



UPDATED COMPILED DECISION OPTIONS - CLEAN
Filed by Staff
Agenda Meeting: January 15, 2026

DOCKET NUMBER	E-999/CI-24-352
ANALYST	Danielle Winner
DATE/TIME SUBMITTED	January 14, 2026, 2:00 p.m.
TITLE	Staff Updated Compiled Decision Options
SUBJECT	In the Matter of Commission Investigation into a Fuel Life-Cycle Analysis Framework for Utility Compliance with Minnesota's Carbon-Free Standard

COMPILED NEW AND REVISED DECISION OPTIONS

PARTRIDGE CONTEXTUAL DECISION OPTIONS

New Partridge A. The Commission finds that Minn Stat. 216B.1691 (“CFS Statute”) is part of a broad set of Minnesota policies related to the tracking and reduction of greenhouse gas emissions, including, but not limited to, Minnesota’s economy-wide greenhouse gas reduction goals set forth in Minnesota Statute 216H.02 and the statutory requirement included in Minnesota Statute 216B.2422 Subd. 3 that the Commission apply and consider the cost of greenhouse gas emissions in electric resource planning and certificate of need proceedings.

Support: Department, LIUNA, MPCA, Minnesota Power, St. Paul Co-Generation and District Energy St. Paul (SPC and District Energy), Xcel
Oppose: CURE

New Partridge B. Considering this framework of state policies that the legislature has tasked the Commission with implementing, the Commission determines that the legislature’s overarching goal of the CFS statute is in furtherance of the state’s economy-wide greenhouse emissions goals included in 216H.02; is to be integrated with the consideration of greenhouse gas emissions in resource planning and certificate of need proceedings; and is intended by the legislature to reduce greenhouse gas emissions, by the percentages and on the timeline provided in the CFS Statute, that contribute to climate change and result from the generation of electricity sold to retail customers in Minnesota.

Support: Department, LIUNA, MPCA, Minnesota Power, SPC and District Energy, Xcel
Oppose: CURE

New Partridge C. Because the record of evidence in this docket demonstrates that the definition of “carbon-free” in this statute lacks a timeframe for “generating electricity without emitting carbon dioxide”, neither saying “at the point of generation” nor “considering the fuel lifecycle,” and the fact that legislators that voted on the CFS Statute disagree about its legislative intent, the Commission determines that there is ambiguity in the language of the CFS Statute related to the boundaries and timeline of the definition of “carbon free,” requiring the Commission to establish a definition and associated guidance for “carbon free” determination.

Support: Department, LIUNA, MPCA, Minnesota Power, SPC and District Energy, Xcel
Oppose: CEOs, CURE

New Partridge D. Based on the overarching goal of the CFS Statute as stated above, the entirety of the language included in the CFS Statute, and the principles of statutory

interpretation, the Commission finds that a fuel life-cycle analysis is the most appropriate methodology for assessing whether an electric resource is considered carbon free for compliance with the CFS Statute.

Support: Department, LIUNA, MPCA, Minnesota Power, SPC and District Energy, Xcel

Oppose: CEOs, CURE

New Partridge E. Absent a fuel life-cycle analysis approach for determining carbon-free compliance, utilities subject to the CFS Statute could be required to invest in a mix of electric generation resources that increase greenhouse gas emissions economy-wide. In addition, the record reflects that an overly restrictive definition of carbon free may result in the retirement of certain potentially carbon-free dispatchable generation that are currently operating, thereby negatively impacting the reliability of the Minnesota grid or increase costs to Minnesota ratepayers, in contradiction of the direction to the Commission by the legislature in Minn Stat. 216B.1691, subdivision 2d, paragraph (b), clause 1.

Support: Department, LIUNA, MPCA, Minnesota Power, SPC and District Energy, Xcel

Oppose: CEOs, CURE

New Partridge F. A fuel life-cycle analysis shall be used to determine whether the net emissions resulting from a technology or fuel used to produce electricity, over the fuel's production and combustion cycle, is lower than the emissions that would result from the process most likely to occur ("the counterfactual") in the absence of its use for electricity generation.

Support: Department, LIUNA, MPCA, Minnesota Power, SPC and District Energy, Xcel

Oppose: CEOs, CURE

New Partridge G. The integrated resource planning ("IRP") process will continue to be the Commission's primary tool and process for selecting electric generating resources with consideration of reliability, resource adequacy, greenhouse gas emissions and associated externalities, and pollutants and other environmental impacts.

Support: CEOs, Department, LIUNA, MPCA, Minnesota Power, SPC and District Energy, Xcel

Oppose: CURE

BRIEFING PAPER DECISION OPTIONS

CFS Frameworks

1. The following resources shall be eligible for full CFS compliance: solar, wind, hydropower, and nuclear.

Support: All commenters

- A. Geothermal

Support: CEOs, Connexus, Department, Great River Energy, LIUNA, MPCA, Minnesota Power, Otter Tail Power, SPC and District Energy, Xcel

Partridge New B. Hydrogen produced with solar, wind, hydropower, nuclear, or geothermal.

Support: Connexus, Department, LIUNA, MPCA, Minnesota Power, Otter Tail Power, SPC and District Energy, Xcel

2. The Commission adopts a Point-of-Generation framework. The following types of facilities shall not be eligible for full or partial compliance (*choose one or more*):

- A. biomass facilities

- B. solid waste, municipal solid waste, waste-to-energy, and refuse-derived fuel

- C. renewable natural gas facilities

Support: CEOs, Climate Generation, Coalition for Plastic Reduction, CURE, DFL Environmental Caucus, Eureka Recycling, HPHC, Institute for Local Self-Reliance, Interfaith, 43 Legislative Members, Minnesota Environmental Justice Table and Zero Burn Coalition, Minnesota Environmental Partnership, MN350, Northeast Metro Climate Action, Partnership for Policy Integrity, Vote Solar

Oppose: Department, LIUNA, MMPA, MPCA, MRRRA, Olmsted County, Partnership on W&E, Ramsey/Washington R&E, SPC and District Energy

OR

CEOs New 2a. Electricity generation fueled by burning solid waste, biomass, or other fuels that emit CO₂ when burned are not eligible for treatment as carbon-free under the CFS as a matter of law because they do not generate electricity “without emitting carbon dioxide,” as required under the definition of carbon-free at Minn. Stat. § 216B.1691, subd. 1(b).

