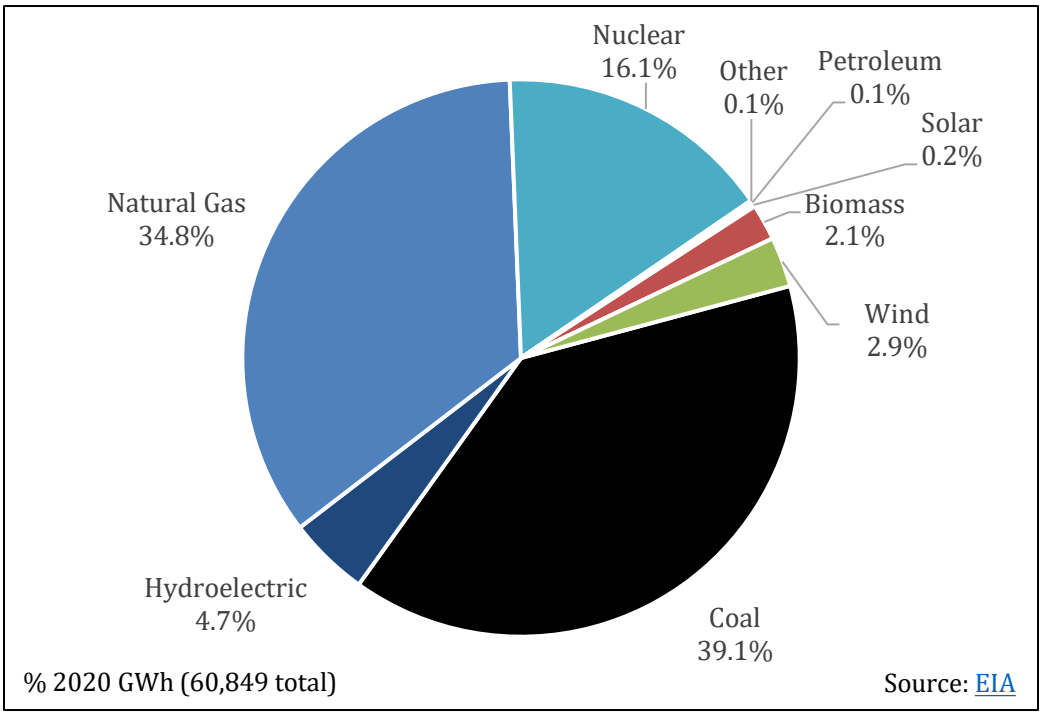
State Brief: Wisconsin

BACKGROUND

Wisconsin's Net Annual Electric Generation, 2020



% 2020 GWh (60,849 total) Source: EIA

In 2020, approximately 39.1% of Wisconsin's net electric generation was fueled by coal, compared to 49.5% in 2018. The state, lacking fossil fuel resources of its own, imports most of its coal from Wyoming. A 2019 Coal Cost Crossover study by Energy Innovation concluded that out of Wisconsin's eight power plants, six are uneconomic, and local renewables (wind and solar) cost less than running coal. Four of the six plants identified as uneconomic have been or are set to retire by 2025.

The Badger State has ample biomass resources, supplied in large part, by the state's forests and agricultural sector. The state is one of the top 10 ethanol producing states in the nation. Wisconsin's hydroelectric and on- and offshore wind resources are also notable. Wisconsin's combined net electric generation from renewables (hydroelectric, wind, biomass, and solar) has increased slightly, from 9.1% in 2018 to 9.9% in 2020. Nearly three-fifths of Wisconsin's solar generation is from customer-sited systems. By the end of February 2021, the number of utility-scale solar facilities in operation climbed to 25, with a combined capacity of 204 megawatts (MW). This is five times more capacity than the previous year. Additionally, the Midwest Renewable Energy Association's (MREA) Solar on Schools initiative added 1,739.4 kW of solar capacity to Wisconsin's grid in 2020—enough to power 274 homes. Since 2019, nearly 2,300 MW of solar power has been proposed to Wisconsin's Public Service Commission (PSC). According to the state's Draft Strategic Energy Assessment for January 2021-December 2026, approved solar energy projects (as of 2020) will increase net renewable energy generation to 13% by 2023. Given the uptick in solar projects proposals and approvals since the release of the draft assessment, this percentage is likely to increase. Indeed, Alliant Energy plans to build 1,000 MW of solar capacity in Wisconsin by the end of 2023.

