BEFORE THE
PUBLIC SERVICE COMMISSION OF WISCONSIN

Joint Application of Wisconsin Electric Power Company, Wisconsin Public Service Corporation, and Madison Gas and Electric Company for Approval to Acquire Ownership Interests in the Koshkonong Solar Generating Facility in The Town of Christiana and the Town of Deerfield, Dane County, Wisconsin	5-BS-258

COMMENTS OF RENEW WISCONSIN

RENEW Wisconsin appreciates the opportunity to provide comments on the application of Wisconsin Electric Power Company (WEPCO), Wisconsin Public Service Corporation (WPS), and Madison Gas and Electric (MGE) (together Joint Applicants) for approval to acquire and construct the 300-megawatt (MW) Koshkonong Solar Electric Generation Facility, which includes a 165 MW Battery Energy Storage System (BESS) (together the Koshkonong Project). On May 5, 2022, the Commission granted a Certificate of Public Convenience and Necessity (CPCN) to Koshkonong Solar Energy Center, LLC, a wholly owned subsidiary of Invenergy LLC, authorizing construction of the Koshkonong Project (PSC REF#: 437761). As noted on page 3 of the Commission staff memorandum dated February 23, 2023 (C-Memo), Joint Applicants propose a 75/15/10 split in the ownership of the Koshkonong Project. The proposed ownership shares mirror those approved by the Commission in the Darien Solar acquisition docket (5-BS-255) earlier this year.

As is shown in RENEW Table 1 (Appendix, page 5), Joint Applicants are ramping up their reliance on in-state renewably powered generating units across Wisconsin. If Joint Applicants' application is approved in this proceeding, the solar generating capacity serving their respective resource portfolios would total nearly 1,300 MW. A favorable decision here would add a combined 465 MW of solar and storage capacity to Joint Applicants' generation portfolios. It would also constitute the largest addition of zero-emission generating and storage capacity in Wisconsin history.

Unlike many of the projects Joint Applicants initially pursued to comply with the Renewable Portfolio Standard established in 2005 Act 414, all 1,292 MW of generating capacity referenced in RENEW Table 1 are located in Wisconsin. As a matter of general policy, RENEW strongly supports increasing supplies of zero-emission electricity generated from Wisconsin sources to the greatest extent practicable.

In the CPCN proceeding referenced above (9811-CE-100), RENEW submitted testimony estimating the Koshkonong Project's likely impact on CO_2 emissions attributable to Wisconsin's electric power sector. RENEW's testimony also compared the likely impact of the Koshkonong Project on CO_2 emissions against the avoided CO_2 emissions attributable to the Focus on Energy program.

> *The annual output from Koshkonong Solar, which I estimate to average 600,000 megawatt-hours (MWh) over its first 10 years of operation (Direct-RENEW-Vickerman, p 8-9), should result in a higher quantity of avoided CO_2 emissions than can be expected from the annual savings achieved through Focus on Energy-funded conservation, efficiency, and customer-sited renewables measures related to electricity usage. As shown in Ex.-RENEW-Vickerman-6, the Focus on Energy program achieved verified net savings of approximately 449,634 MWh in calendar year 2020. In calendar year 2019, Focus on Energy achieved verified net savings of approximately 472,000 MWh. The totals verified by Cadmus in those two years equate to the annual production of a 230 megawatt (MW) solar generating facility operating at a capacity factor of 23%. Assuming no changes to Focus on Energy's annual funding levels, Koshkonong Solar alone will displace about 30% more CO_2 emissions than the entire portfolio of Focus on Energy electricity programs once the project is energized.*
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> *The metrics contained in the State Electricity Profiles prepared by the U.S. Energy Information Administration (hereinafter "EIA") are useful for comparing the relative impacts on CO_2 emissions from Koshkonong Solar versus Focus on Energy. In its 2020 State Electricity Profile for Wisconsin, EIA estimated a CO_2 discharge rate of 1,118 pounds, or 0.507 metric tons, per MWh generated in this state (see last page of Ex.-RENEW-Vickerman-7). In calendar year 2020, Focus on Energy avoided the discharge of approximately 502.7 million pounds, or 228,081 metric tons, of CO_2 into the atmosphere. Had Koshkonong Solar been placed in service before January 1, 2020 and had operated continuously through that year, it would have avoided the discharge of approximately 671 million pounds, or 304,446 metric tons, of CO_2 in that 12-month period.*
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> Rebuttal-RENEW-Vickerman-r-5-6 (PSC REF# 427978)