Support: CEOs, CURE, HPHC

Oppose: Department, LIUNA, MPCA, MRRRA, Olmsted County, Partnership on W&E, Ramsey/Washington R&E, SPC and District Energy

AND

CEOs New 2b. The partial compliance provision at Minn. Stat. § 216B.1691, subd. 2d(b)(2)(i) applies to facilities that partially employ a technology that, if fully employed at the facility, could potentially generate electricity without emitting CO₂, such as facilities using hydrogen co-firing or CCS. The provision does not apply to facilities that burn solid waste, biomass, or other fuels that emit CO₂ unless they also partially employ a technology described in the previous sentence, and then only the percentage of generation attributable to that technology would be considered carbon-free.

Support: CEOs

Oppose: CURE, Department, LIUNA, MPCA, MRRRA, Olmsted County, Partnership on W&E, Ramsey/Washington R&E, SPC and District Energy

HPHC Modified CEOs New 2b. The partial compliance provision at Minn. Stat. § 216B.1691, subd. 2d(b)(2)(i) applies to facilities that partially employ a technology that, if fully employed at the facility, could potentially generate electricity without emitting CO₂, such as facilities using hydrogen co-firing. The provision does not apply to facilities that burn solid waste, biomass, or other fuels that emit CO₂ unless they also partially employ a technology described in the previous sentence, and then only the percentage of generation attributable to that technology would be considered carbon-free.

Support: HPHC

CEOs New 2c. The Commission declines to consider requests to grant full or partial carbon-free status to electricity generation fueled by solid waste, biomass, or other fuels that emit CO₂ when burned, finding that such grants would be contrary to the public interest. Granting such requests based on life-cycle analysis would be contrary to the public interest because:

- 1) granting such requests would increase power sector CO₂ emissions by incentivizing more burning of solid waste and biomass, which runs counter to the goals of the CFS law and legislative intent;

- 2) such analyses would be administratively burdensome, demand a high degree of speculation regarding multiple factors, and yield unreliable results;
- 3) the need to update the analyses as circumstances change would create ongoing regulatory uncertainty disruptive to energy planning and waste-management planning;
- 4) granting carbon-free status to such facilities could undermine efforts to reach state climate and waste-management goals; and
- 5) granting carbon-free status to such facilities could undermine efforts to reduce health-harming air pollutants, particularly in environmental justice areas, contrary to the goal of Minn. Stat. § 216B.1691, subd. 9.

Support: CEOs, CURE, HPHC

Oppose: Department, LIUNA, MPCA, MRRA, Olmsted County, Partnership on W&E, Ramsey/Washington R&E, SPC and District Energy

OR

3. The Commission adopts an Eligible Energy Technologies framework. Eligible Energy Technologies, as defined by Minn. Stat. §216B.1691, subd. 1(c), shall be eligible for full CFS compliance.

Support: City of Red Wing, Great River Energy, Minnesota Forest Industries, MMPA, Minnesota Resource Recovery Association (MRRA), Olmsted County, Partnership on Waste & Energy, Ramsey/Washington R&E, Senator Frentz, SPC and District Energy

Oppose: CEOs, CURE, Department, MPCA

OR (if the Commission chooses to require an LCA, choose one from Decision Options 4-6. Note: Decision Option 6 was late-filed.)

4. The Commission adopts a proportionate LCA framework. The following types of facilities may be eligible for full or partial compliance, pending the outcome of a lifecycle analysis (*choose one or more*):

- A. Sustainable and waste biomass facilities
- B. Municipal solid waste, waste-to-energy, and refuse-derived fuel facilities
- C. Renewable natural gas facilities

Support: LIUNA, Minnesota Forest Industries, MMPA, Minnesota Power, Xcel

Support but prefer DO3, DO5, and Partridge New 5: MRRRA, Olmsted County, Partnership on Waste & Energy (prefers DO6), Ramsey/Washington R&E, SPC and District Energy (prefers DO6)

Oppose: CEOs, CURE, Department, MPCA

OR

5. The Commission adopts a binary LCA framework. The following types of facilities may be eligible for full compliance, pending the outcome of a lifecycle analysis (*choose one or more*):

- A. Sustainable and waste biomass facilities
- B. Municipal solid waste, waste-to-energy, and refuse-derived fuel facilities
- C. Renewable natural gas facilities

Support but prefer DO 3: MRRRA, Olmsted County, Partnership on W&E, Ramsey/Washington R&E, SPC and District Energy (prefers Partridge New 5 and DO 6)

Oppose: CEOs, CURE, Department, LIUNA, MMPA, MPCA

OR

Partridge New 5. The Commission will give full carbon-free credit to waste-derived eligible energy technologies (“EETs”) included in Minn. Stat. 216B.1691, subd. 1(c)(5), only if the results of a facility-specific fuel LCA show that using the waste-derived EETs to produce electricity results in equal or lower emissions compared to the emissions that would occur in a counterfactual scenario. The counterfactual must incorporate all reasonable, commercially available waste and emissions mitigation practices associated with the EETs and be approved by the Commission after an opportunity for notice and comment by interested parties.

