

Public Service Commission of Wisconsin

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Public Service Commission of Wisconsin
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April 2, 2021

Re: Roadmap to Zero Carbon Investigation

5-EI-158

Comments Due:

Friday, May 14, 2021 – 1:30 p.m.

This docket uses the Electronic Records Filing system (ERF).

Address Comments To:

Public Service Commission
P.O. Box 7854
Madison, WI 53707-7854

To the Parties:

On March 11, 2021 the Public Service Commission of Wisconsin (Commission) issued a Notice of Investigation to consider the ongoing transition to zero-carbon electricity generation in Wisconsin. The investigation will evaluate a wide range of topics, including but not limited to:

1. Wisconsin electric utilities' publicly announced goals to reduce carbon dioxide emissions, including the goals established by the state's five largest electric utilities to reduce their carbon dioxide emissions 100 percent by 2050.
2. Recommendations from the Wisconsin Energy Distribution and Technology Initiative (WEDTI) on opportunities to accelerate the clean energy transition and optimize the benefits of the transition for all customers, released in July 2020. ([PSC REF#: 406723.](#))
3. Recommendations from the Governor's Task Force on Climate Change (GTFCC), released in December 2020. ([PSC REF#: 406724.](#))
4. Clean energy plan recommendations developed through Executive Order 38, which directs utilities and state agencies to work in partnership towards a goal of achieving 100 percent carbon-free electricity consumption in the state by 2050. A clean energy plan will be released in 2021.

To provide an informational starting point for the investigation, the enclosed memorandum describes the Commission-related issues that have been published to date through the recommendations from WEDTI, the GTFCC, and information provided on utility emission reduction plans, including through the Commission's Strategic Energy Assessment. ([PSC REF#: 397611.](#))

At this time, the Commission requests comments to help set initial priorities for this investigation. The Commission requests that commenters identify between one and three

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specific issues they believe should be prioritized for Commission attention in this investigation. Commenters may identify issues from the list provided in the enclosed memorandum or other issues that are not on the list. Commenters should identify no more than three issues, in order to clarify their highest priorities.


In addition, for each of the specific issues identified, the Commission requests that commenters identify how they believe the Commission should address the issue, taking into account the Commission's existing jurisdiction and authority.

Comments must be received by 1:30 p.m. on Friday, May 14, 2021. Please limit the length of submitted comments to no more than 5 pages in total. The Commission asks that the responses not include supporting documentation or links to outside resources, but instead focus on providing one's own perspective or the perspective of one's organization.

Party comments must be filed using the Commission's Electronic Records Filing (ERF) system. The ERF system can be accessed through the Public Service Commission's web site at <http://psc.wi.gov>. Members of the public may file comments using the ERF system or by mail to the Public Service Commission, 4822 Madison Yards Way, P.O. Box 7854, Madison, WI 53707-7854.

Please direct questions about this docket or requests for additional accommodations for the disabled to the Commission's docket coordinator Joe Fontaine at (608) 266-0910 or Joe.Fontaine@wisconsin.gov.

Sincerely,



Martin R. Day
Administrator
Division of Energy Regulation and Analysis

MRD:JF:dsa:cmb:DL:01786994

Attachment

PUBLIC SERVICE COMMISSION OF WISCONSIN

Memorandum

April 2, 2021

FOR COMMISSION INFORMATION

TO: The Commission

FROM: Martin R. Day, Administrator
Tara Bachman, Deputy Administrator
Joe Fontaine, Policy Advisor
Division of Energy Regulation and Analysis

RE: Roadmap to Zero Carbon Investigation 5-EI-158

On March 11, 2021 the Commission issued a Notice of Investigation to consider the ongoing transition to zero-carbon electricity generation in Wisconsin. ([PSC REF#: 406664.](#))