RENEW believes that the ongoing buildout of solar generation across all sectors of Wisconsin's electric power industry will advance the public interest in a variety of ways. As documented in the C-Memo, the Koshkonong Project would be a cost-effective addition to Joint Applicants' respective generation fleets. From a resource diversification perspective, the Koshkonong Project, like the other zero-emission plants itemized in Table 1, would lessen Joint Applicants' outsized reliance on fossil energy resources while increasing the percentage of renewable capacity relative to total generating capacity in Wisconsin. Along that vein, coal accounted for 42% of the electricity generated in Wisconsin in 2021, according to the Energy Information Administration. Only nine states had a higher contribution from coal in their generation mix that year (Appendix, RENEW Table 2, page 6). As of today, fossil-fueled power plants constitute 85% of the generating capacity owned by Wisconsin investor-owned utilities (IOU) on a nominal basis (C-Memo, page 30). At the same time, solar capacity accounts for less

than 3% of that portfolio. With the Koshkonong Project in the mix, the share of fossil generation relative to the total IOU portfolio would decline from 85% to 82% on a nominal basis, and solar capacity would rise from 2.89% to 4.90% on a nominal basis (C-Memo, page 31).

While utility plans to expand their ownership of solar generating capacity are welcome and necessary to hasten the replacement of their fossil generation plants, it's worth remembering that this particular energy source comes in many different sizes and configurations. Larger solar generation need not be owned by utilities to provide similar benefits to utility customers, and can often do so at less economic risk to them. Whether owned by utilities or independent entities, distributed solar projects can be an inexpensive proposition as well, with capital costs approaching those of CPCN-scale installations. Moreover, development lead times and construction timetables for distributed solar capacity can be substantially shorter compared with CPCN-scale projects, which go through a lengthy and thorough administrative review process before receiving permission to proceed. In addition, distributed solar projects are less likely to run afoul of headwinds caused by supply chain disruptions, federal enforcement actions, contractor disputes, and other constraints that seemingly pop up out of nowhere.

As a case in point, the Badger Hollow project, which was granted a CPCN in April 2019, is still under construction and will not be completed until this fall, according to the most recent construction progress report filed in Docket 5-BS-234 (PSC REF# 458270). As MGE has demonstrated through its Renewable Energy Rider program, it takes much less time to secure permits for utility-owned distributed solar projects and construct them. The example of the Yahara Solar project going up on property owned by Dane County is also instructive. Developed by a nonutility entity, this 17 MW project needed only a permit from the Town of Cottage Grove to proceed with construction. Project completion is anticipated in March 2023, only 15 months after the construction permit was granted. SunVest Solar, the current owner of Yahara Solar, plans to transfer the generation asset to Alliant after six or seven years of operating the facility.

In this docket, RENEW supports Alternative One: Approve the transaction as proposed in the application. In our view, the Koshkonong Project is an economically attractive source of zero-fuel cost, zero-emission renewable power for serving customers of WEPCO, WPS and MGE. As documented in the Memorandum, the addition of the Koshkonong Project to Joint Applicants' respective generation portfolios will reasonably balance reliability, cost-competitiveness, and environmental responsibility. Incorporating the Koshkonong Project into their generating base will help Joint Applicants move closer to their carbon reduction goals while lessening their exposure to volatile fossil fuel prices. So would the development of new initiatives to help the WEC Energy utilities accelerate deployment of smaller-scale solar projects into their generation portfolios. In that vein, we urge the Commission to take more forceful steps to ensure that the providers they regulate make room for all flavors of solar capacity—behind-the-meter and front-of-meter, with or without energy storage, utility-owned or nonutility-owned--and not allow them to limit the flow of smaller-scale installations to a barely perceptible trickle.