Governor Evers joined the U.S. Climate Alliance in February 2019. As part of his 2019 budget proposal, Governor Evers proposed a plan to require the state's utilities to be carbon-free by 2050. After the proposal failed, the Governor issued an executive order in August creating the Governor's Task Force on Climate Change. The Task Force was charged with developing a plan to meet the 100% carbon-free by 2050 goal. The Task Force's December 2020 Climate Change Report recommends adopting policies to (1) develop electricity storage and microgrids for critical infrastructure, (2) increase energy efficiency goals, (3) increase Focus on Energy's funding, (4) support load management / demand side management (DSM) programs, (5) support low-cost debt financing of customer clean energy projects, (6) support community solar, (7) update interconnection standards and (8) support hybrid-electric vehicles, electric vehicles, and infrastructure.

In March 2021, the Public Service Commission (PSC) voted to begin an investigation in order to create a roadmap for Wisconsin's transition to zero-carbon electricity. The PSC will explore the recommendations proposed by the

Governor's Climate Change Task Force, as well as a stakeholder report of recommendations to accelerate the energy transition in Wisconsin.

The 2020 U.S. Energy and Employment Report found that Wisconsin has 39,389 traditional energy workers (1.3% of total state employment). In 2020, Wisconsin ranked 17th nationwide for clean energy jobs (including jobs in energy efficiency and solar) and the industry employed 69,343 Wisconsinites.[1]

The Wisconsin PSC regulates investor- and municipally-owned electric and gas utilities in the state. It does not regulate most of the activities of cooperative utilities. The PSC has three appointed commissioners; Rebecca Cameron Valcq is Chair. Republican majorities control both chambers of the state legislature; Democratic Governor Tony Evers took office in 2019.

POLICY STRENGTHS AND OPPORTUNITIES

The National Renewable Energy Laboratory (NREL) developed the notion of "policy stacking,"[2] an important framework for policymakers to consider. The basic idea behind policy stacking is that there is an interdependency and sequencing of state policy that, when done effectively, can yield greater market certainty, private sector investment, and likelihood of achieving stated public policy objectives.

In theory, but not always in practice, clean energy policies can be categorized into one of three tiers of the policy stack. Tier 1, market preparation policies, remove technical, legal, regulatory, and infrastructure-related barriers to clean energy technology adoption. Tier 2, market creation policies, create a market and/or signal state support for clean energy technologies. Tier 3, market expansion policies, create incentives and other programs to expand an existing clean energy market by encouraging or facilitating technology uptake by additional market participants.

For example, before financial incentives for combined heat and power (CHP) will be successful, two key considerations for deployment are having clear interconnection standards and favorable stand-by rates for customers who opt to add CHP. In this example, states should adopt policies to address interconnection and stand-by rates before adopting financial incentive programs.

GRID MODERNIZATION

Digital technologies have enabled utilities to better manage the grid and provide opportunities for consumers to customize their services to fit their priorities. These technologies allow a two-way flow of information between the electric grid and grid operators and between utilities and their customers.

Emerging technologies improve system reliability and resiliency by enabling better tracking and management of resources. These technologies allow grid operators to incorporate central and distributed energy resources, energy storage technologies, electric vehicles, and assist in addressing the challenges associated with planning, congestion, asset utilization, and energy and system efficiency.

On the customer's side of the meter, dynamic pricing, advanced metering infrastructure, and other technologies allow an exchange of information and electricity between a consumer and their electric provider. Grid modernization is associated with greater consumer choice by allowing customers to meet their energy priorities by producing their own energy or through contracting innovative clean energy services from different providers.

Grid modernization will require a suite of state and federal policy changes to support advancements in grid technologies, grid management, and utility regulation.

Wisconsin's utilities have taken the lead in installing advanced metering infrastructure (AMI). In 2018, the Wisconsin PSC partnered with Landis+Gyr to provide a platform for AMI development, data management, and grid modernization.

[1] This is in addition to the number of traditional energy jobs in the state.

[2] V.A. Krasko and E. Doris, *National Renewable Energy Laboratory*, 2012. Strategic Sequencing for State Distributed PV Policies: A Quantitative Analysis of Policy Impacts and Interactions. http://www.nrel.gov/docs/fy13osti/56428.pdf.