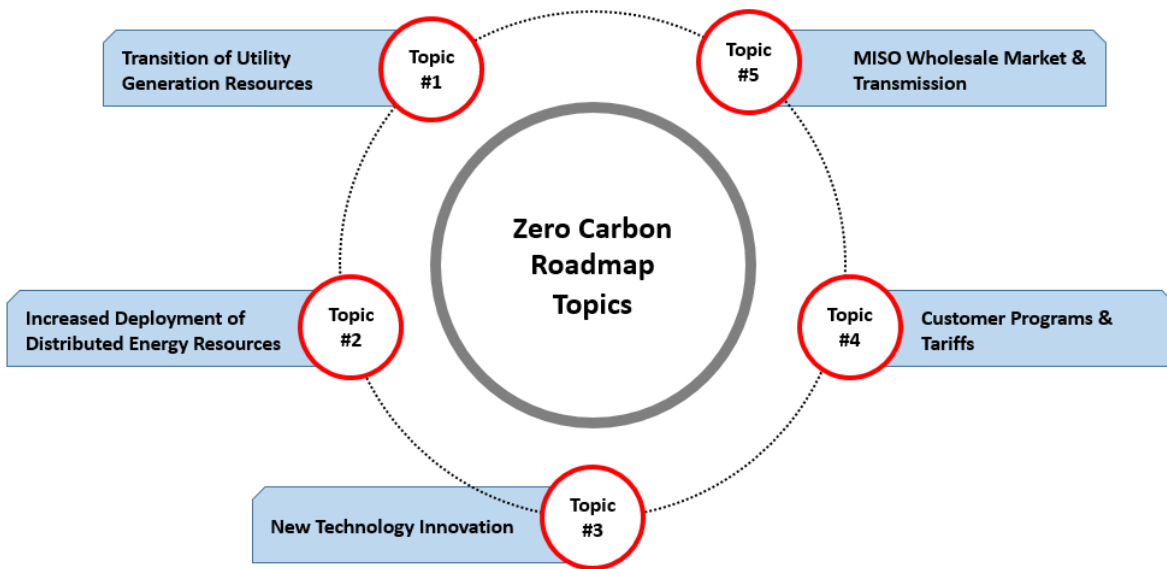
The investigation will obtain further information on ongoing changes in Wisconsin's electricity sector that are contributing to reduced carbon emissions, and analyze options to achieve the economic and environmental benefits the transition can provide while maintaining adequate electric supply, reliability, and affordability for all customers.

As a starting point for the investigation, Commission staff has identified five core topics contributing to the clean energy transition, listed below and summarized in Figure 1:

1. Changes in utility-scale generation sources that reduce overall carbon emissions, including the retirement of existing carbon-emitting facilities and the deployment of new generation resources;
2. The increased deployment of customer-level distributed energy resources (DER);
3. The increased availability and deployment of new technologies, such as battery storage and new grid technologies supporting electric system operations;

4. Customer programs and tariffs that support affordable energy access and help customers control their energy use; and
5. The design and operation of the Midcontinent Independent System Operator, Inc. (MISO) wholesale markets and transmission system serving Wisconsin utilities and customers.

Figure 1 Summary of Investigation Topics



Several existing initiatives in Wisconsin are addressing the zero-carbon transition. As summarized in Table 1, each of the five largest investor-owned-utilities (IOU) in Wisconsin has established goals to reduce carbon emissions 100 percent by 2050, and four of the five have established interim goals to achieve reductions of 50 percent or more by 2030. Other Wisconsin utilities have not set defined goals, but report their own ongoing efforts to achieve lower carbon emissions. As documented in the Commission’s most recent Strategic Energy Assessment, utilities’ anticipated plans for achieving these goals include retirement of coal facilities,

increased deployment of natural gas and solar generation, procurement of increased zero-carbon generation from the MISO grid, and increased energy efficiency. ([PSC REF#: 397611](#) at 77-81.)

Table 1 Zero-Carbon Goals Set by Wisconsin IOUs

Provider	2030 CO₂ Reduction Goal	2050 CO₂ Reduction Goal
Northern States Power Company-Wisconsin (Xcel)	80%	100%
Madison Gas and Electric Company		100%
Wisconsin Electric Power Company (We Energies)	70%	100%
Wisconsin Power and Light Company (Alliant)	50%	100%
Wisconsin Public Service Corporation	70%	100%

In addition, two stakeholder groups have issued policy recommendations related to the clean energy transition within the past year.