Support: CMPAS, Department, MPCA, Xcel

Support but prefer DO 3: MMRA, Olmsted County, Rasmey/Washington R&E, SPC and District Energy

Oppose: CEOs, CURE, Minnesota Power

6. The Commission adopts a binary LCA framework with a waste wood exemption. The following types of facilities may be eligible for full compliance, pending the outcome of a lifecycle analysis (*choose one or more*):
 - A. Sustainable and waste biomass facilities that are not eligible for an exemption. To be eligible for an exemption, the biomass fuel must meet the following conditions:
 - 1) The fuel is determined to be waste, as recommended by a Commission-established biomass working group.
 - 2) The fuel is sourced from wood.
 - 3) The temperature of waste is not altered as a required step to process the waste for energy production.
 - 4) The average one-way transportation distance per ton-mile of waste does not exceed 75 miles from the waste collection point to the point of energy generation or the distance requirement is eliminated for trucks that run on zero emission fuels.
 - 5) All of the electricity required to process the waste is matched with energy attribute certificate (EAC) retirements, which are additional to the utility’s requirements under Minn. Stat. § 216B.1691.
 - B. Municipal solid waste, waste-to-energy, and refuse-derived fuel facilities
 - C. Renewable natural gas facilities

Support: Department, MPCA

Support but prefer DO 3, DO 5, and Partridge New 5: Partnership on W&E, SPC and District Energy

Oppose: CEOs, CURE, LIUNA, MMPA

AND

7. In evaluating compliance or partial compliance, and in evaluating IRPs, the Commission may establish limits on significant additional use of emitting fuels that have been determined to be fully or partially carbon-free based on an LCA. *(Staff proposed)*

Support: HPHC

Oppose: CEOs, CURE, LIUNA

Partridge Modified 7. In evaluating compliance or partial compliance, and in evaluating IRPs, the Commission may establish limits on significant additional use of emitting fuels that have been determined to be carbon-free based on an LCA.

Support: Department, MPCA, Xcel

Oppose: CEOs, CURE, Minnesota Power

ISO 14040/14044

8. The Commission adopts the International Organization for Standardization's (ISO) Life Cycle Assessment Requirements and Guidelines as best practice for interpreting the statutory definition of "carbon-free," and considers the ISO 14040 and 14044 as the best framework for establishing future LCAs.

Support: CEEM, Minnesota Power, MRRRA, Olmsted County, Partnership on W&E, Ramsey/Washington R&E, SPC and District Energy, Xcel

Oppose: CEOs, CURE

Fuel Pathways Proposal

9. The Commission adopts a Fuel Pathways framework with the following definitions *(choose one or more)*:
 - A. Carbon-free: A determination of carbon-free is made at the fuel pathway level. "Carbon-free" does not apply to a specific resource or technology, but to the entire fuel pathway of a specific LCA, the boundaries of which will be set by the Commission.
 - B. Compliance: Compliance applies at the generation resource level.

- i. Full compliance: A generation resource is fully compliant if 100 percent of the electricity generated by the resource is generated based on a fuel pathway determined to be carbon-free.
 - ii. Partial compliance: A generation resource is “partially compliant” if, in the generation of electricity, the resource relies on:
 - (a) Pollution control technology that does not remove 100 percent of the CO₂ emissions generated, or
 - (b) A mixture of a CF fuel pathway and a non-CF fuel pathway (e.g., blending of hydrogen produced from an EET with natural gas)
- C. Comparative Scenario Evaluation (CSE): A counterfactual analysis, to be submitted alongside appropriate LCA studies.
- D. Partial Credit: Partial credit would apply to CF fuel pathways that are determined to not be carbon-free and, after undergoing a Comparative Scenario Evaluation are ultimately deemed to be a better (i.e., lower net GHG emissions) management opportunity than other options, and, as a result, are granted partial CF credit.

Support: CMPAS, LIUNA, Partnership on W&E, Xcel

Oppose: CEOs, CURE, Department, MPCA

10. The responsible government agency’s standard of review for determining if a fuel pathway is carbon-free, partially carbon-free, or not carbon-free shall be based upon a carbon intensity threshold level below which a CF fuel pathway is considered CF.

Support: LIUNA, Partnership on W&E, Xcel

Oppose: CEOs, CURE, Department, MPCA

11. For blended fuel situations such as hydrogen co-firing, an LCA must be conducted on each individual fuel pathway requiring an LCA, rather than conducting an LCA on a combination of fuel pathways as would occur with fuel blending.

Support: LIUNA, SPC and District Energy, Xcel

Oppose: CEOs, CURE, Department, MPCA

12. LCAs shall be conducted based on annual data, consistent with CFS compliance.

Support: CMPAS, LIUNA, MMPA, Xcel

Oppose: CEOs, CURE

13. LCA review will use the following procedures (*choose one or more*):

- A. The responsible state agency shall review and make a recommendation to the Commission on approving or denying the results of an LCA conducted by or on behalf of a utility.
- B. The utility proposing a new CF fuel pathway for compliance demonstration purposes is responsible for conducting and providing the results of an LCA for review.
- C. Once an LCA is submitted to the responsible state agency for review, the review should be completed and approved or denied by the Commission within six months.
- D. If an LCA conducted by or on behalf of a utility is ultimately denied for a given fuel pathway by the Commission, the utility may appeal the decision.
- E. If an LCA conducted by or on behalf of a utility is ultimately denied for a given fuel pathway by the Commission, another LCA analysis for the denied fuel pathway may be undertaken by the same or another utility.
- F. Once the LCA results for a given CF fuel pathway have been approved by the responsible government agency, that CF fuel pathway shall be added to an “approved CF fuel pathways” list that other utilities can rely on without needing to conduct another LCA. In order to rely on the “approved CF fuel pathways” list, the resource relying on the list must have similar source and production pathways as the resource on the list.
- G. Utilities are encouraged to file proposed LCAs during a resource plan or resource acquisition proceeding, but may file at any time.
- H. A process of public comment will transpire after the proposed LCA has been submitted.
- I. As part of its review of the proposed LCA, where appropriate, the responsible state agency will investigate the proposal and provide a recommendation for a comparative scenario analysis submitted by the utility. (*Staff proposed*)
- J. The responsible state agency will maintain a repository of “approved CF fuel pathways” and “approved counterfactual fuel pathways” available for public use on the agency’s website. (*Staff proposed*)