In May 2021, the PSC approved Xcel Energy's "Resiliency as Service" pilot program which will allow the utility to offer Resiliency Service Assets – battery energy storage systems (BESS) and generation assets (back-up generation and solar photovoltaic (PV) systems paired with BESS) – as well as switching and control equipment for their commercial and industrial customers. The pilot will rely on Xcel's experience with resiliency projects in Colorado, follows the recommendations of the Wisconsin Energy Distribution and Technology Initiative's (WEDTI) 2020 report, and is consistent with the recommendations from the Governor's Task Force on Climate Change. Projects will be financed via an on-bill charge for commercial and industrial customers. Separately, in June 2021, after a successful pilot program in Iowa, Alliant Energy announced a partnership with Sensus that intends to expand their smart utility network, which includes improving outage response times.

There are policies that Wisconsin's policymakers could adopt to support in-state modernization efforts.

1. Working with the PSC, develop a grid modernization strategy through a stakeholder process. Alternatively, states might decide to require that utilities develop and propose a ten-year grid modernization plan to the utilities commission within a specified timeframe. Utilities would then be required to implement that plan within another specified timeframe. Strategies and/or plans should outline a clear set of grid modernization goals and describe methods to measure, report, verify, and enforce progress towards those goals. Utility goals might include such things as enhancing cybersecurity, integrating distributed energy resources (including electric vehicles and energy storage), and increasing demand response and/or demand-side management (DSM) programs.

2. States might also provide incentives or cost recovery mechanisms for utilities that meet grid modernization goals. Policymakers could consider directing the PSC to evaluate alternative ratemaking mechanisms, performance-based regulation, and/or new utility business models that support grid modernization.

3. Wisconsin does not have clear state policies governing customer data access and privacy protections. To address this, policymakers could develop legislation or rules that, at minimum, do the following: clarify who owns the energy data associated with consumer energy usage; protect customer privacy; outline the process for allowing direct access to data by third parties; and promote access to the highest resolution of data possible. The state could establish customer access to energy data through a program like Green Button.

4. State departments of workforce services or their equivalent can be directed to work with utilities and other stakeholders to develop training programs for grid technicians and engineers. With new grid technology and distributed energy systems coming online, a new generation of workers can be trained to meet evolving needs, which will keep jobs local, and contribute to economic development.[3]

   An initiative of the MREA, the Solar Corps is a workforce development partnership to support local career placement in the solar industry. The Solar Corps have partnerships with six technical colleges in Wisconsin. Additionally, one of the goals of the Wisconsin Office of Sustainability and Clean Energy is to "promote clean energy workforce training," which includes creating and funding a clean energy training and reemployment program for both new workers and workers impacted by the energy transition.

The adoption of incentives for or a requirement to integrate a certain amount of energy storage on the grid alongside enhancing renewable energy and electric vehicle policies can support modernization efforts and improve the chances of successful grid modernization.

ENERGY STORAGE

Energy storage offers a unique opportunity to manage supply and demand dynamically while also maximizing the value of grid resources. By deploying storage to strategic locations, utilities can more effectively manage their energy portfolios. First, storage allows utilities to manage intermittent demand – helping reduce peak demand requirements. Because the generation resources that provide peak power are the system's most expensive, reducing peak demand can save consumers money. Second, the responsiveness of energy storage can allow utilities to implement voltage regulation and other ancillary services, which are useful for improving system efficiency. Third, because storage technologies can both store and dispatch power, storage enables better integration of

[3] For a discussion of specific workforce needs that states might explore see: GridWise Alliance and U.S. Department of Energy. 2020. "Grid Modernization Index Insights into a Transformation: Principles for the Next Decade of Progress."

intermittent power generation resources like renewable energy to the grid. Finally, energy storage can help the commercial sector avoid costly demand charges. As utilities around the country consider implementing or extending demand charges to other sectors, energy storage will become more relevant as a customer cost-saving investment.

The flexibility of battery storage, combined with advanced metering infrastructure, allows customers to control, for instance, how and when they use energy from the grid or from solar panels installed on their home or business. In most cases, this can provide greater cost savings than standalone solar systems. Combined with time-varying rates or real-time pricing programs, state policy can further support customer choice and open a new market for energy services. Prices that better reflect the time-varying and location-dependent costs of producing and delivering electricity can lead to several economic and environmental gains.

