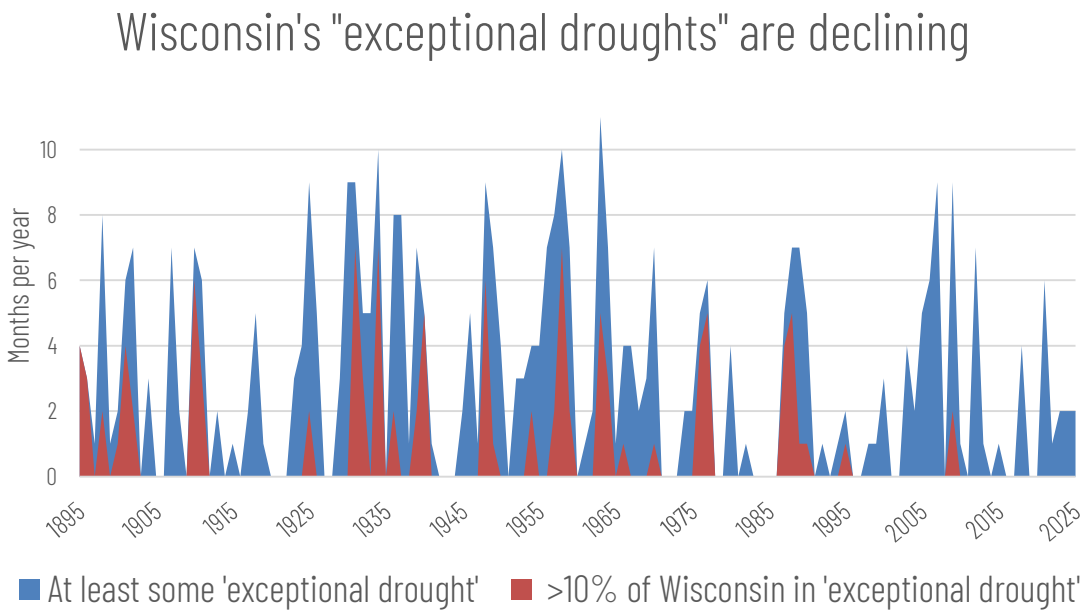
Drought

As the state's baseline for extreme precipitation has moved upward, the occurrence of its opposite—exceptional drought—has naturally contracted, showing a statistically significant downward trajectory since 1895. The 2011 WICCI report suggested that the 21st century would see "an increase in the likelihood of summer drought."[23] However, during the nineteen years of data following the WICCI projection, exceptional drought has *decreased* at a

rate of 1.57 days per decade. This decline in drought is not a recent development in Wisconsin.

Over the full historical record from 1895 to 2025, Wisconsin has seen a measurable decline in the frequency of its most severe drought conditions. Widespread drought, defined as periods where at least 10% of the state's land area is affected, has decreased by 2.6 days per decade, a statistically significant decline ($p < 0.03$). Localized pockets of exceptional droughts have decreased by 3.18 days per decade, though this is not statistically significant ($p = 0.14$).

Figure 12



Source: Wisconsin State Climatology Office. "Drought in Wisconsin." Accessed January 12, 2026.

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These broader trends are highlighted by notable historical periods, such as the 1950s, which averaged 5.0 months of exceptional drought per year. By the most recent full decade (2010s) that average had dropped to 1.4 months.

For additional historical context, the driest autumn in Wisconsin history occurred in 1871. On a warm and windy 80-degree day, October 8, the deadliest wildfire in American history

broke out in Peshtigo, WI.[24] Over 1,200 lives were lost, far more deadly than the Chicago fire which happened on the same day with about 300 lives lost. Large wildfires also struck Michigan. In all, perhaps 2,000 Americans lives were lost to wildfire in this region in 1871.

While Wisconsin still experiences localized exceptional drought at a rate similar to the past, the frequency of widespread, large-scale exceptional drought events has significantly declined since 1895.

Tornadoes

The 2021 WICCI report warns that extreme storms will become significantly more frequent by the end of the century. This report analyzes trends in Wisconsin's most extreme weather phenomenon: tornadoes.