Support: CMPAS (C-G, J), LIUNA (A-F), Partnership on W&E (D, E, F, I, J) Xcel (A-J)

Oppose: CEOs, CURE, Department, MPCA

OR

Partridge Modified 13. LCA review will use the following procedures:

Partridge Modified B. The utility proposing a fuel LCA for compliance demonstration purposes is responsible for conducting the LCA and providing a detailed and transparent description of the inputs, assumptions, and results of the LCA, including a comprehensive explanation and justification for the counterfactual selected, to the Commission for review.

Partridge Modified A. Prior to submitting a proposed LCA to the Minnesota Pollution Control Agency (“MPCA”), the utility will work with the MPCA to develop the appropriate assumptions and inputs for the project-specific LCA, including:

1. the appropriate counterfactual, including reasonable, commercially available practices to reduce the amount of waste feedstock and/or mitigate associated emissions
2. system boundary and feedstock assumptions, including assumptions related to leakage where applicable
3. the study period
4. relevant offsets, including but not limited to landfill methane collection practices and recycling or alternative beneficial use of waste feedstocks.

The MPCA shall review and make a recommendation to the Commission on whether to approve, modify, or deny the assumptions, inputs, and/or results of an LCA conducted by a utility.

G. Utilities are encouraged to file proposed LCAs during a resource plan or resource acquisition proceeding, but may file at any time.

Partridge Modified H. A process of public comment will transpire through a docketed process before the Commission after the proposed LCA has been submitted. Interested parties may comment on the methodology, outcome, inputs, and assumptions of the LCA, including the appropriateness of the counterfactual and associated assumptions.

Support: CMPAS (Modified 13A and 13B only), Department (Modified B, G, Modified H), LIUNA, MPCA (Modified B, G, Modified H), Minnesota Power, Xcel

Oppose: CEOs, CURE

Agencies Modified Partridge Modified 13.A. Prior to submitting a proposed LCA to the Minnesota Department of Commerce (“Department”) and the Minnesota Pollution Control Agency (“MPCA,” “Agencies”), the utility will work with the Agencies ~~MPCA~~ to develop the appropriate assumptions and inputs for the project-specific LCA, including:

1. the appropriate counterfactual, including reasonable, commercially available practices to reduce the amount of waste feedstock and/or mitigate associated emissions
2. system boundary and feedstock assumptions, including assumptions related to leakage where applicable
3. the study period
4. relevant offsets, including but not limited to landfill methane collection practices and recycling or alternative beneficial use of waste feedstocks.

The Department, in consultation with the MPCA, shall review and make a recommendation to the Commission on whether to approve, modify, or deny the assumptions, inputs, and/or results of an LCA conducted by a utility.

Support: Department, MPCA

REVISED PARTRIDGE MODIFIED 13. LCA review will use the following procedures:

REVISED PARTRIDGE MODIFIED B. The utility proposing a fuel LCA for compliance demonstration purposes is responsible for conducting the LCA and providing documentation verifying that the source of the feedstock is eligible for consideration as carbon free, based on the order points herein and Minn. Stat. 216B.1691, subd. 1(c)(5), a detailed and transparent description of the inputs, assumptions, and results of the LCA, including a comprehensive explanation and justification for the counterfactual selected, to the Commission for review.

AGENCIES MODIFIED PARTRIDGE MODIFIED 13.A. Prior to submitting a proposed LCA to the Minnesota Department of Commerce (“Department”) and the Minnesota Pollution Control Agency (“MPCA,” “Agencies”), the utility will work with the Agencies ~~MPCA~~ to develop the appropriate assumptions and inputs for the project-specific LCA, including:

1. the appropriate counterfactual, including reasonable, commercially available practices to reduce the amount of waste feedstock and/or mitigate associated emissions
2. system boundary and feedstock assumptions, including assumptions related to leakage where applicable
3. the study period

4. relevant offsets, including but not limited to landfill methane collection practices and recycling or alternative beneficial use of waste feedstocks.

The Department, in consultation with the MPCA, shall review and make a recommendation to the Commission on whether to approve, modify, or deny the assumptions, inputs, and/or results of an LCA conducted by a utility.

- G. Utilities are encouraged to file proposed LCAs during a resource plan or resource acquisition proceeding, but may file at any time.

PARTRIDGE MODIFIED H. A process of public comment will transpire through a docketed process before the Commission after the proposed LCA has been submitted. Interested parties may comment on the methodology, outcome, inputs, and assumptions of the LCA, including the appropriateness of the counterfactual and associated assumptions.

