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**

SUPPLEMENTAL COMMENTS OF THE CLEAN ENERGY ORGANIZATIONS

April 16, 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 supplemental comments regarding compliance reporting and verification under Minnesota's Carbon-Free Standard ("CFS").[1]

Section I responds to concerns raised by the Department regarding the CEOs' recommended approach to attributing carbon-free generation to Minnesota. Section II addresses the need for utilities to report how well their Renewable Energy Credits (RECs) or other carbon-free certificates match their hourly needs. Section III explains why carbon and other emissions are a valid concern under the CFS and should be tracked and reported. Section IV explains why utilities should not be required to prepare plans that would fail to meet the CFS deadlines. And Section V clarifies that the MISO subregion used to calculate partial compliance should include LRZs 1-7.

ARGUMENT

I. The CEOs' recommendation regarding the attribution of carbon-free generation to Minnesotans is feasible and would not limit the use of RECs; rather, it would ensure RECs are properly recognized and accounted for

In Section I of our initial comments, the CEOs recommended that utilities not be allowed to automatically attribute to Minnesota the share of their carbon-free generation

[1] These supplemental comments respond to comments submitted following 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).

that was generated to serve customers outside of Minnesota. This is an important issue for utilities that have a significant share of their retail customers in other states, or that have significant net sales to the regional market. The Department raised the concern that this recommendation would either be difficult to implement or would limit a utility's purchase of Renewable Energy Credits (RECs) from other states.[2] However, this is a misreading of our recommendation and we seek to clarify it here. In fact, our recommendation is workable and would in no way limit REC purchases. Moreover, failure to adopt our recommendation would seriously dilute the CFS.

To determine if a utility has met the percentage requirements of the CFS, the Commission must determine the amount of "electricity generated from a carbon-free technology to provide the electric utility's retail customers in Minnesota,"[3] and compare that number to Minnesota retail sales. This number should not include carbon-free generation that was *not* generated or procured to provide to Minnesota retail customers *unless properly accounted for through unbundled RECs*. Utilities that serve customers in more than one state with system-wide resources already allocate the costs of those resources among the states, such as by allocating them according to each state's share of total retail sales. This sort of "jurisdictional allocator" can similarly be applied to the generation from the utility's system-wide carbon-free resource.

[2] Department's reply comments, p. 4.
[3] Minn. Stat. § 216B.1691, subd. 2g.

Xcel already applies this sort of sales-based jurisdictional allocator in its own calculation of future CFS compliance.[4] However, Otter Tail's proposed formula does not specify making this threshold allocation, and it is even more important in Otter Tail's case given that roughly half its retail sales are outside of Minnesota.[5] Indeed, in Otter Tail's last supplemental IRP filing, Otter Tail showed that under its then-preferred plan it would only achieve 51% carbon-free generation by 2030 based on Minnesota's share of its carbon-free generation, rather than the required 80%.[6] However, if Otter Tail also claimed North and South Dakotas' share of its carbon-free generation, it could claim over 100% carbon-free generation, meaning it could claim full compliance with the CFS without actually generating or buying any more carbon-free power. While we recognize that acquiring unbundled RECs is also a compliance option under the CFS, unbundled RECs come at a cost. However, the modeling Otter Tail had presented in support of its then-preferred supplemental plan attributed *no cost* for the Dakota carbon-free generation it proposed to claim, making this option look less expensive than it would be and effectively rendering the CFS irrelevant to Otter Tail.

As we explained in our initial comments,[7] utilities with significant net sales to the regional market should also subtract from this number (i.e., the amount of electricity they claim to have generated to provide to Minnesota retail customers) an amount that reasonably reflects their net market sales. Failure to do so will water down the CFS in the

[4] Xcel's initial comments, p. 2-3.
[5] Otter Tail's initial comments, p. 3-4.
[6] Otter Tail Supplemental Resource Plan, *In the Matter of Otter Tail Power Company's 2021 Integrated Resource Plan,* Docket No. E017/RP-21-339 (March 2023), p. 28.
[7] CEOs' initial comments, Section I.

same way as wrongly attributing to Minnesota the carbon-free generation attributable to other states.

If, after excluding carbon-free generation fairly attributable to other states or net market sales, the utility falls short of its CFS percentage requirement, the utility may achieve compliance by acquiring unbundled RECs. Those unbundled RECs could be, in effect, "acquired" from the share of their own carbon-free resources which are attributable to other states or the regional market. However, the unbundled RECs must be identified as such, and their cost, or the opportunity cost of not selling the RECs to others, must be accounted for in resource planning. If utilities are allowed to claim for free their carbon-free generation attributable to other states or net market sales in IRPs, it will put resource scenarios that achieve compliance by increasing carbon-free generation rather than through buying unbundled RECs at a comparative disadvantage.