Two major trends have enabled increased deployment of energy storage: declining costs and technological advances. State policies can help maximize these benefits by establishing both a framework for easy integration of energy storage resources onto the grid and a marketplace that monetizes the benefits of energy storage for cost-effective investment.

Wisconsin does not currently have an energy storage procurement target or goal. However, Wisconsin is positioned to grow its energy storage capacity. The University of Wisconsin-Madison researches and develops energy storage technologies. A handful of firms in the state manufacture storage technologies. In addition to Xcel Energy's Resiliency as Service Pilot program, which will expand BESS capacity by a maximum of 30 MW, WEC Energy Group's recently released its renewable energy investment plan includes 600 MW of additional battery storage capacity. As part of this 600 MW, the Koshkonong Solar project, proposed to the PSC in June 2021, would include 165 MW of battery storage and would be the largest renewable energy project in Wisconsin.

There are several opportunities to take advantage of the growing technological advances in and declining costs of energy storage. The recommendations here draw heavily from the Interstate Renewable Energy Council's (IREC) 2017 report, "Charging Ahead – An Energy Storage Guide for Policymakers." Policymakers in Wisconsin could consider the following:

1. Amend existing interconnection policy to ensure that storage can connect to the grid through a transparent and simple process. The Interstate Renewable Energy Council (IREC) has produced a series of interconnection protocols that states can easily adopt. The state could establish best practices for interconnecting storage in statute, or legislation could provide an instruction to the PSC to adopt new rules.

   In December 2020, a proposal was issued regarding opening a rulemaking docket to update to Wisconsin's interconnection rules. The governor approved the first Statement of Scope in February 2021 and in April 2021, the PSC approved the final Statement of Scope which creates and advisory committee for the rulemaking. At the end of April, the PSC appointed 19 members, representing 19 organizations, to the technical advisory committee.

2. Instruct utilities to evaluate the value of energy storage in multiple strategic locations across the utility system and consider a requirement to deploy storage where it will be cost effective, or identify the price point at which it will become cost effective.

3. Require the inclusion of energy storage as a critical piece of the energy system as both a demand and supply management resource. Some states have required that utilities evaluate the cost effectiveness of non-wires alternatives (NWAs) to large transmission and generation investments. Alternatively, states might want to require that utilities develop a distribution investment plan that identifies the locations on the distribution system where energy storage or other distributed resources would offer the greatest value.

   The Mid-Continent Independent System Operator's (MISO) Renewable Integration Impact Assessment (RIIA), published in February 2020, assessed the potential impacts of incorporating renewable energy into the MISO region of the grid. Included in this is a review of NWAs. They found, "MISO's current transmission infrastructure is inadequate to support full access by the diverse resources across the MISO footprint" and concluded, "energy storage, paired with renewables or used as NWAs, can help optimize energy delivery."

4. Consider adding a mandatory energy storage procurement target or requirement for energy storage with a documented process for periodic review of progress towards that goal. Procurement targets can jump-start market creation, spur fast learning, and guide the development of a regulatory framework.

5. Finance and incentivize energy storage for customers and utilities. Incentives could enable customers to use storage to manage their electric load and store locally produced renewable energy. Incentives in the form of rebates, grants, and tax credits can provide a bridge to scalable deployment for storage. These incentives can also be designed to decline as the value of storage becomes more readily monetized, and/or as the cost of storage decreases. Policymakers could allow utilities that provide storage incentives to customers to also recover the costs of installing smart meters. This would enable dynamic and time-varying energy management from multiple distributed battery systems. This should signal to customers the value of leveraging storage while better aligning customer costs with system costs. Financing energy storage installations for commercial customers could help reduce their demand charges. Policymakers might start first with a policy that provides grants to pilot projects, and/or that targets existing solar system owners. Financial incentives should be designed to ensure that the state meets other goals including emissions and peak demand reductions, and equitable access to clean energy.

6. Clear data access policies that allow third parties to provide energy management services based on signals from the utility can greatly increase the value of efforts to monetize the value stream offered by energy storage. (See discussion above, under Grid Modernization.)