Model

14. Each individual project (electricity generator) shall be paired with the appropriate model when conducting a lifecycle analysis. The following models and sources may be used when submitting an LCA for Commission consideration and approval (*choose one or more*):

- A. Argonne National Laboratory's Greenhouse Gasses, Regulation Emissions, and Energy Use in Transportation (GREET) model
- B. Environmental Protection Agency's Waste Reduction Model (WARM) model
- C. Environmental Protection Agency's Landfill Gas Emissions Model (LandGEM) model
- D. California Biomass Residue Emissions Characterization (C-BREC) model
- E. New/additional models and methodologies as may be developed or refined over time

Support: CEEM (A and D), CMPAS (A-C, and E), LIUNA, MMPA (A), MRRRA (A-D), Olmsted County (A-D), Partnership on W&E, Xcel (A-E), Ramsey/Washington R&E (A-D), SPC and District Energy (D&E)

Oppose: CEOs, CURE

15. In lieu of conducting an LCA, parties may use (*choose one or more*):

- A. Prior studies and literature reviews, such as the University at Buffalo's study on Waste-to-Energy facilities, if they are for a similar fuel pathway;
- B. Credible sources of existing LCA analysis results

Support: American Forest and Paper Association with the Pulp and Paperworkers' Resource Council (B only), CMPAS, Minnesota Forest Industries, MRRRA, Olmsted County, Ramsey/Washington R&E, Xcel

Oppose: CEOs, CURE, Department (oppose A), MPCA (oppose A)

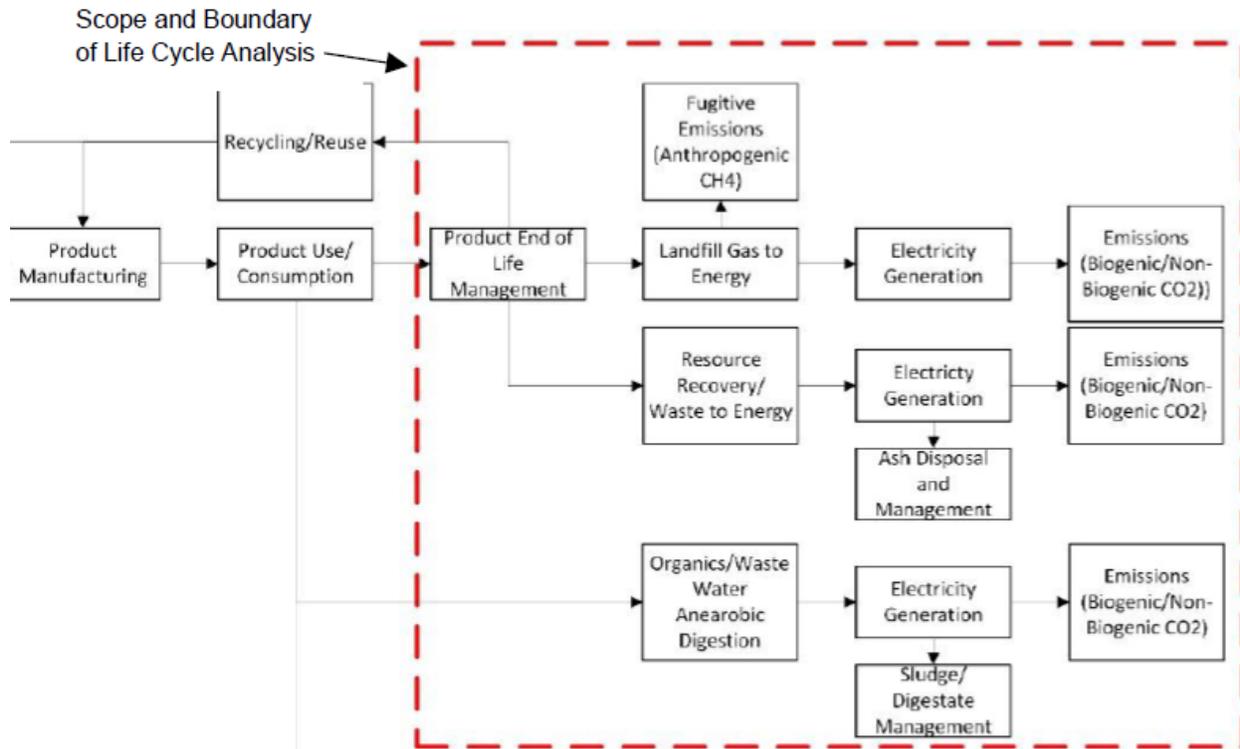
Scope, Boundary, and Study Period

16. The LCA scope and boundary for a carbon-free generation source shall begin with the existence and acquisition of the fuel; for solid waste and biomass materials, this is the point at which the material is generated and requires some kind of management.

Support: Partnership on W&E, SPC and District Energy

Oppose: CEOs, CURE

17. When conducting an LCA Study, and where appropriate, parties must use the scope and boundary proposed by Olmsted County in Figure 1 of its June 5, 2025 Comments in Docket No. E999/CI-24-352, replicated here for ease of use:



Support: Olmsted County

Oppose: CEOs, CURE

18. The scope and boundary of the fuel LCA shall include the biogenic emission carbon cycle for all relevant LCAs.

A. For these LCAs, there shall be a study period of at least 100 years.

Support (18 and 18A): Minnesota Forest Industries, Minnesota Forest Resources Council, Minnesota Power, MRRRA, Olmsted County, Partnership on W&E, Ramsey/Washington R&E, SPC and District Energy

Oppose (18 and 18A): CEOs, CURE, MMPA

19. The study period of the LCA shall align with the life of the resource or beneficial use program.

Support: CMPAS, MMPA, Xcel

Oppose: CEOs, CURE, Department, MPCA

Counterfactuals

20. Counterfactual evaluations shall be permitted in the LCA process.

Support: CMPAS, CEEM, LIUNA, Minnesota Forest Industries, MMPA, MRRRA, Olmsted County, Partnership on W&E, Ramsey/Washington R&E, SPC and District Energy, Xcel

Oppose: CEOs

21. Utilities shall develop their own avoided emissions base case scenarios, as appropriate, to use in a fuel LCA study.

Support: LIUNA

Oppose: CEOs, CURE

Quantified GHGs

22. LCA studies shall quantify the following greenhouse gases (*choose one or more*):

A. Carbon dioxide

B. Methane, using a carbon equivalency (“CO₂e”) value

- C. Nitrous Oxides, using carbon equivalency values
- D. Any other greenhouse gases considered relevant in the study, using carbon equivalency values

Support: Minnesota Forest Industries, MMPA (A-D), MRRRA, Partnership on W&E (A-D), Olmsted County (A-D), Ramsey/Washington R&E (A-D), Xcel (A-D)

Oppose: CEOs

Partridge New 22. LCA studies shall quantify all greenhouse gases considered in Minnesota Statute 216B.2422, Subd. 3, the environmental costs the Commission must apply when evaluating and selecting resource options in all proceedings before the Commission, using a carbon equivalent unit of measure.

