STATE OF MINNESOTA
PUBLIC UTILITIES COMMISSION

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In the Matter of an Investigation into Implementing Changes to the Renewable Energy Standard and the Newly Created Carbon-Free Standard under Minn. Stat. § 216B.1691	**Docket No. E-999/CI-23-151**

INITIAL COMMENTS OF THE CLEAN ENERGY ORGANIZATIONS

January 29, 2025

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INTRODUCTION

The Minnesota Center for Environmental Advocacy ("MCEA"), the Sierra Club, and Fresh Energy (collectively, the "Clean Energy Organizations," or "CEOs") appreciate the opportunity to submit these comments regarding compliance reporting and verification under Minnesota's Carbon-Free Standard ("CFS").[1]

For the reasons discussed below, the CEOs urge the Commission to: (1) ensure that the CFS calculation excludes carbon-free generation that serves other states or the regional market unless RECs for this generation are retired; (2) require utility reporting that reveals how well a utility's RECs match their hourly demand; (3) require that RECs used to meet the CFS be from carbon-free generation sources; (4) request the Department to prepare a detailed template for reporting requirements; (5) require utilities to submit their periodic CFS plans into a single docket; (6) closely oversee, along with the Department, the utility compliance filings; and (7) find that partial credit for net market purchases should be calculated based on the MISO North fuel mix.

[1] These comments are submitted in response to the Commission's Notice of Comment Period and Updated Timeline, *In the Matter of an Investigation into Implementing Changes to the Renewable Energy Standard and the Newly Created Carbon-Free Standard under Minn. Stat. § 216B.1691,* Docket No. E-999/CI-23-151 (Oct. 31, 2024).

ARGUMENT

I. The Commission should ensure that carbon-free generation that serves other states or the regional market is only attributed to Minnesota if properly accounted for through RECs

The Commission has asked by which criteria and standards it should measure a utility's compliance with the CFS. One issue the Commission must decide in measuring a utility's compliance with the CFS is what share of a utility's carbon-free generation (or procurement) can reasonably be attributed to Minnesota for purposes of demonstrating compliance with the CFS. It is important that utilities that serve multiple states or that have significant net market sales do not inappropriately inflate their CFS compliance by attributing to Minnesota carbon-free power that has not been generated to serve Minnesota retail customers.

The CFS statute requires each utility to:

> generate or procure sufficient **electricity generated from a carbon-free energy technology to provide the electric utility's retail customers in Minnesota** . . . so that the electric utility generates or procures an amount of electricity from carbon-free energy technologies that is equivalent to at least the following standard percentages of **the electric utility's total retail electric sales to retail customers in Minnesota** by the end of the year indicated:
>
> (1) 2030 80 percent for public utilities; 60% for other electric utilities
> (2) 2035 90 percent for all electric utilities
> (3) 2040 100 percent for all electric utilities. [2]

[2] Minn. Stat. § 216B.1691, subd. 2g (emphasis added).

This language in effect creates the following fraction, which determines the utility's carbon-free percentage:

$$\frac{\text{"electricity generated from a carbon-free energy technology to provide the electric utility's retail customers in Minnesota"}}{\text{"the electric utility's total retail electric sales to retail customers in Minnesota"}}$$

The denominator of that fraction -- "the electric utility's total retail sales to retail customers in Minnesota" – should generally be easy to determine, at least in retrospect.

However, determining how to calculate the numerator – "electricity generated from a carbon-free energy technology to provide the electric utility's retail customers in Minnesota" – is more complex, at least for utilities that serve multiple states or have significant net market sales. The plain language of the law requires that compliance be based on the share of the utility's carbon-free energy that is generated to provide to Minnesota retail customers.[3] Defining the numerator broadly to include the carbon-free power that goes to other states in the utility's territory, or to the regional market, would thus violate the statute and could substantially distort the CFS calculation. If the numerator is inflated in this way, a utility will be able to claim compliance with the CFS even if it is far from providing to *Minnesota* customers the required percentage of carbon-free generation.

[3] Of course, if the share of the utility's carbon-free energy generated for Minnesota is not sufficient to show CFS compliance, the statute explicitly allows the utility to also utilize renewable energy credits. Minn. Stat. § 216B.1691, subd. 4.