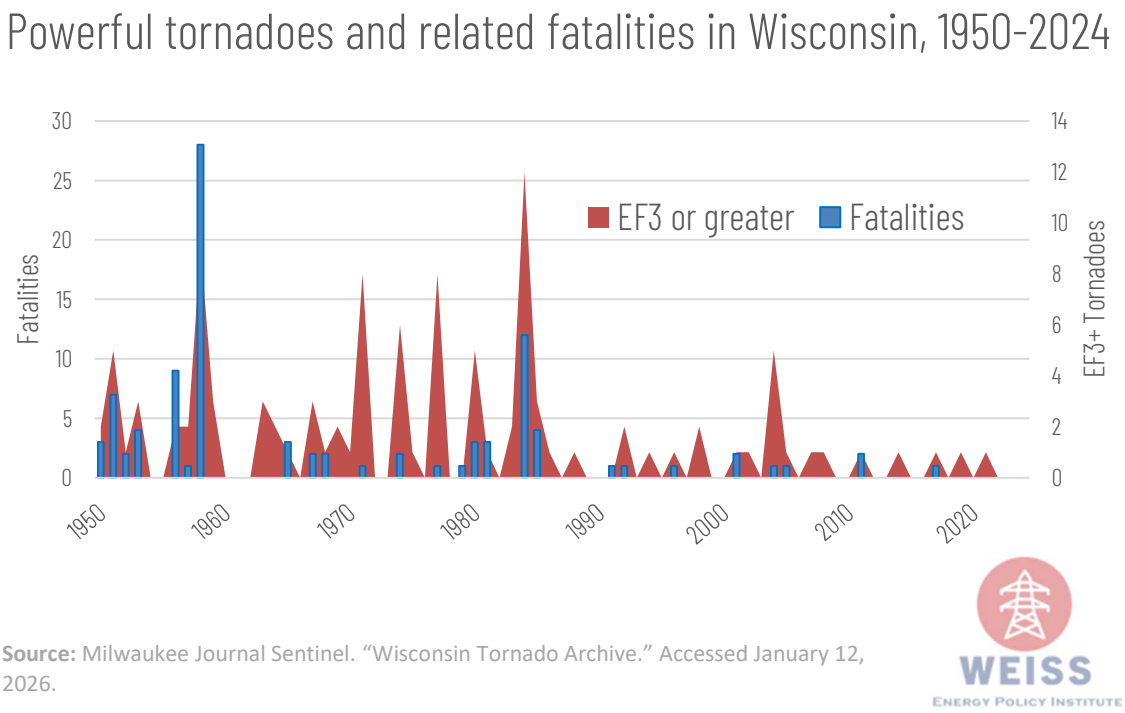
On the surface, the aggregate tornado count in Wisconsin appears to show a massive 52% increase since 1950. However, as NOAA notes, this is almost entirely an artifact of the observation record, specifically the undercounting of weak EF0 and EF1 tornadoes prior to the widespread use of Doppler radar in the late 1990s.[25] Because these smaller storms often went undocumented in sparsely populated areas, the raw "total count" creates a misleading appearance of an increasing trend.

To better understand the true variability and trend in tornado frequency, NOAA recommends analyzing the total number of strong-to-violent tornadoes (EF3 to EF5).

This report utilized a Mann-Whitney U Test to determine with 99.5% certainty that violent tornado frequency has undergone a long-term decline, with a 71.4% decrease since the mid-20th century baseline. At the same time, variability in powerful tornadoes has also significantly decreased by 61.7% ($p < 0.01$).

In addition to fewer major tornadoes, modern warning systems have also contributed to fewer fatalities. Tornado survival rates have significantly improved ($p < 0.01$). From 1950 to 1979, there were 1.05 fatalities per significant tornado. From 1996 to 2024, there were only 0.44 fatalities per significant tornado, a 57% reduction in lethality, with overall fatalities reduced by 87.9%.

Figure 13



Source: Milwaukee Journal Sentinel. "Wisconsin Tornado Archive." Accessed January 12, 2026.

The decline in both strong tornado frequency and lethality demonstrates that Wisconsin's severe weather risk has decreased, not increased, since the mid-20th century.