Support: Department, LIUNA, MPCA, Minnesota Power, Xcel

Oppose: CEOs, CURE, MRRRA, Ramsey/Washington R&E

Input Electricity

23. For all claims of carbon-free electricity used in a life-cycle analysis where the fuel requires processing using electricity before the fuel is combusted (*choose one or more*):

- A. The utility must include hourly matching for CFS-eligible generation sources;
- B. The utility must specify the source of carbon-free electricity; and
- C. If a utility does not propose carbon-free electricity, the utility should use the whole MISO territory or LRZ 1 annual grid emissions.

Support:

Oppose (A-C): CEOs, CMPAS, LIUNA, MMPA, Xcel

Note: The Department withdrew DO 23 in its January 8, 2026 New Decision Options Letter, but MPCA was not a signatory.

Partridge Modified 23. For all claims of carbon-free electricity used in an LCA where the fuel requires processing using electricity before the fuel is combusted:

- B. The utility must specify the source of carbon-free electricity; and
- C. If a utility does not propose carbon-free electricity, the utility should use the whole MISO territory or LRZ 1 annual grid emissions.

In its proposed fuel LCA filing, the utility shall provide a comprehensive analysis of the emissions resulting from the electricity used for processing.

Support: Department, MPCA, Minnesota Power, Xcel

Oppose: CEOs, CMPAS, CURE

24. For all electricity generation processes subject to lifecycle analysis requirements in which the primary electricity input energy is greater than 25 percent of output energy (*choose one or more*):

- A. The utility must submit annual documentation with its CFS compliance filing to demonstrate hourly matching of carbon-free electricity generation; and
- B. The utility must plan new carbon-free resources to match all new electricity generation.

Support: Department, MPCA

Oppose: CEOs, CMPAS, LIUNA, MMPA, Xcel

Re-Evaluations

25. For existing assets, lifecycle emissions shall be reevaluated no sooner than every five years.

Support: MMPA

Oppose: CEOs, CURE

Partridge Modified 25. For fully depreciated assets, lifecycle emissions shall be evaluated no sooner than every five years.

Support: Department, LIUNA, MPCA, Minnesota Power, Xcel

Oppose: CEOs, CURE

26. For new capital projects, lifecycle emissions shall be reevaluated after the initial capital expenditure is expected to be paid off, to be determined at the time of CFS eligibility.

Support:

Oppose: CEOs, CURE, MMPA

27. For new capital projects, lifecycle emissions shall be reevaluated no sooner than after the capital project is fully depreciated.

Support:

Oppose: CEOs, CURE, MMPA

Partridge Modified 27. For new capital projects, lifecycle emissions shall be reevaluated no sooner than after the capital project is either fully depreciated or was expected to be paid off as determined at the time of CFS eligibility, whichever is earlier, unless the facility was subject to an LCA and the fuel mix deviates by more than ten percent.

Support: Department, LIUNA, MPCA, Xcel

Oppose: CEOs, CURE, Minnesota Power

OR

MP Modified 27. For new generation projects that use fuel with an approved LCA, the LCA approval expires at the end of life determined at the time of LCA approval (or when the project is fully depreciable), unless the facility was subject to an LCA and the fuel mix deviates by more than ten percent. A new or reevaluated LCA study is required to continue to qualify for the CFS after operating beyond the initial end of life.

Support: Minnesota Power

28. Once a resource qualifies as carbon-free or partially carbon-free, that designation shall remain in place for the duration of the lifetime of the asset, unless and until significant modifications are made to the fuel type of generation resource.

Support: CMPAS, LIUNA (only if no Partridge Mod. 27), MMPA, SPC and District Energy, Xcel

Oppose: CEOs, CURE

29. For any fuel mix determined to be carbon-free from a life-cycle analysis study, if that fuel mix deviates by more than ten percent, the utility must submit a new or revised lifecycle analysis and issue a new carbon-free percentage, if applicable.

Support:

Oppose: CEOs, CURE

Partridge Modified 29. For any fuel determined to be carbon-free from an LCA study, if that fuel source deviates by more than ten percent, the utility must submit a new or revised lifecycle analysis.

Support: Department, LIUNA, MPCA, Minnesota Power, Xcel

Oppose: CEOs, CURE

Credits and Allocators

30. For generation resources determined to be partially carbon-free based on a life-cycle analysis, the Commission will allow portfolio averaging among the entity's own LCA-eligible fuel pathways of the same type, i.e., the aggregate carbon intensity score of those pathways using weighting consistent with standard LCA practice. Non-emitting resources (wind/solar/nuclear) are not included in the averaging set, and fossil fuel shares are not netted.

Support: MMPA

Oppose: CEOs, CURE, Department, MPCA

31. For generation resources determined to be partially carbon-free based on a life-cycle analysis, CFS-obligated utilities must report carbon-free MWh commensurate with the percentage that the facility is considered to be carbon-free.