Moreover, allowing utilities to attribute to Minnesota the carbon-free generation they sell to MISO gives utilities an inappropriate incentive to maximize their net market sales, since the more carbon-free generation a utility can attribute to Minnesota – even if that generation does not serve Minnesota -- the higher the utility's calculated CFS-compliance percentage. This then reduces the utility's incentive to build new carbon-free generation that actually serves Minnesota as well as reducing the downward pressure that the CFS is intended to put on carbon-emitting generation.

In Xcel's recent Integrated Resource Plan filing, it offered the following table regarding its projected CFS compliance:[4]

Table N-1: 2024 Preferred Plan Carbon-Free Energy

	2030	2035	2040
Carbon-Free Generation (GWh)	46,515	52,681	60,162
MN Allocated CF Generation (GWh)	35,644	40,668	46,666
MN Elec Retail Sales (GWh)	35,725	39,668	44,624
Carbon Free Standard Requirement	80%	90%	100%

The CEOs asked Xcel in discovery for more information regarding this table, and the public version of the Company's response is appended to these comments as Attachment A.[5] Xcel explained in its response that it applied a jurisdictional allocator of 73% to the total of NSP's forecast renewable and nuclear generation to obtain the Minnesota allocated carbon-free generation number (35,644 GWh in 2030).[6] The CEOs

[4] Xcel, 2024-2040 Upper Midwest Integrated Resource Plan, *In the Matter of Xcel Energy's 2024-2040 Upper Midwest Integrated Resource Plan,* Docket No. E002/RP-24-67 (Feb. 1, 2024), Appendix N, at 5.
[5] Xcel response to CEOs' Information Request 55, *In the Matter of Xcel Energy's 2024-2040 Upper Midwest Integrated Resource Plan*, Docket No. E002/RP-24-67 (May 9, 2024) [hereinafter, "Attachment A"].
[6] Attachment A, p. 2. Xcel explained in a similar analysis submitted in 2023 in another docket that this allocation is based on the percentage of total system sales in Minnesota, and that "[c]urrently,

agree with Xcel that carbon-free generation attributed to Minnesota should not exceed Minnesota's share of total system sales, at least for carbon-free resources that are shared across its multi-state system.

Xcel predicts in its IR response that after subtracting total purchases from MISO from total sales to MISO, it will have net sales to MISO in 2030 of 5,194 GWh, based on its Encompass modeling.[7] It also states that "[t]he MISO sales and purchases are not included in the calculation shown in Table N-1 above, or in the calculation for RES and SES compliance." We agree in concept with Xcel's approach as described, as we understand it. That is, the carbon-free generation sold to MISO should not be attributed to Minnesota, any more than the carbon-free generation sold to Xcel's retail customers in other states. In short, the value for the CFS numerator – "electricity generated from a carbon-free energy technology to provide the utility's retail customers in Minnesota" – should exclude *both* the share of total carbon-free energy attributable to other, non-Minnesota customers and the share attributable to net sales to MISO.

However, the CEOs ask Xcel to confirm whether, when it says that the "MISO sales and purchases are not included in the calculation shown in Table N-1 above," it has actually excluded net MISO sales. Our analysis suggests that Xcel may have failed to do so, thereby attributing to Minnesota the carbon-free power it sold to MISO. If Minnesota

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approximately 73 percent of our total system sales are to Minnesota customers." Xcel response to CEOs' Information Request 01, *In the Matter of Establishing an Updated 2023 and 2024 Estimate of the Costs of Future Carbon Dioxide Regulation on Electricity Generation Under Minn. Stat. § 216H.06,* Docket No. E999/DI-22-236 (July 3, 2023). However, we note that in Table N-1 Xcel is allocating to Minnesota roughly 77-78 percent of its total carbon-free generation rather than just 73 percent.

[7] This sum is the result of modeled net sales to MISO in 2030 of 9,118 GWh and purchases of 3,924 GWh. Attachment A, p. 2.

retail sales in 2030 are 73 percent of total system sales, then total projected system sales would be 48,938 GWh that year.[8] Yet, Xcel has stated that its total projected generation for 2030 is modeled to be 58,652 GWh,[9] meaning Xcel would be generating 20% more energy than its total system sales in 2030. We recognize that utilities must generate more than they sell because of line losses. However, Xcel estimates its line losses to be just under 10 percent.[10] The CEOs are concerned that the remaining excess generation is represented by MISO sales, and that the carbon-free portion of those sales is being wrongly attributed to Minnesota in Table N.1. This would explain why Xcel's table shows it achieving virtually 100 percent carbon-free generation in 2030 – far exceeding the 80% CFS for that year – even though on a system-wide basis only 79 percent of Xcel's generation would be carbon-free in 2030, and 21 percent would be carbon-emitting, based on data provided by Xcel.[11]