- In July 2020, the Wisconsin Energy Distribution and Technology Initiative (WEDTI), a stakeholder group convened by the Midwest Energy Research Consortium (M-WERC) and the Great Plains Institute, issued a set of 14 consensus recommendations to accelerate the clean energy transition and optimize the benefits for all customers. ([PSC REF#: 406723.](#))
- The Governor’s Task Force on Climate Change (GTFCC), convened under Executive Order 52 to develop policy recommendations to mitigate and adapt to the effects of climate change for the benefit of Wisconsin communities, issued recommendations in December 2020 that address a range of topics, including energy-related issues. ([PSC REF#: 406724.](#))

Under Executive Order 38, work is also underway for development of a Wisconsin Clean Energy Plan, which will identify recommendations to help reach the Governor’s goal of achieving 100 percent zero-carbon electricity consumption statewide by 2050. A plan will be issued later in 2021, and can be expected to be informed by the recommendations already issued by WEDTI and the GTFCC.

Taken together, published utility plans and the WEDTI and GTFCC recommendations identify more than 25 specific proposals relevant to the clean energy transition. Table 2 lists each recommendation, sorted within the five core topic areas initially established for this investigation.

Table 2 Summary of Recommendations to Date by Investigation Topic

Topic	Recommendations to Date
1. Transition of Utility-Scale Generation Resources	<ul style="list-style-type: none"> • Consider Social Cost of Carbon in Commission Decisions • Closure of Coal Facilities; Strategies to Support Early Closure and Reduced Use • Deploy New Natural Gas Capacity • Deploy New Solar Capacity • Improve Data Collection and Set Emissions Reduction Goals • Avoid New Fossil Fuel Infrastructure • Maximize Co-Benefits from Clean Energy Projects
2. Increased Deployment of DERs	<ul style="list-style-type: none"> • Position Utilities as Conductors of the Electric System • Revise Interconnection Rules • Support Community Solar • Third-Party Renewable Financing
3. New Technology Innovation	<ul style="list-style-type: none"> • Innovative Technology Initiative • Utility Distribution Planning • Storage and Microgrid Development
4. Customer Programs and Tariffs	<ul style="list-style-type: none"> • Innovation for Low-Income, Multifamily, and Renters • Align Focus on Energy with Carbon Goals • Increase Focus on Energy Funding • Energy Use Reduction Goals • Shape Energy Consumption through Demand Efficiency, Demand Response, and Electrification • Support Load Management • Low-Cost Debt Financing of Clean Energy Projects • Support Electric Vehicles • Modernize Rate Design
5. MISO Wholesale Market and Transmission	<ul style="list-style-type: none"> • Improve Visibility/Dispatch of DERs • Improve MISO Data Available to DER Owners • Participate in MISO Rule Changes • Improve Recognition of DERs in Transmission Planning • Increase Low-Carbon Generation in MISO

The recommendations in Table 2 do not represent an exhaustive list of all issues that may be relevant to this investigation. However, they do represent a substantial list of issues that

interested stakeholders have identified as relevant for the Commission’s consideration. Tables 3 through 7 provide an informational foundation for further review of these issues by:

- Labeling the source (or sources) from which each issue was identified, including any specific numbered recommendations associated with WEDTI and/or the GTFCC. Task Force recommendations labeled as “GTFCC” were identified as receiving consensus support from members. Those labeled as “GTFCC Tier 2” refer to issues that did not achieve consensus but were included in the final report “to indicate they may merit further discussion and consideration outside the work of the task force.” (*Id.* at 9.)
- Providing additional notes for each issue that outline the stated content and rationale of each issue in more detail, and provides references to any relevant Commission activity to date.