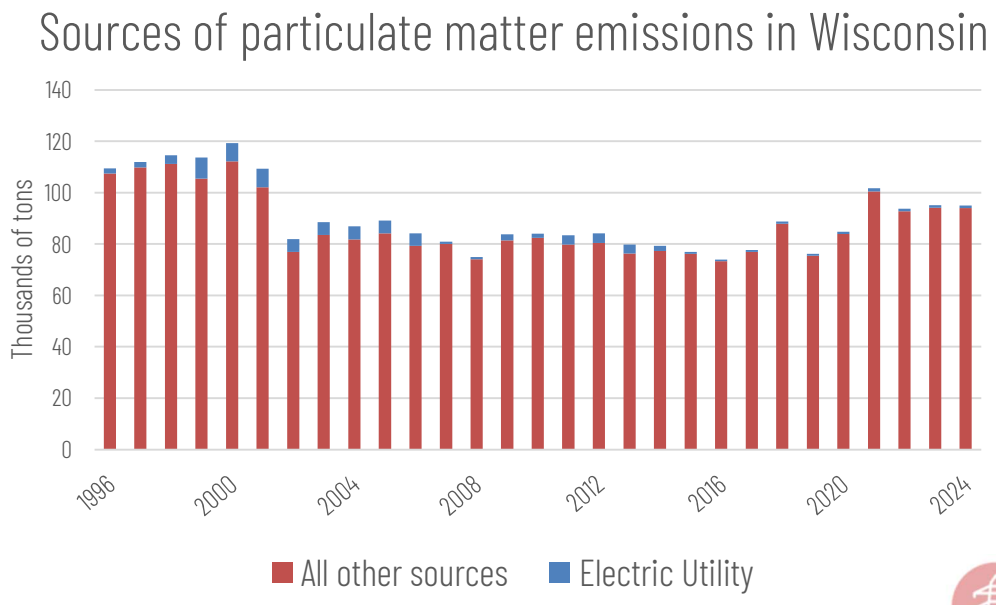
Air Pollutants

While the climate data show no trend toward increased extreme weather, critics of fossil fuel energy often point to a more immediate concern: local air pollution. Particulate matter and nitrogen oxides (NOx) from combustion are tangible pollutants with direct health impacts. If Wisconsin's energy transition is justified by protecting residents from harmful emissions, the state's air quality trends become a critical data point. Particulate matter consists of microscopic airborne particles from smoke, vehicle exhaust, the power sector, and even tire wear from driving on the highway.

Electric utilities, specifically thermal generation, have become the primary focus of regulatory scrutiny regarding state air quality. However, according to the EPA, far less than 1% of all particulate matter pollution in Wisconsin comes from electric utilities, including

coal. In fact, more particulate matter is emitted from tires on the highway than from all electricity generation in Wisconsin.[26]

Figure 14

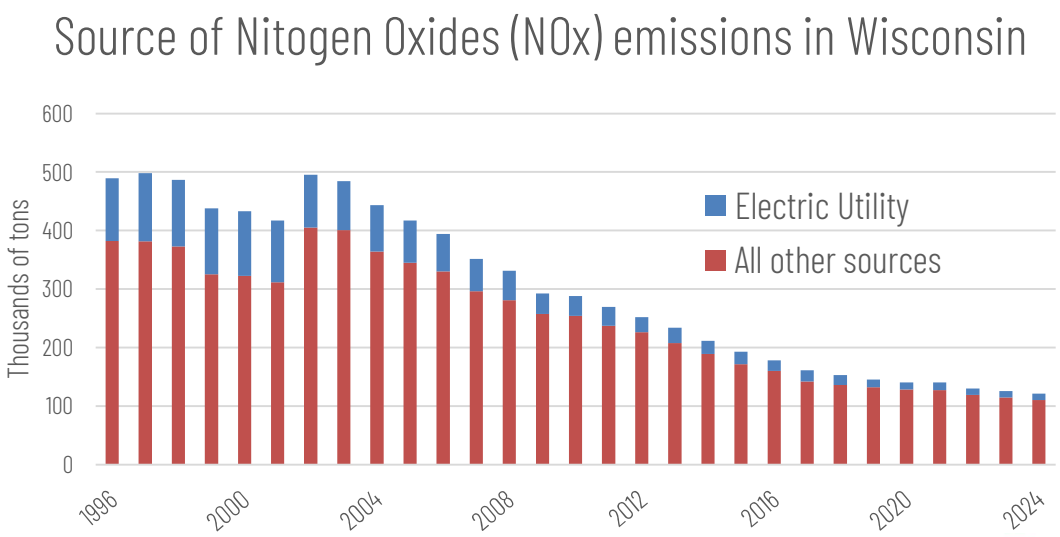


Source: U.S. Environmental Protection Agency. 2025. "Air Pollutant Emissions Trends Data." February 2025. Accessed January 20, 2026.

In addition to solid particulates, NO_x is often cited as a primary concern in the debate over utility regulation. However, just as with particulate matter, the actual data on NO_x emissions reveals a significant disparity between perceived utility output and the primary contributors to Wisconsin's air quality.

Although current policy is forcing coal to shut down, modern coal plants generate more power with 99.8% less particulate matter, and 83% less NO_x than older units.[27]

Figure 15



Source: U.S. Environmental Protection Agency. 2025. "Air Pollutant Emissions Trends Data." February 2025. Accessed January 20, 2026.