Wrongly attributing to Minnesota more carbon-free generation than is actually generated for Minnesota retail customers allows the utility to claim more CFS compliance than it has actually achieved, thereby diluting the law's impact. The CEOs do not object to utilities generating more carbon-free power than they need to serve Minnesota customers and selling that excess power to an RTO or to its retail customers in other states; on the contrary, doing so helps replace carbon-emitting generation elsewhere on

[8] This estimate assumes Minnesota retail sales of 35,725 GWh (from Table N-1), which is 73 percent of 48,938 GWh.
[9] Attachment A, p. 2.
[10] Attachment A, p. 2.
[11] This estimate assumes total generation in 2030 of 58,652 GWh (from Attachment A, p. 2) and carbon-free generation that year of 46,515 GWh (from Table N-1 above).

the grid, much like purchasing unbundled carbon-free RECs. However, if a utility wants to claim that generation as part of its CFS compliance, it should treat that generation like the purchase of unbundled RECs. That is, if a utility plans to comply with the CFS by relying on carbon-free energy that it generates or procures but which is reasonably attributed to the utility's customers in other states or to net market sales (which we will call "the utility's non-Minnesota carbon-free energy"), it should clearly identify how much of the utility's non-Minnesota carbon-free energy it is planning on claiming for CFS compliance. Of course, it would need to retire the RECs associated with this energy. As a general matter, the financial impact of retiring these unbundled RECs (rather than selling them to others) should be reflected in any analysis comparing the cost of resource plans that depend on such RECs to the cost of resource plans that achieve compliance without them.

In sum, the CEOs recommend that the Commission require utilities, when calculating the numerator in the CFS percentage, to demonstrate that they are attributing to Minnesota only our share of the utility's carbon-free generation through granular reporting on the source of carbon-free generation estimates to ensure there is no inadvertent inclusion of the share attributable to its customers in other states or to its net sales to MISO (or other markets). The utility should explain what approach it is using to make these attributions.[12] To the extent that the utility plans to *also* rely on the utility's

[12] For system-wide resources, we believe it would be generally reasonable as a default to attribute carbon-free generation based on relative sales figures, recognizing the net market sales as well as the retail sales to customers in other states. If in the future the costs and benefits of certain carbon-free resources are allocated solely to Minnesota, the calculation should of course be adjusted to reflect this. Otter Tail requested this be

non-Minnesota carbon-free generation, it should be required to identify and retire the RECs associated with that energy.

Specifically, utilities should be required in their reports to provide:

A) the utility's predicted and actual rates of compliance with the Minnesota CFS, based on the statutory formula below:

$$\frac{\text{"electricity generated from a carbon-free energy technology to provide the electric utility's retail customers in Minnesota"}}{\text{"the electric utility's total retail electric sales to retail customers in Minnesota"}}$$

The utility should precisely explain how the numerator and denominator were calculated, and it must demonstrate that it has only included in the numerator carbon-free electricity (and/or applicable RECs) generated or procured to provide to retail customers in Minnesota (and therefore, that it has excluded electricity that serves customers in other states, that supports net sales to regional markets, or that is sold to other parties that are not Minnesota retail customers);

B) the utility's predicted and actual percentage of carbon-free generation on a system-wide basis.[13] If the percentage of carbon-free generation claimed under the Minnesota CFS calculation in item A above is different than the percentage of carbon-free generation on the utility's total system, the utility should identify and explain the difference;

C) the utility's predicted and actual estimated line losses, including the basis for the estimate and an explanation of how those line losses affect the calculation under item A above;

D) the utility's predicted and actual sales to parties other than retail customers in Minnesota, specifically identifying net annual sales to regional markets, sales to

done in its last IRP for its new carbon-free resources. The Commission did not accept the provision of Otter Tail's settlement with the Department and others that would have attributed all costs and benefits of the newly-approved wind and solar resources to Minnesota, deciding instead to consider allocation as each project is proposed. Minn. Pub. Utils. Comm'n, Order Modifying Otter Tail Power's 2023-2037 Integrated Resource Plan, *In the Matter of Otter Tail Power's 2023-2037 Integrated Resource Plan,* Docket No. E-017/RP-21-339 (July 22, 2024), p. 17.