The CFS law requires utilities to be transparent regarding their reliance on RECs; they must include in the plans they file with the Commission specific information about the RECs they rely on, including whether they are bundled or unbundled (i.e., "whether the energy associated with the credits was purchased by the utility purchasing the credits"[8]). The CEOs' recommendation would promote that transparency by ensuring unbundled RECs are properly identified and accounted for. Transparency around a utility's expected dependence on unbundled RECs also helps in assessing the utility's resource plans under other state statutes, including: determining the utility's future

[8] Minn. Stat. § 216B.1691, subd. 3(a)(9)(iv).

carbon emissions and the associated environmental costs;[9] determining its exposure to future carbon regulatory risk;[10] and determining whether its resource plans are compatible with the state's GHG emission reduction goals.[11]

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

As the CEOs explained in our initial comments, time-matched RECs are increasingly important to achieving a decarbonized power grid. We therefore urged the Commission to require utilities to report the information needed to determine how well their RECs match their hourly needs.

Several utilities have objected to the recommendation in the Department's initial proposal to require hourly-matched RECs, starting in 2035, claiming among other things that the costs would be unreasonably high.[12] However, recent modeling by Princeton's Zero Lab explored the precise question of how much the Department's hourly-matching proposal would cost.[13] This modeling finds that in fact Minnesota could transition from annual to hourly RECs at no additional cost if RECs could be purchased from the Midwest region, as proposed by the Department. The vast difference in these cost estimates shows the importance of better understanding the resource changes necessary to achieve hourly-matched RECs.

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[9] Minn. Stat. § 216B.2422, subd. 3.
[10] Minn. Stat. § 216H.06.
[11] Minn. Stat. § 216H.02 and § 216B.2422, subd. 2c.
[12] *See e.g.,* Aligned Utility's reply comments, p. 3-4; Xcel's reply comments, p. 9.
[13] Wilson Ricks and Jesse D. Jenkins, "Impacts and Feasibility of an Hourly-Matched Clean Electricity Standard in Minnesota," Princeton University Zero Lab, April 14, 2025, available at https://zenodo.org/records/15213510.

It remains the case that achieving the carbon-free grid of tomorrow will necessarily require resources that can provide carbon-free power at the time needed. Failure to recognize this long-term necessity in today's long-term resource planning could lead to costly investment mistakes and threatens reliability. We therefore reiterate the value of requiring utilities to report the information needed to show just how well their proposed investments and purchases of RECs (or other carbon-free certificates) would actually meet their customers' expected hourly demand, and repeat below our recommendations from our initial comments.

III. Ongoing carbon and other emissions are an issue of valid concern under the CFS and other laws and should be tracked and reported

In our initial comments, the CEOs recommended that the Commission require utilities, in the filings they make under Minn. Stat. § 216B.1691, subd. 3, to include the predicted and actual CO_2 emissions associated with the electricity they generate or procure to provide Minnesota, including the emissions associated with the extra power they must generate or procure to cover line losses.[14] The Department sought further explanation about how these carbon emissions could be quantified. It also asserted that "the attribution of emissions to Minnesota becomes zero at 100% CFS compliance, which means that all fossil fuel generation is attributed outside of Minnesota."[15] We dispute this assertion.

[14] CEOs' initial comments, p. 9 and p. 21.
[15] Department's reply comments, p. 11.

Even when utilities can claim 100% CFS compliance, which is not required until 2040, there can still be emissions from carbon-emitting plants that provide the energy they generate or buy to provide to Minnesotans. Indeed, none of the resource plans utilities are currently proposing or operating under would achieve zero carbon emissions by 2040. There is nothing in the CFS law that indicates that the Commission should ignore these ongoing emissions simply because a utility has achieved the percentage requirements of the CFS, particularly if it relied heavily on unbundled RECs while continuing to emit substantial amounts of carbon. The goal of the CFS is not just to build carbon-free resources, but to reduce the carbon emissions that are driving climate change.[16] It is important for the Commission and stakeholders to know what a utility's ongoing carbon emissions are. Those emissions are not "nullified" just because the CFS standards are met; those ongoing carbon emissions pose an ongoing threat to the climate and expose the utility and its ratepayers to ongoing regulatory risk as the climate crisis intensifies.

Moreover, Minnesota was concerned about carbon emissions long before the CFS was enacted, and many other state statutes and regulations cannot be enforced or implemented without an understanding of what those ongoing carbon emissions actually are. These include the requirement to consider the environmental costs of carbon and

[16] *See e.g.*, comments by chief Senate author Sen. Nick Frentz: "…I agree with you 100% that we're trying to reduce carbon going into the air, that's what we're doing here because global warming is a threat to our planet." Senate Energy, Utilities, Environment and Climate Committee, Jan. 25, 2023, at minute 3:26:47 - 3:27:07. (available at https://mnsenate.granicus.com/player/clip/9925?view_id=5&redirect=true&h=adda2f7454d75a9cc88a29e0cc91d836).

other emissions,[17] the requirement to consider future carbon regulatory risk,[18] the requirement to consider whether the utility is making progress toward state GHG reduction goals,[19] and the requirement to consider whether a resource plan has minimized adverse effects upon the environment.[20] The Commission cannot oversee any utility's decarbonization without understanding its ongoing carbon emissions. The CEOs therefore continue to recommend that these emissions be included in utilities' CFS filings.