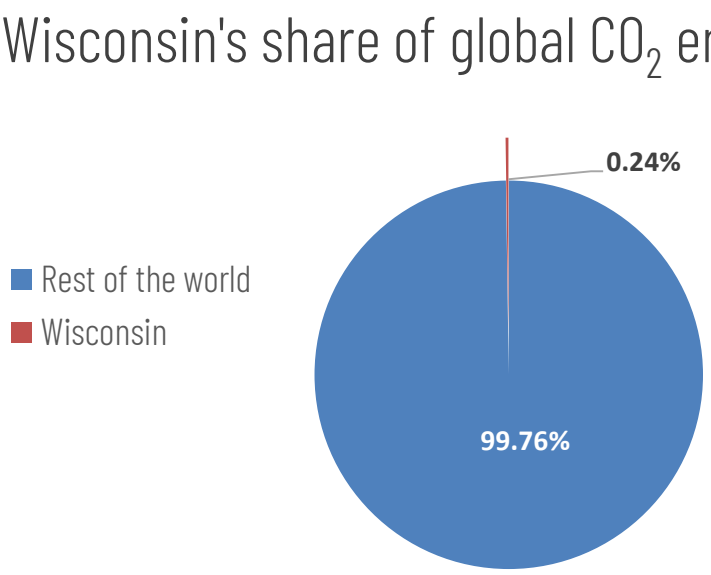
Wisconsin's air quality has improved steadily for decades, achieving a historic decoupling of energy production from environmental impact. As the data illustrates, the state's air pollutants continue to decline, suggesting that the primary drivers of pollution have already been effectively addressed by existing technological advancements.

Wisconsin climate trends vs. atmospheric CO2 levels

Carbon dioxide (CO_2) is a trace gas in the atmosphere. In 1895, EPA estimates that global CO_2 concentration was 295 parts per million, or 0.0295% of the atmosphere.[28] Today, it makes up about 0.0427% of the atmosphere, a 45% increase.

Wisconsin's carbon emissions peaked at 110.8 million metric tons per year in 2005 and have been generally decreasing since then. Despite the state reducing its emissions by nearly 25 million metric tons per year (a 22.2% decrease), global emissions have increased by 8.9 billion metric tons per year – over one 100 times Wisconsin's entire annual carbon footprint.[29] In fact, Wisconsin's 2023 carbon emissions made up less than 0.25% of global emissions.

Figure 16



Source: "U.S. Energy Information Administration - EIA - Independent Statistics and Analysis." 2025. Eia.gov. 2025., Liu, Zhu, Zhu Deng, Steven J. Davis, and Philippe Ciais. 2024. "Global Carbon Emissions in 2023." Nature Reviews Earth & Environment

Figure 16 demonstrates that even if CO_2 caused negative weather outcomes, Wisconsin's ability to adapt to changes in climate far surpasses its ability to affect it. If rising atmospheric CO_2 concentration were the driver of weather extremes in Wisconsin, one might expect to find a positive correlation between the two. However, this analysis of regional climate data reveals the opposite.

Since 1895, as atmospheric CO_2 concentration increased by 45%, this report found statistically significant *decreases* in days over 90°F, extreme cold, heatwave duration, powerful tornado frequency, and extreme drought.

Before Wisconsin commits to high-cost mitigation strategies on the premise of a carbon-driven crisis, it is essential to establish an empirical baseline. This report identifies that for every 100 ppm increase in atmospheric CO_2, the data reveals significant reductions in extreme weather frequency and intensity, as detailed in the table below:

Table 1

Climate Metric	Change per 100 ppm increase in CO2	Statistical Significance
Days over 90°F	4.9 fewer days per year	$p < 0.001$
Annual Max Temp	3.05°F cooler	$p < 0.001$
Heatwave Duration	2.11 days shorter	$p < 0.001$
Powerful Tornadoes	2.15 fewer storms per year	$p < 0.01$
Drought Duration	1.1-month reduction	$p < 0.01$

The strength of these negative correlations ($p < 0.001$ to $p < 0.01$) indicates with high statistical confidence that CO_2 levels do not positively correlate with these extreme weather metrics in Wisconsin. Furthermore, atmospheric levels of CO_2 had no statistical association with average rural temperature ($p = 0.744$) over the 130-year test period.