MAINSTREAMING RENEWABLES

As the renewable energy industry matured, technology improved, and global production of generating equipment increased. Renewable energy is increasingly seen as the least cost and lowest risk form of energy (excluding energy efficiency). A 2021 Energy Information Administration report predicts that the share of the United States' electricity generation mix supplied by renewable energy resources will increase from 21% in 2020 to 42% by 2050. With increased deployment, utilities are learning more about how to integrate renewables effectively, investors are becoming more comfortable with the technologies, and building code officials are recognizing common standards and best practices. For these reasons, it is in the interest of policymakers to ensure that their states are well positioned to benefit from the transition to clean and sustainable energy resources.

To reduce barriers to customer and utility participation in the renewable energy market, policymakers in Wisconsin might consider several options.

Customer-Oriented Policies

1. **Interconnection, Net Metering, and Streamlined Permitting** – In general, customers want a clear, streamlined, affordable, and predictable system for connecting renewable energy systems to the grid. To ensure this, Wisconsin's policymakers could consider adopting IREC's model interconnection procedures, removing net metering system size limitations, and crediting net excess generation at the customer's retail rate. In Wisconsin, net metering eligibility varies by provider, but is often limited to installations with a capacity of less than 20 kW.[4] In the last four years, the number of net metered customers has grown by 0.11%, which is well below the growth seen in other states. Allowing aggregated net metering would be especially beneficial to the state's agricultural operations. Other applications for aggregated net metering include commercial properties and public entities like state and local governments, universities, and schools. The state might also consider establishing either statewide standards for streamlined permitting processes, or resources to support local governments that voluntarily implement a streamlined program, as Wisconsin Rapids has done. State incentives, such as tax credits, financial incentives, or loans can be tied to systems that are established within a designated streamlined permitting jurisdiction.

2. **Shared Renewables** – Due to building and property attributes and ownership issues, many customers are unable to install renewable energy technologies where they live or work. Allowing shared, or community, renewable energy projects addresses these barriers. These projects have multiple owners or subscribers who pay for a portion of the project or the generation provided by the system. Wisconsin might consider adopting a virtual net metering policy. Virtual net metering allows a customer to receive credits from a shared system as if the generation were on site. Virtual net metering is different from a power purchase agreement (PPA), which pays the customer for the proportion of power they produce. Because it is treated as a credit on the customer's

[4] PSC Wisconsin, Strategic Energy Assessment Draft 2020: https://www.wpr.org/sites/default/files/viewdoc_19.pdf

bill, the customer can avoid the tax implications of a PPA payment - which can adversely affect the economics of the system (and may come as a surprise to the participant).

Several Utilities in Wisconsin offer community solar programs. In 2015, the PSC approved programs for Northern States Power Company-Wisconsin (NSPW), New Richmond Municipal Utility, and River Falls Municipal Utility. A year later, the Commission approved Madison Gas and Electric's (MGE) program. In June 2019, the PSC approved a new shared solar program for Alliant Energy and allowed MGE to expand their program with the addition of a 5 MW solar array. MGE's program is fully subscribed, as of 2021. According to the 2020 Strategic Energy Assessment Draft, customer subscriptions to community solar projects consistently exceed 85% of available capacity.

Low credit ratings often deter participation in renewable energy markets; this can affect low- and moderate-income (LMI) households' adoption of renewable energy solutions. Supportive policies for shared renewables can be designed to encourage participation by LMI households; this can increase adoption of renewable technologies and reduce energy costs. Low-income participation can be ensured either through a percentage mandate for the overall annual contracted capacity, or by offering a higher rate of payment for the portion of shared solar capacity attributed to LMI customers. States that have a shared renewable program may want to coordinate this program with implementation of the federal Weatherization Assistance Program to provide recipients of assistance with participation in a shared renewable system.

In 2021, the PSC announced that it would require Wisconsin utilities to report household energy burden data by county. This data (to be submitted to the PSC by June 1st, 2021), will ensure that programs are developed to address disproportionate energy burden.