[13] The CEOs recognize that the CFS only applies to Minnesota and not to other states. However, since most resources are shared system-wide by utilities serving multiple states, knowing what share of the utility's system-wide generation is carbon-free is important to understanding its attribution of carbon-free generation to Minnesota.

retail customers in other states, and any other sales to parties other than Minnesota retail customers.[14] The explanation should state whether the utility has sold the RECs associated with any of these sales if they are of carbon-free power;

E) the utility's predicted and actual purchase of RECs or retention of RECs from generation provided to non-Minnesota retail customers or from excess sales to MISO or other regional markets, identifying which are bundled and which are unbundled.[15] RECs attributable to electricity generated or procured by the utility should be listed as bundled RECs, and those purchased from other parties where the energy associated with the REC was not purchased should be listed as unbundled RECs;

F) the predicted and actual CO2 emissions associated with all electricity generated or procured to provide retail customers in Minnesota, including emissions associated with the excess power generated or procured to cover line losses.[16]

II. Reports should allow the Commission and the public to easily see how well a utility's RECs match their hourly needs

The Commission has asked for comment regarding when and how utilities should report on their preparedness for meeting upcoming CFS requirements. The CEOs urge the Commission to establish reporting requirements that maximize transparency, given that the overarching goal of the CFS – to ensure timely progress toward a decarbonized future – is of utmost importance to the state. Such transparency is also critical to allow the Commission and Department to be able to meet their statutory oversight responsibilities under the CFS law and state resource planning laws.

[14] Knowing the total system-wide sales is another key part of determining Minnesota's relative share of total generation and total carbon-free generation.
[15] The statute already requires utilities using RECs to include in their filings "whether the energy associated with the RECs was purchased by the utility purchasing the RECs." Minn. Stat. § 216B.1691, subd. 3(a)(9)(iv).
[16] Knowing the actual remaining CO2 emissions attributable to Minnesota is needed to determine the utility's progress toward achieving the state greenhouse gas emission reduction goals, as required by Minn. Stat. § 216B.2422, subd. 2c.

A. Time-matched RECs are increasingly important to achieving a decarbonized power grid

The Commission should require utilities to report the information that the Commission and the public need to determine how accurately a utility's RECs actually match the hourly needs of its customers. Understanding the extent of any temporal mismatch between RECs and demand will become increasingly important as the state, region, and nation move toward a decarbonized electricity system and toward net-zero greenhouse gas emissions (GHGs) by 2050.

Currently, utilities can achieve compliance with their requirements under the Renewable Energy Standard (RES)[17] by retiring RECs on an annual basis regardless of whether they were generated during the hours the utility needed them. This relatively imprecise approach helped transform a new industry that barely existed twenty years ago into a pillar of today's power grid. In 2005, wind and solar resources combined provided zero percent of electricity generation on a nationwide basis; by 2023, wind and solar resources provided 15 percent of US electricity generation, or the same amount of generation as coal plants.[18]

However, while RECs generated at any time of day were sufficient to catalyze the early growth of the wind and solar industries, they will not be sufficient to achieve the level of deep decarbonization we need to meet our climate goals in the years ahead. Indeed, there is a growing body of literature finding that the current approach to RECs "overestimates actual emission reductions from renewable electricity procurement and

[17] Minn. Stat. § 216B.1691, subd. 2a.
[18] U.S. Energy Information Administration, *Monthly Energy Review,* Mar. 2024, Tables 7.2a and 10.6.

hides embedded fossil reliance."[19] According to a recent analysis by Form Energy, Great River Energy, and the Humphrey School, the typical RECs approach -- where entities buy a sufficient volume of RECs to meet an annual target percentage of their electricity use, regardless of whether the renewable energy was generated at the same time the energy was demanded -- often produces substantial carbon dioxide emissions due to the mismatch in timing between output and energy demand. "An entity that purchases RECs to cover its annual electricity consumption actually meets its hourly demand using carbon-free resources only 40 to 70 percent of the time."[20]

In recognition of this mismatch in timing and the consequences for carbon emissions, there is now a growing call for "time-matched" RECs, sometimes called "hourly RECs" or "24/7 RECs." These are RECs from renewable energy that was generated within the same hour that electricity was consumed by the RECs' purchasers. Google was the first major corporation to advocate for and commit to 24/7 carbon-free energy in 2021, co-launching the UN 24/7 CFE Compact,[21] with signatories around the world, including other major corporations like Microsoft and Xcel.[22] M-RETS provided the platform for Google's first hourly retirement claim in 2021,[23] and it has predicted that