While these findings do not identify what *is* driving the observed climate stabilization in Wisconsin, they do demonstrate that any effect of CO_2 on intensifying weather extremes in this region is either absent, negligible, or being overwhelmed by other factors during this period. Wisconsin climate data does not support CO_2 being a dominant driver of extreme weather trends over the timeframe studied from 1893 - 2025.

Wisconsin's energy policy rests on the premise that reducing carbon emissions will mitigate extreme weather events that threaten the state's residents. The state has committed to eliminating reliable baseload power and transitioning to intermittent sources based on a climate crisis determination that is not supported by 130 years of temperature, precipitation, and extreme weather data.

As established earlier in this report, this transition has destabilized Wisconsin's grid while surging industrial demand requires maximum reliability. The monopoly structure forces ratepayers to fund both this costly transition and the infrastructure for new industrial users with no benefit to Wisconsin residents. The absence of a rational connection between Wisconsin's carbon reduction actions and measurable improvements in local climate conditions undermines the statutory basis for current energy policy.

With the climate justification dismantled, Wisconsin's energy policy should allow the most suitable technologies to meet baseload demand based on reliability and cost. This includes removing restrictions on hydrocarbons (and nuclear) while creating an alternative regulatory pathway for new industrial demand that protects ratepayers and ensures grid stability.

Historical Foundations of the Monopoly Model

After making history in 1882 for opening one of the nation's first commercial electric power plants, Wisconsin expanded its generating capacity to power municipal lighting and the electric motors driving industrial machinery.[30]

By the turn of the century, electricity demand in Milwaukee had grown substantially. Multiple electric companies were competing for market share, creating a web of redundant transmission infrastructure across the city. This proliferation of duplicate systems led some utilities to argue that the electric power sector was a "natural monopoly" because a single provider would be more efficient and cost-effective.

However, economist Thomas DiLorenzo argued that this redundancy problem stemmed not from market failure, but from government failure to properly price the use of public thoroughfares for utility infrastructure. With market-priced access to public land, duplicative infrastructure would only occur if "freely-choosing individuals value the extra service or lower prices or both more highly than the cost imposed on them by the inconvenience of a temporary construction project on their property."[31] In other words, duplication would only occur when consumers found it worthwhile.

Rather than address the underlying issue of mispriced public land access, the utilities pursued a different solution: eliminating competition by granting themselves monopoly status. Utilities successfully lobbied state government for regulatory protection, which shielded them from pressure by local consumer groups while enabling higher profit margins.

In 1907, Wisconsin passed its landmark Public Utilities Law, which transformed its existing Railroad Commission into a powerful regulator for electricity.[32] The law established "certified territory" granting utilities the exclusive right to be the sole provider in a specific area. While businesses or individuals can install their own generators for supplemental

power, third-party companies are prohibited from selling electricity to customers within another utility's certified territory.

This shift from local to state-level regulation had measurable economic consequences. Economist Gregg Jarrell found that states which moved utility regulation from local to state control between 1912 and 1917 saw electricity prices increase 46%, profits 38%, while output decreased 23%.[33]

To make sure these monopolies remained solvent, the government allowed them to charge rates sufficient to cover their operating costs plus a guaranteed rate of return on any capital they invested. The Wisconsin Supreme Court and later the US Supreme Court upheld this monopoly framework. Wisconsin and most of the United States still operate under this regulatory structure over a century later.

This system was fundamentally designed to protect utilities' profits, not consumers' access to affordable energy. The rate-of-return model guaranteed profits regardless of efficiency, while certified territories eliminated competition. As noted earlier, a third-party power producer cannot sell power directly to an industrial consumer without violating the territory of these monopolies. This framework discourages innovation and shifts the cost and risk of the state's energy experiments from innovative entrepreneurs to ratepayers.

By forcing all progress through this single, rigid channel, the state has effectively traded its spirit of innovation for a system that is now struggling to keep the lights on. The solution proposed in this report does not seek to abolish the monopoly framework. Instead, it proposes an alternative pathway alongside it— allowing competitive investment to serve new industrial electricity demand while freeing the legacy grid to prioritize reliability over carbon content.

Solutions and Consumer-Regulated Electricity

This analysis has established that Wisconsin's energy crisis stems from two compounding failures in the face of rising demand: climate-based policy that forces a transition to unreliable sources without empirical justification, and a century-old monopoly structure incapable of responding to surging demand at the pace required. Two straightforward reforms can address both.