A number of financial incentives and financing options are available to Wisconsin's citizens, businesses, and public entities. There are additional policy options that policymakers might consider to promote renewable energy uptake by LMI consumers. Generally, successful state policies should be tailored to these customers, be cost-effective and financially sustainable, have measurable performance indicators, and be flexible enough to allow later changes in design.[5]

3. **Corporate Procurement** – Many Fortune 100 and 500 companies have established either climate goals or commitments to purchase renewable energy. Since 2016, nearly 31 gigawatts (GW) of renewable contracts have been announced by corporate entities. In 2020 alone, corporations signed 100 agreements for over 10 GW of renewable energy. This is leading policymakers to provide additional avenues for businesses to procure renewable energy. In 2019, Ashley Furniture announced a $29 million investment in renewable energy to offset 35% of their energy use. Organic Valley, Dr. Bronner's, and Clif Bar are joining other companies and the city of Madison to purchase the energy credits associated with the Butter Solar Project. Over 60 other companies with operations in Wisconsin have also made commitments to purchase renewable energy. Wisconsin's policy allows companies to purchase renewable energy credits (RECs), purchase renewable energy through the wholesale market, and develop or lease onsite renewable energy projects. MGE, Alliant, and We Energies provide green power pricing programs. Wisconsin was ranked in the 41st overall in the Retail Industry Leaders Association's 2020 rankings of state corporate procurement policies. Wisconsin might address this by adopting policies to provide additional options for corporate procurement. In addition, it is prudent to incorporate corporate renewable purchase commitments into utilities' long-term plans for resource needs over multiple decades. By integrating these renewable purchase commitments into the planning process, utilities can avoid over-building resources and stranding generation assets.

Utility-Oriented Policies

Some states have created programs that aim to reduce greenhouse gas (GHG) emissions and increase utility investments in clean energy resources. Wisconsin's renewable portfolio standard (RPS) set a target of 10% renewable energy by 2015. Utilities met the target early, in 2013. Governor Evers joined the U.S. Climate Alliance in

[5] In May 2021, the University of Michigan's Urban Energy Justice Lab unveiled their Energy Equity Project, which intends to create a standardization framework for the evaluation of equity in clean energy programs. The project aligns with the Biden administration's Justice40 Initiative, which aims to ensure that 40% of climate investment benefits (which include renewable energy) are realized by disadvantaged communities.

February 2019. As part of his 2019 budget proposal, Governor Evers proposed a plan to require the state's utilities to be carbon-free by 2050. After the proposal failed, the Governor issued an executive order in August creating the Governor's Task Force on Climate Change. The Task Force was charged with developing a plan to meet the 100% carbon-free by 2050 goal.

To support utility adoption of clean energy technologies, Wisconsin's policymakers might consider the following:

1. **Accelerating and Amending Renewable Portfolio Standards** – One of the oldest and most successful advanced energy policy tools, renewable portfolio standards (RPSs) usually set a target for a specific percentage of renewable electric generation to be achieved by a specific date. While these policies have various target dates and percentages (for example 10% by 2015), states can revisit existing policies to increase targets and extend target dates to spur the development of renewable resources and save ratepayers money. States might also add one or more carve-outs to further incentivize the development of distributed generation.

2. **Emissions Standards –** Emissions standards can take a technology neutral approach that looks at the total emissions of the utility portfolio and drives emissions down with a combination of renewables, traditional fuels, efficiency, and technological advances. Emissions reductions can be achieved through 1) a carbon portfolio standard approach, or 2) a market-based approach. A portfolio emissions standard sets emissions reduction targets to be achieved over time. This can be implemented through the IRP process or by establishing a maximum allowable rate of emissions per unit. Under a market-based approach, a state or a group of states might set a certain emissions reduction target, for example, 50% below 2005 levels by 2025. This reduction is achieved by the distribution of annual emission allowances that decrease to the point that the standard is met in 2025. One of the advantages of a market-based program is that it is designed to reduce emissions in the most economically efficient manner possible. Such a standard can also address other concerns such as pollution, asthma risk, environmental justice, and water use.

3. **Clean Peak Standards (CPS)** – Clean Peak Standards aim to increase the share of clean energy resources used to meet peak demand and decrease energy bills over the long-term by reducing peak demand in the hours when energy costs are highest. These objectives can be met through different policy options, including planning and procurement that focuses on peak demand; a moratorium on the construction of new peaking units or a phase out of existing units; incentives – including carve-outs in states with RPSs – for clean energy resources delivered during peak times; and/or adopting a new clean peak standard that sets a target for clean energy deliveries during peak times.

ELECTRIFICATION OF THE TRANSPORTATION SECTOR

An estimated 58% of new car sales will be electric by 2040. Therefore, a key part of building a modernized grid involves designing infrastructure that will facilitate easy connection of electric vehicles (EVs) to the grid. One of the most important barriers to increased adoption of EVs is the consumer's awareness of the availability of EV charging stations. Ultimately, drivers want to be sure that their car will get them where they need to go. The good news is that both supportive policies for developing charging infrastructure and technological advancements have eased "range anxiety."