[19] S. Mooldijk, et al., *Navigating the Nuances of Corporate Renewable Electricity Procurement: Spotlight on Fashion and Tech,* New Climate Institute, Jan. 2024, p. 17 (citing multiple studies).
[20] Form Energy, Great River Energy, and U of M Humphrey School of Public Affairs, "Form Energy White Paper," submitted as Appendix F to Great River Energy's 2023-2037 Integrated Resource Plan, *In the Matter of Great River Energy's 2023-2037 Integrated Resource Plan,* Docket No. ET-2/RP-22-75 (March 31, 2023), p. 4.
[21] S. Mooldijk, et al., *Navigating the Nuances of Corporate Renewable Electricity Procurement: Spotlight on Fashion and Tech,* New Climate Institute, Jan. 2024, p. 17.
[22] An online list of signatories to the UN 24/7 CFE Compact is available at: https://gocarbonfree247.com/our-signatories/.
[23] Comments of Ben Gerber at Minnesota PUC Special Planning Meeting, August 8, 2024. *See also* Ben Gerber, "A Path to Supporting Data-Driven Renewable Energy Markets," M-RETS, Mar. 2021, p. 4,

in 2025 it will have the product that allows for trading of hourly certificates.[24] PJM has been offering time-matched RECs since August of 2024.[25]

The Biden Administration set the goal of achieving 50% time-matched RECs by 2030 for purchases by the federal government in an executive order.[26] As the Commission was advised in a recent informational hearing on efforts to achieve 24/7 carbon-free electricity, the U.S. General Services Administration (GSA) entered into an MOU with Xcel to help it meet its goal.[27] While the Trump administration will not continue to pursue this broad goal, the fact that it was formally embraced by the Biden administration indicates just how central time-matched RECs currently are to the vision of carbon-free power grid. Moreover, time-matched RECs (or other certificates assuring carbon-free status) are a key part of the Treasury Department's recently-finalized guidance regarding section 45V tax credits for hydrogen production under the IRA.[28] Even without a federal push toward time-matched RECs in the next four years, the widely-recognized need to build a carbon-free grid that meets daily and seasonal fluctuations in electricity demand means that progress toward this policy outside the federal context will continue.

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available at: https://www.mrets.org/wp-content/uploads/2024/01/A-Path-to-Supporting-Data-Driven-Renewable-Energy-Markets-March-2021.pdf.

[24] Santiago Canel Soria and Carlos Barrazza, "US REC Tracking Systems Inch Towards Hourly Trading," *S&P Global* (Sep. 17, 2024), *available at:* https://www.spglobal.com/commodity-insights/en/news-research/latest-news/energy-transition/091724-us-rec-tracking-systems-inch-towards-hourly-trading.

[25] *Id.*

[26] Executive Order 14057, "Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability," 86 Fed. Reg. 70935 (Dec. 13, 2021).

[27] Comments of Farah Mandich, U.S. General Services Administration, at Minnesota PUC Special Planning Meeting, August 8, 2024.

[28] U.S. Treasury Department, "U.S. Department of the Treasury Releases Final Rules for Clean Hydrogen Production Tax Credit," Press release (Jan. 3, 2025), *available at:* https://home.treasury.gov/news/press-releases/jy2768.

Given the importance of time-matched RECs to the transition to a carbon-free energy system, the Commission should take this opportunity to achieve a deeper understanding of how close Minnesota utilities are to relying on carbon-free generation that fits the utilities' daily electricity demand profile. It should also require reporting that will help identify the barriers and opportunities of shifting toward time-matched RECs.