Similarly, the CEOs support the initial comments of the Health Professionals for a Healthy Climate (HPHC) along with several other groups recommending that the PUC require utilities to track the emissions of co-pollutants generated by biomass facilities and incinerators and consider the resulting health impacts.[21] We disagree with the Department's statement that these issues are outside the scope of the Commission's orders under Minn. Stat. § 216B.1691.[22] If the Commission considers biomass facilities and incinerators to be fully or partially carbon-free under the CFS,[23] co-pollutant emissions from these facilities should be considered. The Commission is required to take all reasonable actions in its authority to implement the CFS in a way that maximizes net benefits to Minnesotans, including "ensuring that statewide air emissions are reduced, particularly in environmental justice areas."[24] If a utility plans to comply with the CFS in

[17] Minn. Stat. § 216B.2422, subd. 3.
[18] Minn. Stat. § 216H.06.
[19] Minn. Stat. § 216H.2422, subd. 2c.
[20] Minn. R. 7843.0500, subp. 3(C).
[21] HPHC et al., initial comments.
[22] Department's reply comments, p. 12.
[23] The CEOs have addressed the eligibility of biomass and solid waste under the CFS in earlier comments.
[24] Minn. Stat. § 216B.1691, subd. 9(a)(5).

part through burning biomass or solid waste rather than alternatives with no emissions, the Commission needs to understand the health impact of that choice. The evidence cited by HPHC and others -- pointing to thousands of deaths in Europe and the U.S. attributable to burning biomass – shows that the health risk can be very substantial.[25]

IV. Utilities should not be required to prepare resource plans that fail to meet the CFS deadlines

In their initial comments, MLIG requested that the Commission require utilities to file least cost plans for meeting the CFS by 2040 and 2050.[26] The Department interpreted this request as a recommendation that utilities study a ten-year delay of the standard.[27] While the Department did not support that request, it indicated that the Commission could gain useful information by requiring utilities to study a five-year delay in complying with the CFS standard.[28]

We disagree. The Commission should not require utilities to prepare plans that fail to meet the statutory CFS deadlines, whether by five years or by ten years. The Commission does not require utilities to prepare plans for failing to meet any of the other laws it enforces, and it should not do so for the CFS, particularly given the intensifying climate crisis and Minnesota's 2050 net zero target.[29] The legislature already provided the so-called offramp mechanism for utilities that may struggle to comply with the CFS,

[25] HPHC et al., initial comments, p. 3.
[26] MLIG's initial comments, p. 3.
[27] Such a delay may not have been what MLIG intended; its recommendation could be read as simply requiring plans that not only achieve the 2040 deadline but count the costs of ongoing compliance until 2050.
[28] Department's reply comments, p. 16.
[29] Minn. Stat. § 216H.02.

under which a utility may request that the Commission delay or modify its CFS obligations, and the law identifies the particular circumstances under which such requests can be granted.[30] Requiring utilities to prepare plans that fail to meet the CFS standard seems to actually invite that failure, rather than viewing noncompliance as a problem to be avoided where possible and handled under the detailed offramp provisions if necessary.

V. The MISO subregion used when calculating partial compliance should include LRZs 1-7

In our initial comments we stated that when calculating partial compliance of net market purchases, the Commission should use the fuel mix for MISO North, which we specified as including Local Resource Zones (LRZs) 1-7. Since then we have noticed that some people refer to MISO North as only including LRZs 1 and 3.[31] We take this opportunity to reiterate that we think the subregion in question should include LRZs 1-7, which are the best reflection of the market from which Minnesota utilities buy power and which we refer to as MISO North.

CONCLUSION

The CEOs respectfully request that the Commission take the following actions for the reasons stated above and in our initial and reply comments. Our final recommendations in this docket are set forth below:

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

[30] Minn. Stat. § 216B.1691, subd. 2b.
[31] See, e.g., Ricks and Jenkins, *supra* note 13.

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 or carbon-free certificates) 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.[32]

[32] 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 (Local Resource Zones 1-7) when calculating partial compliance credit for net annual MISO purchases.

8. The Commission should require utilities to submit preparedness reports at least every two years.

9. The Commission should require trackable certificates or credits from all carbon-free technologies that do not qualify for RECs, including from facilities deemed partially carbon-free. Partially carbon-free facilities should be granted partial certificates or credits that reflect the Commission's decision regarding what share of the facility's generation is carbon-free.

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/s/ *Barbara Freese*
Barbara Freese
Staff Attorney
Minnesota Center for Environmental Advocacy
1919 University Ave W, Suite 515
St. Paul, MN, 55104
bfreese@mncenter.org
Attorney for Clean Energy Organizations