Table 3 Issues Related to Transition of Utility-Scale Generation Sources

Issue	Source(s)	Additional Notes
Require Commission to Consider Social Cost of Carbon in Construction Decisions	GTFCC #16	Based on 2019 Wisconsin AB 766. The 2021-23 Executive Budget includes this proposal.
Closure of Coal Facilities	Utility Plans/SEA	Three coal facilities closed between 2018 and 2020 (Pulliam, Pleasant Prairie, and Edgewater Unit 4). Future retirement has been announced for four additional facilities (Genoa, Edgewater Unit 5, Oak Creek, and Columbia).
Deployment of New Natural Gas Generation	Utility Plans/SEA	West Riverside Energy Center began operating in 2020. The Commission approved construction of the Nemadji Trail Energy Center in docket 9698-CE-100.
Deployment of New Solar Generation	Utility Plans/SEA	1,464 MW of new solar generation identified in SEA published in October 2020. That figure does not include additional solar capacity from independently developed solar facilities, which could be leased by utilities at a later date.
Improve Data Collection/Set Utility Emissions Reduction Goals	GTFCC #5, #13; Utility Plans/SEA	#5 recommends state agencies work together to measure progress of goals related to emissions. #13 proposes statewide utility CO ₂ emissions reductions goals of 60 percent by 2030 and 100 percent by 2050, while maintaining flexibility for utilities to maintain reliability and cost-effectiveness, and recommends the SEA track progress by utility towards that goal.
Avoid All New Fossil Fuel Infrastructure	GTFCC Tier 2 #47	
Develop Strategies for the Cost-Effective Early Closure and Reduced Use of Coal Facilities	GTFCC Tier 2 #50	Strategy options could include securitization, other financing tools, and procurement of carbon credits. In November 2020, the Commission approved securitization of environmental control costs for one coal plant in docket 6630-ET-101. The 2021-23 Executive Budget proposes to allow securitization of the full remaining balance of a power plant, in addition to the current authorization for securitizing environmental control costs.
Maximize Co-Benefits and Related Financial Value from Clean Energy Projects	GTFCC Tier 2 #52	Recommendation primarily discusses actions under the jurisdiction of other state agencies, but does suggest encouraging siting on brownfields through Focus on Energy and/or utility incentives.

Table 4 Issues Related to Increased Deployment of DERs

Issue	Source(s)	Additional Notes
Position Utilities as Conductors of the Electric System	WEDTI #1	Recommendation suggests that utilities would take this role to integrate DERs onto the grid in a way that benefits utilities and customers, by supporting effective dispatch of resources to support reliability and use of resources to minimize system costs. Suggested supporting initiatives include Commission establishment of performance metrics, establishment of utility incentives for system optimization, and support for load shaping, DERs, and demand response programs.
Revise Interconnection Rules	WEDTI #2, GTFCC #15	Current interconnection rules were established in 2004. Updated interconnection rules could address the growing proliferation of DERs and new technological developments. In December 2020, the Commission approved an initial statement of scope to update interconnection rules in docket 1-AC-256. In February 2021, the Governor approved the statement of scope and it was published in the Wisconsin Administrative Register. In March, a preliminary hearing was held on the statement of scope and the Commission’s final approval of the statement of scope is anticipated in April.
Support Community Solar	GTFCC #14	Recommendation encourages development of community solar by utilities and facilitation of development initiated by local communities and tribes.
Allow Third-Party Renewable Financing	GTFCC Tier 2 #49	Clarify that customers may use third-party financing for generation projects, in order to address current legal uncertainty and encourage increased project development.

Table 5 Issues Related to New Technology Innovation

Issue	Source(s)	Additional Notes
Establish an Innovative Technologies Initiative	WEDTI #3	Establish a process for Commission review and approval of utility investments in new and innovative solutions, such as new technologies and new programming opportunities. Proposal also suggests establishing a statewide spending goal and processes for reporting of results. The 2021-23 Executive Budget includes a proposal to create this initiative.
Encourage Utility-Stakeholder Collaboration on Distribution Planning	WEDTI #4	Utilities should voluntarily collaborate with stakeholders to develop distribution plans, including grid modernization initiatives and options to position utilities as conductors per WEDTI recommendation #1. The recommendation proposes that utilities document the results from collaboration, and launch processes by June 2021.
Develop Electricity Storage and Microgrids for Critical Infrastructure	GTFCC #6	Suggests development through establishment of utility incentive pilot programs and/or increased grant funding to the Commission’s Office of Energy Innovation (OEI). Under docket 9705-FG-2020, the Commission approved the allocation of \$985,000 in OEI grant funds to support microgrids on critical infrastructure and community resilience planning.