First, remove technology-based restrictions on the legacy grid. Given that climate crisis projections lack a foundation in Wisconsin's historical data, the state should remove its renewable portfolio standard and allow utilities to select baseload power sources based on reliability and cost rather than carbon content. The state should also remove any taxpayer-funded subsidies for commercial energy production (including hydrocarbon and nuclear) to level the playing field across technologies. The regulated monopoly system can continue serving residential and commercial customers, freed from mandates that compromise grid stability.

Second, the state should pass **Consumer-Regulated Electricity** (CRE) legislation. This framework would allow privately financed electric utilities to operate outside the traditional regulatory system, generating, transmitting, and selling electricity directly to customers under voluntary contracts without interconnecting to the existing regulated grid or seeking permission from regulators.[34]

Key Benefits of CRE:

- **Relieves pressure on the legacy grid** - CRE frees the regulated system from accommodating risky, uncertain projects while ensuring existing ratepayers pay nothing for new infrastructure.
- **Protects grid reliability** – If "islanded" systems fail, they are contained without cascading across the existing grid.
- **Speed and innovation** - CRE utilities move at the pace of private capital rather than regulatory approval.

- **Economic development without subsidies** - States can attract industry through enabling legislation rather than tax credits or public infrastructure spending.

Rather than replacing incumbent utilities, CRE serves as a "pressure-release valve" for Wisconsin's grid. It manages the risky, large-scale energy demands that the existing infrastructure was never built to sustain. If CRE legislation is passed, it does not prevent the current system from powering new datacenters, but it establishes a streamlined alternative for innovative energy providers to meet specialized demand.

A Consumer-Regulated system would allow energy supply to move at the rate investment comes to Wisconsin. The state would have a competitive advantage in the Midwest by saving large power users time and uncertainty in their investment in the state. Along with energy abundance and affordability will come a secondary wave of investment as energy-dependent industries migrate to Wisconsin.

Unlike current heavy-handed legislative proposals like AB 472, which uses taxpayer-funded subsidies to attract new investment, CRE makes Wisconsin's regulatory environment instantly more valuable to energy investors by offering what they actually need: speed to market and freedom from regulatory delays.

To implement CRE in Wisconsin, the state must exempt islanded utilities serving new nonresidential customers from the definition of a public utility. The American Legislative Exchange Council has a model policy that provides a template for states.[35] In addition, organizations such as Advocates for Consumer-Regulated Electricity assist states in drafting CRE legislation.[36]

Several states are already implementing CRE principles through legislation that allows large customers to build independent, off-grid power systems. New Hampshire led the way in 2025, followed by similar legal pathways in Ohio, West Virginia, Oklahoma, and Utah. Following these state-level successes, Wisconsin has a clear roadmap.

If implemented, CRE will unleash the American spirit of entrepreneurship and innovation to power Wisconsin's growth. Combined with restoring reliability and affordability to the legacy grid, Wisconsin will secure its energy future.

Conclusion

Wisconsin's energy landscape is currently on an unsustainable trajectory driven by surging industrial demand, a rigid monopoly structure, and climate-driven policies that prioritize intermittent energy over grid stability. This analysis demonstrates that the climate justifications for these policies lack an empirical foundation, and that the monopoly framework forces ratepayers to bear the full cost and risk of these unproven strategies.

Data show Wisconsin's climate is becoming more stable, evidenced by a sharp decline in extreme heat days, heatwave duration, and significant decreases in powerful tornadoes and droughts—all while precipitation variability has moderated since its peak in the late 1800s. Furthermore, the historical record indicates that while Wisconsin's cities have warmed due to the Urban Heat Island effect, rural temperatures have remained largely unchanged. Despite the lack of basis, the state continues to sacrifice grid reliability and impose substantial costs on families to address a crisis that the historical record does not support.

In the face of unprecedented energy demand, the weakened grid is served by a century-old monopoly model that allows utilities to shift the massive infrastructure costs of new data centers onto residential ratepayers. This forces families to pay rising rates for a less reliable grid while subsidizing power-hungry industrial facilities. With energy shortages projected as early as 2028, the current policy regime serves neither residential ratepayers nor industrial growth.

To restore stability, Wisconsin must pursue two simple reforms. First, remove climate-related restrictions on hydrocarbon generation for the legacy grid. This allows utilities to prioritize reliability and cost-effectiveness, reducing the economic burden of overbuilding intermittent sources of energy. Second, establish a Consumer-Regulated Electricity framework as a parallel pathway for new industrial demand. By allowing large consumers to finance and operate their own islanded power systems with private capital, Wisconsin can shield residential ratepayers from infrastructure costs while attracting industrial investment at the speed of innovation, not government bureaucracy.