A few incentives for alternatively fueled vehicles are currently available in Wisconsin. MGE offers a handful of programs. The PSC opened an investigation in January 2019 to consider policies related to EVs and EV charging infrastructure. In June 2020, the PSC approved an Excel Energy program to expand, simplify and lower the costs of residential and commercial EV charging stations. Then, in June 2021, the PSC approved EV pilot programs for We Energies and Wisconsin Public Service, enabling residential and commercial customers to finance the costs of installing and maintaining charging stations through their utility bill. Both pilot programs have an enrollment cap of 7,500 residential customers.

In 2021, Governor Evers proposed $5 million over the next two years for the development of electric charging infrastructure. As of 2021, Wisconsin has approximately 400 public level 2 charging stations and 110 fast-charging stations.

There are opportunities to expand the market for EVs in Wisconsin:

1. **EV and EV Charging Equipment Financing and Financial Incentives** – Providing additional financial incentives and innovative financing options can help spur greater market penetration of EVs. Sales, property, and income tax credits are some of the simplest methods for addressing high up-front costs of EVs and EV charging equipment. While sales tax credits are typically applied at the time of purchase, property and income tax credits may do less to address upfront cost barriers as the credit is not applied at the time of purchase.[6] States have adopted other financial incentives including low-interest loans, grants, vouchers, and rebates. A handful of states qualify EV charging equipment under their property assessed clean energy (PACE) programs. A simple solution is to increase and expand existing tax credits to incentivize commercial, publicly available charging stations.

2. **Charging Infrastructure Plan** – Locating charging infrastructure is different from locating conventional fueling stations. While some drivers will need to charge more quickly, others will refuel when they are parked for longer periods of time, for example when shopping at the mall or going to work. Charging infrastructure plans should attempt to pair the appropriate level of charging (level 2 or direct current fast charging) with a reasonable amount of time a person will be at that location. Legislation could direct a state agency to develop an infrastructure plan through a stakeholder process. Wisconsin's existing registration fee for EVs could help fund these efforts. For example, in Washington a portion of each EV registration fee is used to fund charging infrastructure development across the state.

   Regional collaborations around the US are emerging to coordinate the development of electric transportation infrastructure. Wisconsin is also a member of Drive Electric USA, a coalition of states committed to serving as examples of how to build successful statewide strategies to incentivize the purchase and use of EVs. The Michigan to Montana (M2M) Alternative Fuel Corridor, a project that began in 2017, will traverse Interstate 94 from Port Huron, Michigan to Billings, Montana, and is the first alternative fuel corridor in the Midwest. A 110 mile southern stretch of Interstate 94 (from Madison, WI to the IL border in Kenosha County) was designated as "EV ready" and in 2020 the corridor was marked with signs to indicate EV charging stations every 50 miles (with stations no more than 5 miles off of the interstate). Wisconsin might consider the potential for designing policy to compliment this regional initiative.

3. **Parking Infrastructure Requirements** – In tandem with the development of a statewide plan, legislation could set requirements for EV parking infrastructure. Some states have adopted permitting standards for parking lots, requiring, for instance, that for every 100 parking spaces, there must be at least one EV charging space. Legislation could also incentivize utilities to develop make-ready locations. These locations supply power to the point where a utility or third-party developer might install an EV charging station. Wisconsin's building energy code could also be updated to include requirements for EV charging infrastructure.

NEWS

- June 14, 2021: State Regulators Approve Electric Vehicle Programs for 2 of Wisconsin's Largest Electric Utilities
- June 9, 2021: Watch Now: Madison Unveils Nation's First Electric Fire Engine
- June 1, 2021: Invenergy Affiliate Seeks Regulatory Approval in Wisconsin of Solar Project
- May 14, 2021: Wisconsin Regulators Approve Xcel Microgrid Pilot
- April 22, 2021: Earth Week Legislation Would End Registration Surcharge on Hybrids, Electric Vehicles
- April 22, 2021: 'We Need to Act Now': This Small Wisconsin City is Boosting its Use of Renewable Energy
- March 23, 2021: Wisconsin Utilities Plan 250 MW Solar Project with 75 MW of Battery Storage
- March 16, 2021: Utilities Seek to Buy $446 Million Solar and Battery Project in Walworth County
- March 5, 2021: Wisconsin Regulators Eye Changes to Policies for Consumer-Generated Electricity
- January 1st, 2021: Wisconsin Regulators to Update 17-Year-Old Rules on Customer-Owned Power Sources