B. Requiring reporting on time-matched RECs will help the Commission and Department fulfill their statutory oversight responsibilities and determine the need for future regulatory or legislative action

Requiring information on time-matching from utilities will help the Commission fulfill its statutory oversight responsibilities related to the CFS, long-term planning, reducing regulatory risk, and achieving state net-zero goals. For instance, having utilities report on how well their RECs are time-matched with their demand will help the Commission and public evaluate how well their long-term resource plans "minimize … adverse effects upon the environment," which is one of the evaluation criteria specified in the Commission's resource planning rule.[29] Moreover, future state or federal laws could require that any utility relying on unbundled RECs will need to buy time-matched RECs. Finding out how close or far from compliance a utility is with such a potential requirement will help the Commission evaluate whether a utility's resource plan meets other planning rule criteria, including whether the plan enhances its "ability to respond to changes in the financial, social, and technological factors affecting its operations," and "limit the risk of adverse effects on the utility and its customers from financial, social, and

[29] Minn. R. 7843.0500, subp. 3, item C. The substantial overlap between resource planning and the planning required under the CFS law is recognized by the legislature in Minn. Stat. § 216B.1691, subds. 2c, 3, and 8.

technological factors that the utility cannot control."[30] And such information will help the Commission assess the utility's exposure to regulatory risk, which relates to keeping "the customers' bills and the utility's rates as low as practicable, given regulatory and other constraints."[31]

The state resource planning statute also requires each utility to conduct long-range emission reduction planning. They must include in their resource plans the costs, opportunities, and technical barriers related to making progress toward the state's GHG reduction goals under Minn. Stat. § 216H.02.[32] Those reduction goals were strengthened in 2023 to include a 50 percent reduction in GHG emissions (from 2005 levels) by 2030 and reaching net zero by 2050. Identifying the scale of the mismatch between when RECs are generated and when they are claimed to meet utility demand will help the Commission assess utilities' long-term emission reduction plans. It will also provide a more informed perspective on the value that energy storage resources can provide to utilities.

The Department also has statutory responsibilities that would be aided by reporting on time-matching. The Department is required to report every other year to the chairs of the house and senate energy and environmental policy committees regarding the progress of utilities in increasing renewable energy. These reports are required to include "any recommendations for regulatory or legislative action."[33] This requirement

[30] Minn. R. 7843.0500, subp. 3, items D and E.
[31] Minn. R. 7843.0500, subp. 3, item B.
[32] Minn. Stat. § 216B.2422, subd. 2c.
[33] Minn. Stat. § 216B.1691, subd. 3(b).

shows the legislature's continued interest in tracking utility progress and the potential need for additional regulatory or legislative action. Section 216B.0691 has been strengthened multiple times since it was first enacted and there is no reason to think it could not be strengthened again as both the energy transition and climate crisis advance. Collecting information on time-matched RECs would help the Department assess the value of potentially requiring them.

The CEOs therefore request that the Commission require utilities in their forthcoming reports regarding CFS compliance[34] to also provide an estimate, to the extent possible, of the utility's carbon-free percentage if they could only rely on RECs that are time-matched with demand. Specifically, the Commission should require utilities to include in their reports:

> A) the utility's projected reliance on RECs purchased without purchasing the associated energy (unbundled RECs) to comply with the CFS through 2040;
>
> B) a discussion of the expected hourly timing of anticipated carbon-free generation (with bundled RECs) and unbundled REC purchases through 2040;
>
> C) an estimate of what the utility's projected compliance with the CFS would be through 2040 if RECs could only be claimed if they were time-matched;
>
> D) for filings verifying compliance with a previous year's CFS, an estimate of the utility's carbon-free percentage if the RECs it purchased and generated had to be time-matched with the utility's demand on an hourly basis; and
>
> E) a discussion of any barriers to acquiring the information listed above and efforts the utility has made to obtain or estimate it.

[34] Minn. Stat. § 216B.1691, subd. 3(a).

III. The Commission should specify that RECs must be from carbon-free sources to be used for compliance with the CFS

The Commission has asked what factors it should consider regarding the double counting of Renewable Energy Credits (RECs), as well as the broader question of which criteria and standards it should use to measure an electric utility's compliance with the CFS. RECs are one potential form of compliance with the CFS, and the statute states the following with respect to the RECs program:

> The program must permit a credit to be used only once, except that a credit may be used to satisfy both the carbon-free energy standard obligation under subdivision 2g and either the renewable energy standard obligation under subdivision 2a or the solar energy standard obligation under subdivision 2f, **if the credit meets the requirements of each subdivision.**[35]

The phrase "if the credit meets the requirements of each subdivision" would be meaningless if all RECs met all three standards. This phrase – added in the 2023 legislation with the new CFS -- represents in part a legislative recognition that not all RECs would meet the carbon-free standard because they are not all from carbon-free sources. Therefore, this language explicitly requires that RECs meet the requirements of subdivision 2g when used to meet the CFS.

