

Minnesota House of Representatives



Minnesota Senate

September 17, 2025

RE: In the Matter of a Commission Investigation into a Fuel Life-Cycle Analysis Framework for Utility Compliance with Minnesota's Carbon-Free Standard

Docket No. E-999/CI-24-352

Dear Chair Sieben and Commissioners,

Thank you for the opportunity to offer comments on the implementation of the 100% Carbon-Free Standard law. As current and former legislators, we have a unique understanding of the history, intent, and language of the law.

As the Commission stated in its order of November 7, 2024, “the record of this proceeding is not yet sufficient to resolve all questions regarding the demonstration of partial compliance” (p. 4) and thus the Commission has sought expanded comments on an array of questions to better understand how to “permit a utility to calculate its partial compliance with the Carbon-Free Standard” (p. 5).

While we appreciate the Commission’s willingness to examine a range of suggestions from industry and utility stakeholders, it is not necessary or appropriate to delve into several of the questions articulated which seek to find a way for combustible fuels containing carbon to be counted as “carbon-free” – despite overwhelming evidence that they emit carbon dioxide, often in quantities that surpass the burning of coal. To count as carbon free any fuel which emits carbon dioxide as it generates electricity is contrary to the definition passed by the Minnesota legislature in 2023 and therefore likely not legal.

Carbon-free means carbon-free. As stated in comments previously submitted by legislators in Docket No. 23-151 last summer, straying from the clear definitions provided in the statute will impair the state’s ability to achieve the legislative intent of the law and impede Minnesota’s progress toward our climate goals. Biomass, renewable natural gas, and solid waste should not be eligible as either fully or partially carbon free based on fuel life-cycle analyses, because the 100% Carbon-Free Standard does not permit life-cycle analyses as a method of determining whether a technology is carbon-free.

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Minn. Stat. § 216B.1691, subd. 1(b) defines “carbon-free” as “a technology that generates electricity without emitting carbon dioxide.” This definition is intentionally clear and unambiguous. It does not say a technology that is carbon-neutral, a technology for which carbon emissions can be offset, or a technology that emits less than other waste-management alternatives or fuel sources. If a generating technology emits carbon dioxide, it is not carbon-free.

Burning biomass and burning solid waste both emit carbon dioxide. In fact, burning these fuels generates more carbon emissions per megawatt-hour than burning coal. Coal plants emit around 2000 pounds of carbon dioxide per megawatt-hour of electricity produced (“CO₂e/MWh”), but a study of wood waste plants in California showed average emissions of 3,928 pounds of CO₂e/MWh—almost twice as much CO₂e as coal for the same amount of electricity, and four times as much as natural gas. Trash incinerators similarly emit up to 1.7 times as much greenhouse gas emissions per unit of electricity produced as coal-fired power plants. Biomass and solid waste incineration, therefore, cannot be considered carbon-free, and no life-cycle analysis would change that.

Furthermore, Minn. Stat. § 216B.1691 Subd. 9 instructs that “the commission shall take all reasonable actions within the commission’s statutory authority to ensure this section is implemented in a manner that maximizes net benefits to all Minnesota citizens. Reasonable actions the commission must take and benefits that must be maximized include but are not limited to: [...] ensuring that statewide air emissions are reduced, particularly in environmental justice areas.”

Burning biomass and burning municipal solid waste harms people’s health. Biomass facilities can legally emit greater amounts of nitrogen oxides, volatile organic compounds, particulate matter, mercury, and carbon monoxide per megawatt-hour than coal plants, endangering the health and safety of neighboring communities. Waste incinerators similarly emit dangerous pollutants such as sulfur dioxide, particulate matter, and lead. These emissions are antithetical to the statute’s requirement to reduce air emissions and maximize net benefits to Minnesotans.

Regarding the Commission's requested clarifications around the fifth point:

“Calculating partial compliance based on the net annual generation defined as ‘carbon-free’”

we would like to expand on the comments legislators made in our submission in the previous docket on July 24.

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The statute on partial compliance (Minn. Stat. §216B.1691 Subd. 2d.(b) (i) says partial compliance should be allowed for

“Electricity generated from facilities that utilize carbon-free technologies for electricity generation, but only for the percentage that is carbon-free;”

On its face the statute is intended to allow hybrid facilities that employ more than one technology, one of which is carbon-free, to count the electricity that is generated from the carbon-free technology toward the carbon-free standard.

Hybrid facilities are being used across the country.

This report from Berkeley, published in September 2024 offers a spreadsheet categorizing over 600 hybrid power generation facilities; 14 are in Minnesota. They include:

Wind and Fossil Systems (Worthington, Mountain Lake, Carleton College)

Fossil and Photovoltaic/Solar (Flint Hills Refinery)

Fossil and Hydro (Lanesboro, Redwood Falls, Thief River Falls, Rapids Energy Center)

Biomass and Hydro (Sappi Cloquet Mill)

Wind and Photovoltaic (Red Lake Falls Community, Lake Region Community)

Photovoltaic and Storage (USS Itasca Clean Energy Solar, LLC, Anoka BESS, Athens BESS)

(Underlined facilities appear to include carbon-emitting and carbon-free systems.)

These systems exemplify the fact that facilities that include multiple electricity generation technologies exist. The partial compliance standard passed by the legislature ensures that those facilities – though not being entirely carbon free – can count toward the carbon free standard that portion of energy produced by carbon free sources.

It is important to point out that this does not allow the addition of carbon capture technologies to turn a fuel source that emits carbon (burning coal, natural gas, renewable natural gas, solid waste, or biomass, for instance) into a carbon-free technology, either in whole or in part.

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The partial compliance statute's plain language ensures that if the technology emits carbon dioxide while generating electricity, it should not be allowed to count for partial compliance toward the carbon free standard.

Quoting our comment from July 24, 2024:

Conflation of the electricity generating technologies with the carbon-mitigating technologies is not indicated by the plain language of the statute nor does it reflect our intent.

Carbon free technologies, as defined by the legislature, does not include anything that produces direct CO2 emissions while generating electricity. Burning fossil fuels, and then capturing some of the carbon, doesn't make it a carbon free technology. It doesn't make it partly a carbon-free technology. Electricity generation and carbon capture are two distinct technologies and two distinct systems: one technology and system generates electricity with fuels that emit carbon dioxide and other pollutants. The other technology and system, if working and being used properly (as opposed to being broken or turned off) requires significant amounts of extra energy to siphon off some percentage of the carbon emission coming from the first system.

Conflation of these different systems – those that produce electricity with those that attempt to mitigate carbon emissions – would undermine the very meaning of carbon-free. It would also detrimentally impact our ability to move to the truly carbon-free technologies that are necessary to fight climate change and improve our health.

Proper implementation of the 100% Carbon-Free Standard requires adherence to the definition of carbon-free provided in the law, and firmly rejecting generating technologies that do not qualify. Our directive as legislators to the PUC has been clear: no technology that emits carbon dioxide can qualify as carbon-free under the law. With the federal government rolling back its support for clean energy, it is more important than ever that states like Minnesota remain vigilant and focused on real climate solutions.

We appreciate the work of the PUC to implement this important and groundbreaking law.

Signed,

Representative Patty Acomb

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