Thank you for this opportunity to comment.

Respectfully submitted this 6th day of March 2023.

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APPENDIX

RENEW Table 1

Project	**Total capacity** (in MW)	**WEPCO share**	**WPS share**	**MGE share**	**Year of CPCN Approval**	**Anticipated in-service date**
Two Creeks (solar)	150	0	100.0	50.0	2019	Operating as of 11/2020
Badger Hollow (solar)	300	100.0	100.0	50.0	2019	3Q/2023
Red Barn (wind)	92.4	0	84.0	8.4	N/A	2Q/2023
Paris (solar + BESS)	200	150.0	30.0	20.0	2021	4Q/2023 (solar only)
Darien (solar + BESS)	250	187.5	37.5	25.0	2021	4Q/2025?
Koshkonong (solar + BESS)	300	225.0	45.0	30.0	2022	3Q/2026?
Total capacity	**1292.4**	**662.5**	**396.5**	**183.4**		

RENEW Table 2

Electricity Mix by State, 2021
(preliminary figures, U.S. Energy Information Administration, EIA-923 survey)
https://www.eia.gov/electricity/data/state/

State	Coal	Natural Gas	Nuclear	Renewables	Petroleum	Other
WV	91%	4%	0%	5%	0%	0%
MO	74%	9%	6%	11%	0%	0%
WY	73%	4%	0%	22%	0%	1%
KY	71%	21%	0%	8%	0%	0%
UT	62%	25%	0%	13%	0%	0%
IN	58%	30%	0%	10%	0%	3%
ND	57%	3%	0%	39%	0%	0%
NE	49%	4%	18%	29%	0%	0%
MT	43%	2%	0%	52%	2%	1%
WI	42%	34%	15%	9%	0%	0%
CO	42%	26%	0%	33%	0%	0%
OH	37%	44%	14%	3%	1%	1%
AR	36%	32%	23%	10%	0%	0%
NM	36%	28%	0%	36%	0%	0%
KS	34%	5%	15%	45%	0%	0%
IA	33%	9%	0%	57%	0%	0%
MI	32%	27%	30%	10%	1%	1%
MN	27%	21%	24%	29%	0%	1%
IL	24%	12%	53%	11%	0%	0%
TN	22%	18%	43%	16%	0%	0%
US	22%	38%	19%	20%	0%	1%
AL	19%	38%	32%	11%	0%	0%
TX	18%	49%	8%	24%	0%	1%
NC	16%	36%	33%	15%	0%	0%
SC	15%	23%	54%	8%	0%	0%
GA	15%	46%	27%	11%	0%	0%
MD	15%	37%	38%	9%	0%	1%
OK	14%	41%	0%	45%	0%	0%
AK	14%	41%	0%	30%	15%	0%
AZ	13%	44%	29%	13%	0%	0%
PA	12%	53%	31%	3%	0%	1%
HI	12%	0%	0%	19%	65%	4%
SD	9%	9%	0%	82%	0%	0%
MS	8%	72%	17%	3%	0%	0%
LA	8%	65%	18%	4%	4%	2%
FL	8%	74%	11%	6%	0%	1%
DE	7%	86%	0%	3%	0%	4%
NV	7%	62%	0%	31%	0%	0%
VA	3%	57%	30%	8%	0%	1%
WA	3%	14%	8%	75%	0%	0%
NJ	2%	48%	46%	4%	0%	1%
NH	2%	26%	57%	15%	0%	0%
ME	1%	25%	0%	72%	0%	2%
CT	1%	56%	39%	3%	0%	1%
CA	0%	49%	8%	41%	0%	1%
ID	0%	26%	0%	73%	0%	0%
DC	0%	63%	0%	37%	0%	0%
MA	0%	77%	0%	18%	0%	5%
NY	0%	46%	25%	28%	1%	1%
OR	0%	33%	0%	67%	0%	0%
RI	0%	91%	0%	9%	0%	0%
VT	0%	0%	0%	100%	0%	0%