Consistent with this provision, the CEOs ask the Commission to specify in its order that no RECs may be used to meet the CFS unless they are from specific facilities that the Commission has deemed use "technology that generates electricity without emitting carbon dioxide."[36] The Commission has opened the door to allowing generation from biomass and solid waste facilities to be considered fully or partially carbon-free

[35] Minn. Stat. § 216B.1691, subd. 4 (emphasis added).
[36] Minn. Stat. § 216B.1691, subd. 1(b).

based on a lifecycle analysis.[37] However, if the Commission requires lifecycle analysis of solid waste and biomass facilities that utilities operate or buy power from, it should treat unbundled RECs from other solid waste and biomass facilities the same way. That is, the Commission should not accept RECs from any biomass or solid waste facilities unless they have been similarly subject to a lifecycle analysis and had their carbon-free status approved by the Commission.

IV. The Commission should request the Department to propose a detailed reporting template for stakeholders to comment upon

Currently, utilities submit their RES compliance reports using a reporting template identifying what information utilities must provide.[38] This template was recently updated by the Commission staff and the Department to reflect the 2023 amendments to the RES requirements of Minn. Stat. § 216B.1691.[39] The CEOs recognize the value of a reporting template, and suggest that the Commission's order in this phase of the docket should be incorporated into that template. The updated template should reflect input from the reporting utilities, and the CEOs also ask for the opportunity to comment on the updated template once proposed. It is difficult for stakeholders other than utilities to identify potential gaps in the CFS reporting requirements without a detailed proposal to respond to.

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[37] Nothing in these comments should be read to suggest that the CEOs have changed the positions they have previously expressed in this docket on the scope of the statutory definition of carbon-free.

[38] Minn. Pub. Utils Comm'n, Notice of Renewable Energy Certificate (REC) Retirement for Renewable Energy Objectives and Green Pricing Programs, *In the Matter of Commission Consideration and Determination of Compliance with Minnesota's Renewable Energy Objective for Year 2023,* Docket No. E-999/PR-24-12 (Mar. 13, 2024). The template is online at https://mn.gov/commerce/energy/industry-government/utilities/annual-reporting.jsp.

[39] *Id.*

V. The Commission should combine the CFS compliance filings from all utilities into a single docket

The CEOs request that the Commission require all utilities subject to the CFS compliance filings to file their reports at the same time in the same docket, as it currently does with RES compliance. This will maximize the Commission's and public's ability to compare compliance strategies and assess overall likelihood of achieving the CFS obligations by the dates required. It also maximizes transparency, allowing stakeholders interested in Minnesota's overall decarbonization progress to participate in one proceeding rather than in multiple proceedings.

VI. The Commission and Department should closely oversee the utility compliance filings

The law gives the Commission the responsibility to closely oversee utilities' progress toward achieving the CFS, including the authority to set the compliance measurement criteria and to receive detailed compliance reports.[40] Moreover, the Commission is required to "regularly investigate whether an electric utility is in compliance" with the statute's obligations, including the CFS, and has the authority to require compliance action or impose penalties.[41] Fulfilling these responsibilities requires closely overseeing the utility compliance filings, and the CEOs believe that the next few years will require greater oversight than has been necessary in recent years given the greater ambition of the CFS (and RES) targets. While stakeholders will no doubt be involved in commenting upon some of the utility CFS compliance plans, we believe these

[40] Minn. Stat. § 216B.1691, subds. 2d and 3.
[41] Minn. Stat. § 216B.1691, subd. 7.

plans should also be subject to a rigorous audit by the Department, reporting these results to the Commission. The Department is already required to report to the legislature every two years on utilities' progress in increasing their use of renewable energy.[42] We suggest that this biennial report should also analyze utilities' progress toward meeting the CFS more broadly.

VII. The Commission should specify that it will use the MISO North subregion when calculating partial compliance credit for MISO purchases

The Commission has invited comment on how net market purchases should be counted towards CFS compliance. The statute requires the Commission to allow for partial compliance with the CFS for net annual purchases based on the RTO's systemwide fuel mix "or an applicable subregional fuel mix."[43] The CEOs believe that the most applicable subregional fuel mix in MISO is MISO North's (Local Resource Zones 1-7). Electricity resources across MISO North represent a single market of shared resources. That makes the MISO North fuel mix the most relevant for calculating the carbon-free share of a utility's net market purchases.

CONCLUSION

The CEOs respectfully request that the Commission take the following actions for the reasons stated above. For ease of reference, the reporting requirements listed in the text above are repeated below.