Table 6 Issues Related to Customer Programs and Tariffs

Issue	Source(s)	Additional Notes
Innovation for Low-Income, Multi-Family, and Renters	WEDTI #5	Initiatives identified as options to pursue this goal include the recommended innovative technologies program (WEDTI #3), financing programs, utility incentives for customer programs, and increased low-income programming in Focus on Energy.
Align Focus on Energy with Carbon Reduction and Clean Energy Goals	WEDTI #6	Explore how Focus programs can better incorporate carbon reduction and clean energy benefits. Set program goals that align with larger carbon reduction goals, potentially through the existing Quadrennial Planning process.
Increase Focus on Energy Funding	WEDTI #7, GTFCC #8	Increase funding from current level of \$100 million per year in order to serve more customers and obtain greater program benefits. WEDTI suggests that doubling funding could bring Wisconsin in line with spending levels that have been cost-effectively achieved in neighboring states. The 2021-23 Executive Budget proposes to double Focus on Energy contributions from IOUs.
Energy Use Reduction Goals	GTFCC #7	Set Focus on Energy goals to annually reduce electricity usage by 2 percent and gas usage by 1 percent. A 2017 Focus potential study suggested that those levels could be achieved, and the gas usage goal exceeded, with increased funding from current levels. Another potential study, currently in progress, will provide an updated assessment.
Shape Energy Consumption To Achieve Utility and State Goals	WEDTI #8	Identifies three initiatives: increase the emphasis on achieving demand savings in Focus on Energy programs, expand and enhance demand response programming, and consider initiatives for electrification of end uses served by other fuels.
Support Load Management	GTFCC #9	Establish Commission tariffs to support increased demand response programming, and specifically explore options to incent battery storage and explore options to achieve benefits related to charging arrangements for electric vehicles.
Support Low-Cost Debt Financing of Customer Clean Energy Projects	GTFCC #10	Identifies three initiatives for support: maximizing PACE financing statewide, providing on-bill financing for residential and commercial customers, and considering development of a state green bank. The 2021-23 Executive Budget includes proposals for the Commission to develop a model ordinance for PACE financing and to authorize utilities to provide on-bill financing.

<p>Support Hybrid-Electric Vehicles, Electric Vehicles, and Infrastructure</p>	<p>GTFCC #19</p>	<p>Including through collaborative development of a statewide electric transportation plan. The Commission has investigated electric vehicle issues in docket 5-EI-156 and issued an order in December 2020 encouraging utilities to submit pilot programs for Commission approval and establishing a framework that identifies the information utilities should provide in pilot proposals. The 2021-23 Executive Budget proposes a statutory revision to exclude electric vehicle charging stations from the definition of a public utility.</p>
<p>Modernize Rate Design</p>	<p>GTFCC Tier 2 #53</p>	<p>Review rate design approaches and assess whether rates provide appropriate price signals to encourage conservation and reduced emissions. Consider innovative rate designs such as time-of-use rates and performance-based ratemaking. The Commission’s ongoing investigation of parallel generation purchase rates in docket 5-EI-157 is reviewing rate design issues related to distributed energy and net metering tariffs.</p>

Table 7 Issues Related to MISO Wholesale Market and Transmission

Issue	Sources	Additional Notes
Improve MISO Visibility and Dispatch of DERs	WEDTI #9	Improving the quality of DER data maintained by MISO could help support more effective dispatch decisions and help MISO more effectively project future DER growth.
Improve MISO data available to DER owners	WEDTI #10	Provide more data, such as real-time coincident peak load data, to provide improved market signals for the development and use of DERs.
Participate in Developing Changes to MISO Market Rules	WEDTI #11	The Commission and other Wisconsin stakeholders take an active role in providing input on the implementation of Federal Energy Regulatory Commission (FERC) Order 841 on the participation of storage resources in wholesale markets; FERC Order 2222 on the participation of DERs in wholesale markets; and MISO accreditation initiatives.
Improve the Use of DER Data in Transmission Planning	WEDTI #12	Use the enhanced DER data recommended in WEDTI #9 in transmission planning to identify transmission enhancements that could support DER adoption and use.
Work With MISO to Enhance Opportunities and Financial Value for DERs	GTFCC Tier 2 #51	This task force recommendation supports the four WEDTI recommendations described above.
Benefit from Increased zero-carbon deployment on MISO grid	Utility Plans/SEA	Increased deployment of zero-carbon resources on the MISO grid—from DERs or utility-scale zero-carbon resources—will reduce Wisconsin utilities’ emissions from power purchased through power purchase agreements or wholesale market purchases.

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Key Background Documents

[Notice of Investigation Signed and Served 03/11/2021 - PSC REF#: 406664](#)

[Strategic Energy Assessment 2026 – Final - PSC REF#: 397611](#)

[Final Report- Wisconsin Energy Distribution and Technology Initiative \(WEDTI\) - PSC REF#: 406723](#)

[Governor's Task Force on Climate Change Report - PSC REF#: 406724](#)