Support: CMPAS, LIUNA, Minnesota Power

Oppose: CEOs, CURE, Department, MPCA

32. The Commission orders the following (*choose one or more, note that E is for the proportionate construct only*):

- A. Environmental Attribute Credits shall be issued equivalent to metered generation on a per MWh basis;
- B. A single Environmental Attribute Credit be issued for all generation that may be retired to demonstrate both EETS and CFS compliance;
- C. A carbon-free allocator, which defines the percentage of CFS eligible generation, must be used for any generation facility that is partially CFS compliant; and
- D. For all generation made in a CFS partial compliant facility that is not eligible for the EETS, metered generation in A. shall be multiplied by C. to determine the whole number of Environmental Attribute Credits to issue that are only eligible for the CFS.

- E. For all generation made in a CFS partial compliant facility that is also eligible for the EETS, metered generation in A. shall be:
- 1) Multiplied by C. to determine the whole number of RECs to issue that are fully eligible for both the EETS and CFS;
 - 2) Multiplied by one minus C. to determine the whole number of RECs to issue that are only eligible for the EETS.

Support: Department (A-E), MPCA (A-E), MRRRA (A-D), Olmsted County (A-D), Ramsey/Washington R&E (A-D)

Oppose: CEOs

33. The Commission requires all partially compliant input energy claims in a secondary process to factor in the total output electricity of the partially compliant resource and its carbon-free allocator.

Support:

34. The Commission delegates to the Executive Secretary authority to begin proceedings to establish a process to translate renewable thermal credits to an Environmental Attribute Credit for compliance tracking purposes.

Support: SPC and District Energy, Xcel

Oppose: CEOs, CURE, Department, MPCA, Minnesota Power

Health Metrics

35. For biomass, RNG, and solid waste facilities, utility planning and tracking processes shall quantify and analyze the deaths and morbidity caused by these facilities to communities in Minnesota and other jurisdictions. Such modeling must also account for economic harm, property value losses, harms to rural population and ways of life, harms to family farming, and known pollution impacts.

Support: CEOs, CURE, HPHC

Oppose: CMPAS, LIUNA, MMPA, MRRRA, Olmsted County, Partnership on W&E, SPC and District Energy

Compliance Filings

36. Beginning in 2026, each electric utility subject to the Carbon-Free Standard shall include in their annual compliance report in Docket No. E-999/PR-YR-12: *(choose one or more)*

- A. For any fuel determined to be carbon-free from a life-cycle analysis study, utilities must report the composition of the fuel mix compared to the modeled lifecycle analysis.
- B. For any fuel determined to be carbon-free from a life-cycle analysis study, utilities must report: electricity used to generate electricity, marginal energy attribute credit (EAC) retirements to match all electricity use (hourly or annual), and weighted average trucking mileage for each generation facility that uses the exemption.

Oppose: CEOs, CURE, MMPA

Partridge Modified 36. Beginning in 2027, each electric utility subject to the Carbon-Free Standard shall include in their annual compliance report in Docket No. E-999/PR-YR-12:

Partridge Modified A. For any fuel determined to be carbon-free from an LCA study, utilities must report the composition of the fuel mix compared to the modeled LCA.

Partridge Modified B. For any fuel determined to be carbon-free from an LCA study, utilities must report: electricity used to generate electricity and energy attribute credit (EAC) retirements to match all electricity use.

Support: CMPAS, Department, LIUNA, MPCA, Minnesota Power, Xcel

Oppose: CEOs, CURE

DOC Modified 36. Beginning in 2026, each electric utility subject to the Carbon-Free Standard shall include in their annual compliance report in Docket No. E-999/PR-YR-12: *(choose one or more)*

- A. For any fuel determined to be carbon-free from a life-cycle analysis study, utilities must report the composition of the fuel mix compared to the modeled lifecycle analysis.
- B. For any fuel that requires carbon-free electricity to reach a carbon-free eligibility determination, utilities must report: electricity used to generate electricity, marginal energy attribute credit (EAC) retirements above Minn. Stat. § 216B.1691 requirements to match all electricity use (hourly or annual), and weighted average trucking mileage for each generation facility that uses the biomass exemption.

Support:

Oppose: CEOs

DOC New 36A. Waste Biomass shall be exempt from fuel lifecycle analysis requirements and eligible for CFS compliance, provided the electricity generation meets the following conditions:

1. The fuel is determined to be waste, as recommended by the working group created by the Agencies' Recommendation D.1 (*Staff note: Decision Option 45*).
2. The fuel is sourced from wood.
3. The temperature of waste is not altered as a required step to process the waste for energy production.
4. The average one-way transportation distance per ton-mile of waste does not exceed 75 miles from the waste collection point to the point of energy generation or the distance requirement is eliminated for trucks that run on zero emission fuels.
5. All of the electricity required to process the waste is matched with energy attribute certificate (EAC) retirements, which are additional to the utility's requirements under Minn. Stat. § 216B.1691.

Support:

Oppose: CEOs

37. Utilities subject to the CFS and intending to use an LCA must notify the Commission and offer basic information about the relevant resources and fuel types and sourcing within 60 days of the Commission's Order in the current proceeding. (*Staff proposed*)

Support: HPHC

Oppose: CEOs, CMPAS, CURE

Partridge Modified 37. Utilities subject to the CFS and intending to use a resource that requires an LCA for compliance with the 2030 requirements of the CFS Statute must notify the Commission and offer basic information about the relevant resources and fuel types and sourcing within 60 days of the Commission's Order in the current proceeding.

Support: Department, LIUNA, MPCA, Minnesota Power, Xcel

Oppose: CEOs, CMPAS, CURE

Biomass Definitions

38. Primary biomass shall not be eligible for CFS compliance. Primary biomass is defined as:

Biomass that is intentionally cultivated, harvested, and prepared for use, in whole or in part, as a fuel for the generation of electricity.