[42] Minn. Stat. § 216B.1691, subd. 3(b).
[43] Minn. Stat. § 216B.1691, subd. 2d(b)(2)(ii).

1. The Commission should require utilities to include in the filings they make under Minn. Stat. § 216B.1691, subd. 3, the following information related to how they attribute carbon-free generation to Minnesota and on their system-wide carbon emissions:

A) the utility's predicted and actual rates of compliance with the Minnesota CFS, based on the statutory formula below:

$$\frac{\text{"electricity generated from a carbon-free energy technology to provide the electric utility's retail customers in Minnesota"}}{\text{"the electric utility's total retail electric sales to retail customers in Minnesota"}}$$

The utility should precisely explain how the numerator and denominator were calculated, and it must demonstrate that it has only included in the numerator carbon-free electricity (and/or applicable RECs) generated or procured to provide to retail customers in Minnesota (and therefore, that it has excluded electricity that serves customers in other states, that supports net sales to regional markets, or that is sold to other parties that are not Minnesota retail customers);

B) the utility's predicted and actual percentage of carbon-free generation on a system-wide basis. If the percentage of carbon-free generation claimed under the Minnesota CFS calculation in item A above is different than the percentage of carbon-free generation on the utility's total system, the utility should identify and explain the difference;

C) the utility's predicted and actual estimated line losses, including the basis for the estimate and an explanation of how those line losses affect the calculation under item A above;

D) the utility's predicted and actual sales to parties other than retail customers in Minnesota, specifically identifying net annual sales to regional markets, sales to retail customers in other states, and any other sales to parties other than Minnesota retail customers. The explanation should state whether the utility has sold the RECs associated with any of these sales if they are of carbon-free power;

E) the utility's predicted and actual purchase of RECs or retention of RECs from generation provided to non-Minnesota retail customers or from excess sales to MISO or other regional markets, identifying which are bundled and which are unbundled. RECs attributable to electricity generated or

procured by the utility should be listed as bundled RECs, and those purchased from other parties where the energy associated with the REC was not purchased should be listed as unbundled RECs;

F) the predicted and actual CO2 emissions associated with all electricity generated or procured to provide retail customers in Minnesota, including emissions associated with the excess power generated or procured to cover line losses.

2. The Commission should require utilities to include in the filings they make under Minn. Stat. § 216B.1691, subd. 3, the following information related to the hourly-matching of carbon-free generation (with bundled RECs) and unbundled RECs used for CFS compliance:

A) the utility's projected reliance on RECs purchased without purchasing the associated energy (unbundled RECs) to comply with the CFS through 2040;

B) a discussion of the expected hourly timing of anticipated carbon-free generation (with bundled RECs) and unbundled REC purchases through 2040;

C) an estimate of what the utility's projected compliance with the CFS would be through 2040 if RECs could only be claimed if they were time-matched;

D) for filings verifying compliance with a previous year's CFS, an estimate of the utility's carbon-free percentage if the RECs it purchased and generated had to be time-matched with the utility's demand on an hourly-basis; and

E) a discussion of any barriers to acquiring the information listed above and efforts the utility has made to obtain or estimate it.

3. The Commission should specify that RECs must be from carbon-free sources to be used for compliance with the CFS, and that no RECs from biomass or solid waste facilities may be used unless those facilities have been subject to a lifecycle analysis and had their carbon-free status approved by the Commission.[44]

[44] This requirement seeks to make the Commission's policy regarding unbundled RECs from biomass and solid waste facilities consistent with its policy regarding energy that utilities generate or procure from such facilities. It does not indicate a change in the CEOs' positions regarding whether or not such facilities qualify as carbon-free, as previously expressed in this docket.

4. The Commission should ask the Department to propose an update of the reporting template currently used to report RES compliance to reflect the new requirements of this order. The Department should consult with utilities in preparing this update and other stakeholders should be able to comment upon it once proposed.

5. The Commission should order utilities to submit their CFS filings made under Minn. Stat. § 216B.1691 into a single docket to maximize transparency and public participation regarding Minnesota's progress toward carbon-free electricity.

6. The Commission should request the Department to conduct rigorous audits of utility CFS filings to ensure they are making sufficient progress toward compliance.

7. The Commission should specify that it will use the fuel mix of the MISO North subregion when calculating partial compliance credit for MISO purchases.

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