Endnotes

[1] North American Electric Reliability Corporation, *2025 Long-Term Reliability Assessment* (Atlanta: North American Electric Reliability Corporation, January 2026), https://www.nerc.com/globalassets/our-work/assessments/nerc_ltra_2025.pdf.
[2] Energuide. "Why Does the Electricity Grid Have to Stay in Balance?" Accessed February 11, 2026. https://www.energuide.be/en/questions-answers/why-does-the-electricity-grid-have-to-stay-in-balance/2136/.
[3] Badger Institute. "How Much Electricity Various Fuels Actually Produce." August 8, 2024. https://www.badgerinstitute.org/numbers/how-much-electricity-various-fuels-actually-produce/.
[4] SYSO Technologies. "MISO 2025 Auction: Record Prices and Reliability Shifts." May 16, 2025. https://www.sysotechnologies.com/2025/05/15/miso-2025-2026-capacity-auction-results/.
[5] "ArcGIS Dashboard." Accessed February 11, 2026. https://www.arcgis.com/apps/dashboards/591b44aa8dd144719e059a39cb625c99.
[6] Evers, Tony. *Executive Order #38 Relating to Clean Energy in Wisconsin*. Madison, WI: Office of the Governor, August 16, 2019. https://evers.wi.gov/Documents/EO%20038%20Clean%20Energy.pdf.
[7] State of Wisconsin. *Governor's Task Force on Climate Change Report*. Madison, WI: State of Wisconsin, December 2020. https://climatechange.wi.gov/Documents/Final%20Report/GovernorsTaskForceonClimateChangeReport-LowRes.pdf.
[8] Wisconsin Initiative on Climate Change Impacts. *2021 Assessment Report: Wisconsin's Changing Climate: Impacts and Solutions for a Warmer Climate*. Madison: University of Wisconsin–Madison, 2021. https://wicci.wisc.edu/2021-assessment-report/.
[9] Kaeding, Danielle. "Minnesota Utility Says It Won't Buy from Planned $1B Power Plant in Wisconsin." Wisconsin Public Radio, December 22, 2025. https://www.wpr.org/news/minnesota-utility-nemadji-trail-energy-center-wisconsin.
[10]RENEW Wisconsin. "Solar Farms." Accessed February 11, 2026. https://www.renewwisconsin.org/solarfarms/.
Schulz, Joe. "Federal Budget Bill Could Raise Wisconsin Energy Costs, Threaten Renewable Energy Jobs." Wisconsin Public Radio, July 3, 2025. https://www.wpr.org/news/federal-budget-bill-could-raise-wisconsin-energy-costs-threaten-renewable-energy-jobs.
[11] Ascheman, Mara K. *Direct Testimony*. Docket No. 4220-UR-127. Wisconsin Public Service Commission, March 31, 2025. PSC REF# 539705. https://apps.psc.wi.gov/ERF/ERFview/viewdoc.aspx?docid=539705.
[12] Wisconsin Initiative on Climate Change Impacts. "Wisconsin's Climate: Past and Future." Chapter 1 in *Wisconsin's Changing Climate: Impacts and Adaptation*. Madison: University of Wisconsin–Madison Nelson Institute for Environmental Studies, 2011. https://wicci.wisc.edu/wp-content/uploads/2019/12/2011-wicci-report-chapter-1.pdf.
[13] U.S. Environmental Protection Agency. "Learn About Heat Island Effects." Last updated April 2, 2025. https://www.epa.gov/heatislands/learn-about-heat-island-effects.
[14] Schatz, Jason, and Christopher J. Kucharik. "Urban Climate Effects on Extreme Temperatures in Madison, Wisconsin, USA." *Environmental Research Letters* 10, no. 9 (2015): 094024. https://doi.org/10.1088/1748-9326/10/9/094024.
[15] Antigo, Rhinelander, Shawano, Neillsville, and Lancaster WI
[16] Wisconsin Initiative on Climate Change Impacts. "Wisconsin's Climate: Past and Future." Chapter 1 in *Wisconsin's Changing Climate: Impacts and Adaptation*. Madison: University of Wisconsin–Madison Nelson Institute for Environmental Studies, 2011. https://wicci.wisc.edu/wp-content/uploads/2019/12/2011-wicci-report-chapter-1.pdf.
[17]State of Wisconsin. *Governor's Task Force on Climate Change Report*. Madison, WI: State of Wisconsin, December 2020. https://climatechange.wi.gov/Documents/Final%20Report/GovernorsTaskForceonClimateChangeReport-LowRes.pdf.
[18] Trading Economics. "Average Temperature by Country." Accessed February 11, 2026. https://tradingeconomics.com/country-list/temperature.