OTHER RESOURCES

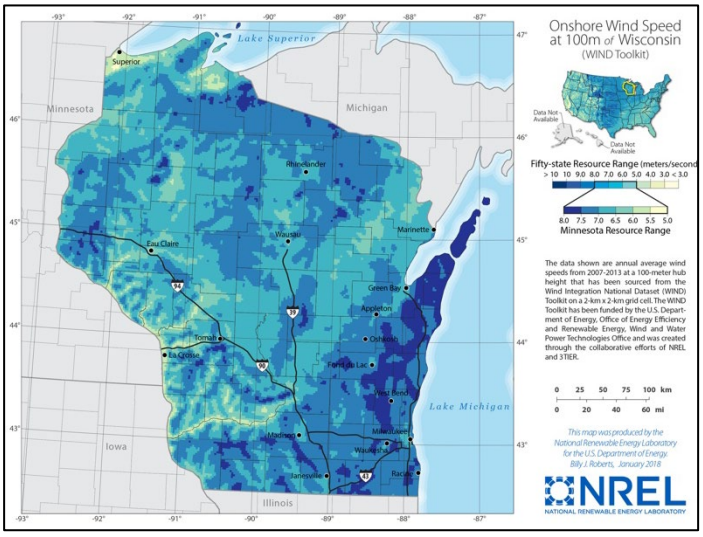
- Wisconsin Office of Energy Innovation: https://psc.wi.gov/Pages/Programs/OEI.aspx
- RENEW Wisconsin: https://www.renewwisconsin.org/

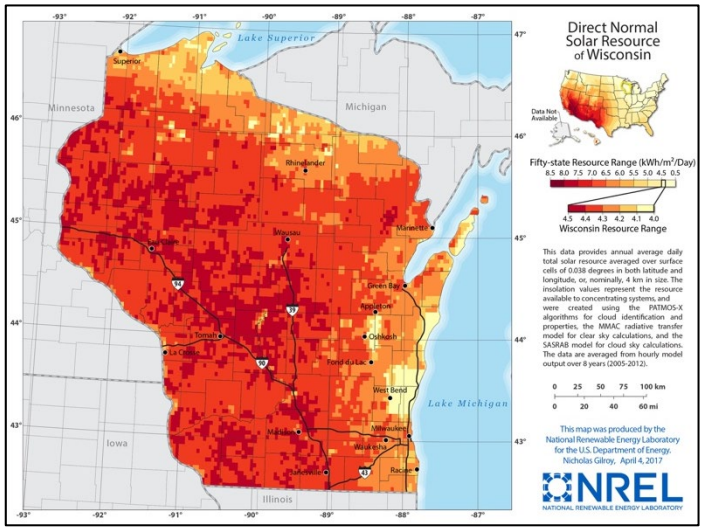
[6] A study by the Congressional Research Service suggests that tax credits are important tools for ensuring increased adoption of alternative-fueled vehicles.

- American Clean Power Association, Wisconsin State Fact Sheet: https://cleanpower.org/wp-content/uploads/2021/05/Wisconsin_clean_energy_factsheet_Q2-2021.pdf
- The American Council for an Energy-Efficient Economy State and Local Policy Database, Wisconsin: https://database.aceee.org/state/wisconsin
- The Database of State Incentives for Renewables and Efficiency, Wisconsin: http://programs.dsireusa.org/system/program?fromSir=0&state=WI
- U.S. Energy Information Administration, Wisconsin: https://www.eia.gov/state/?sid=WI
- U.S. Department of Energy's Alternative Fuels Data Center, Wisconsin: https://www.afdc.energy.gov/states/wi
- SPOT for Clean Energy, Wisconsin: https://spotforcleanenergy.org/state/wisconsin/

WISCONSIN'S WIND AND SOLAR RESOURCES

WIND https://windexchange.energy.gov/states/wi





Our Resources

CNEE Homepage: https://cnee.colostate.edu/

The SPOT for Clean Energy: https://spotforcleanenergy.org/

The Advanced Energy Legislation (AEL) Tracker: https://www.aeltracker.org/

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