[19] Wisconsin State Climatology Office. "Arctic Blast of January 22-25, 2026." Accessed February 11, 2026. https://climatology.nelson.wisc.edu/arctic-blast-of-january-2026/.
[20] Alahmad, Barrak, Aurelio Tobias, Pierre Masselot, and Antonio Gasparrini. "Are There More Cold Deaths Than Heat Deaths?" *The Lancet Planetary Health* 9 (2025). https://doi.org/10.1016/S2542-5196(25)00054-3.
[21] Wisconsin State Climatology Office. "Historical Madison Precipitation Data." Accessed February 11, 2026. https://climatology.nelson.wisc.edu/first-order-station-climate-data/madison-climate/historical-precipitation/.
[22] https://www.usclimatedata.com/climate/miami/florida/united-states/usfl0316
[23] https://wicci.wisc.edu/wp-content/uploads/2019/12/2011-wicci-report-chapter-1.pdf
[24] National Weather Service, Chicago Weather Forecast Office. "150th Anniversary of the Great Chicago Fire of 1871." October 8, 2021. https://www.weather.gov/lot/1871fire.
Wisconsin State Climatology Office., "Historical Madison Precipitation Data." Accessed February 11, 2026. https://climatology.nelson.wisc.edu/first-order-station-climate-data/madison-climate/historical-precipitation/.
[25]National Centers for Environmental Information. "U.S. Tornadoes: Patterns." Accessed February 11, 2026. https://www.ncei.noaa.gov/access/monitoring/tornadoes/patterns.
[26] *U.S. Environmental Protection Agency. "Air Pollutant Emissions Trends Data." Last updated April 28, 2025. https://www.epa.gov/air-emissions-inventories/air-pollutant-emissions-trends-data.*
[27] Institute for Energy Research. "Cleaned-Up Coal and Clean Air: Facts About Air Quality and Coal-Fired Power Plants." November 21, 2017. https://www.instituteforenergyresearch.org/uncategorized/cleaned-coal-clean-air-facts-air-quality-coal-fired-power-plants/.
[28] U.S. Environmental Protection Agency. "Climate Change Indicators: Atmospheric Concentrations of Greenhouse Gases." Last updated October 23, 2020. https://19january2021snapshot.epa.gov/climate-indicators/climate-change-indicators-atmospheric-concentrations-greenhouse-gases_.html.
[29] U.S. Energy Information Administration. "Total CO2 Emissions Estimates from Energy Consumption by Source, 1960-2023, Wisconsin." In *State Energy Data System 2023: CO2 Emissions*. https://www.eia.gov/state/seds/sep_co2/total/pdf/co2_WI.pdf.
[30] Devine WD. From Shafts to Wires: Historical Perspective on Electrification. *The Journal of Economic History*. 1983;43(2):347-372. doi:10.1017/S0022050700029673
[31] Thomas J. DiLorenzo, "The Myth of Natural Monopoly," *The Review of Austrian Economics* 9, no. 2 (1996): 43-58, https://cdn.mises.org/rae9_2_3_3.pdf.
[32] Wisconsin Historical Society. "Electrical Power: How Wisconsin Became an Electrical Pioneer." Accessed February 11, 2026. https://www.wisconsinhistory.org/Records/Article/CS427.
Davis, Earl. "Essays on Electricity Regulation and Restructuring." PhD diss., Clemson University, 2007. https://open.clemson.edu/cgi/viewcontent.cgi?article=1136&context=all_dissertations.
[33] Thomas J. DiLorenzo, "The Myth of Natural Monopoly," *The Review of Austrian Economics* 9, no. 2 (1996): 43-58, https://cdn.mises.org/rae9_2_3_3.pdf.
[34] Fisher, Travis. "The Case for Consumer-Regulated Electricity: Private Electricity Grids Offer a Parallel Path to Energy Abundance." Briefing Paper No. 196. Washington, DC: Cato Institute, February 3, 2026. https://www.cato.org/briefing-paper/case-consumer-regulated-electricity-private-electricity-grids-offer-parallel-path.
[35] American Legislative Exchange Council. "Act to Allow for Consumer-Regulated Electric Utilities." Model policy. Finalized January 6, 2026. https://alec.org/model-policy/act-to-allow-for-consumer-regulated-electric-utilities/.
[36] Advocates for Consumer-Regulated Electricity. "About." Accessed February 11, 2026. https://www.advocates4cre.org/.