As farm-grown closed-loop biomass as defined in Minn. Stat. § 216B.2424, subd. 1(a)(1).

Support: CEOs, CURE, HPHC, Department, MPCA, Minnesota Power, Xcel

39. Waste biomass shall be eligible for CFS compliance. Waste biomass is defined as (*choose one or more*):

- A. Biomass derived from secondary activities including but not limited to:
 - 1. Wood waste from storm damage, disease or infestation, utility line maintenance, waste from forest products manufacturing;
 - 2. Agricultural activities including manure;
 - 3. Food waste and other organic waste.
- B. Biomass that results in lower greenhouse gases than the alternative disposal method.
- C. Biomass that is not deliberately generated or created for use as a fuel feedstock, but is a by-product of the functions of society, or the result of natural forces such as pests, disease and storm damage, and requires some type of management or disposal on an ongoing basis, irrespective of the opportunities for or need for energy production.

Support: American Forest and Paper Association with the Pulp and Paperworkers' Resource Council (A.1 and B), Department (A-C), CMPAS (A), Minnesota Forest Industries, MMPA, MPCA (A-C), Minnesota Power, Partnership on W&E (A-C), SPC and District Energy (C), Xcel (A-C)

Oppose: CEOs, CURE

40. Sustainable woody biomass shall be eligible for CFS compliance. Sustainable woody biomass is defined in Minn. Stat. § 216B.2424, subd. 1(d).

Support: Minnesota Power

Oppose: CEOs, CURE, Department, LIUNA, MPCA

OR

41. Sustainable woody biomass shall be eligible for CFS compliance. Sustainable woody biomass is defined as (*choose one or more*):
- A. From whole dead, dying, damaged, and/or diseased trees salvaged after wildfire, windstorm, or insect infestation; other wood debris in the forest;
 - B. The by-product of forest management from routine maintenance, natural disasters, or hazardous fuel reduction including trees and woody plants (limbs, tops, needles, leaves, and other woody parts) grown in a forest, woodland, rangeland, or the urban and community environment;
 - C. Wood biomass associated with secondary harvest of logging residuals; tops, limbs, and unmarketable material from harvest operations;
 - D. Manufactured wood pellets;
 - E. Wood-based construction debris and waste;
 - F. Non-hazardous secondary materials such as wood-based paper-mill residuals, saw-mill residuals (including bark, sawdust, chips), and railroad ties, consistent with their treatment in EPA rule 40 CFR Part 241;
 - G. Material sourced by trained logging professionals implementing the Minnesota Forest Resources Council Voluntary Site-Level Guidelines for Forest Management, which includes biomass harvesting guidelines.

Support: CEEM (A and B), Minnesota Forest Industries (A-E), Minnesota Forest Resources Council, Minnesota Power, Partnership on W&E (A and B)

Oppose: CEOs, CURE, Department, MPCA

Woody Biomass LCA Assumptions

42. In a woody biomass LCA counterfactual analysis, open burning shall be the default alternative management method.

Support: Partnership on W&E, SPC and District Energy

Oppose: CEOs, CURE, Department, MPCA

43. When performing a lifecycle analysis for woody biomass, the following assumptions shall be used when relevant and to the extent possible (*choose one or more*):

- A. System boundary assumptions

- 1) Include forest growth and decay/fire emissions
 - 2) Include energy combustion emissions with scrubbers
 - 3) Include harvest, transport, and processing emissions (not for mill residues)
 - 4) Indirect land use changes will not occur
 - 5) Account for counterfactual scenarios (e.g., what would have happened to the biomass if not used for energy, e.g., wildfire, landfill, and decomposition)
- B. Carbon assumptions:
- 1) Assume biomass is inherently carbon neutral, based on regrowth of forests
 - 2) Use the 100 year planning horizon that accounts for delayed carbon sequestration
 - 3) Assume that emissions from combustion may take decades to be offset by regrowth
- C. Feedstock type and source assumptions:
- 1) Forest residues (branches, tops, unmarketable material)
 - 2) Mill residues (sawdust, bark)
 - 3) Construction debris
 - 4) Whole wildfire, wind, or insect-damaged trees
- D. Forest management practice assumptions:
- 1) Assume the forest is actively managed for natural or planted regrowth and not converted to other uses (e.g., agriculture)
 - 2) Assume the forest is actively managed using sustainable forestry, following harvesting best management practices with trained loggers.
- E. Geographic and temporal scope assumptions:
- 1) Assume the entire forest of Minnesota, including its species and age class-specific growth, mortality, and removals
 - 2) Assume the entire forest of Minnesota, with its associated biogenic cycle emissions, with and without its use for electricity generation;
 - 3) Assume over a 100-year timeframe
- F. Energy system displacement assumptions:
- 1) Assume biomass displaces the current use of coal.

Support: LIUNA (A-F), Minnesota Forest Industries

Oppose: CEOs, CURE, Department, MPCA

44. The University of Minnesota’s 2024 report conducted for the Minnesota Forest Resources Council entitled “Estimated current and future carbon stocks and emissions in Minnesota forests and forest products under multiple management scenarios” shall serve as default guidance for parties conducting a woody biomass LCA.

Support: Minnesota Forest Resources Council

Oppose: CEOs, CURE, Department, MPCA

Biomass Workgroup

45. The Commission delegates to the Executive Secretary the authority to establish and set procedural schedules for a working group to make recommendations to the Commission on standards necessary to verify that biomass qualifies as waste biomass and ensures compliance under the definition established by the Commission.

Support: Department, MPCA, Partnership on W&E

Oppose: CEOs, CURE

A. One function of the biomass workgroup shall be to make recommendations about which types of waste biomass should be exempt from LCA.

Support: Department, MPCA, Partnership on W&E

Solid Waste/MSW

46. For WTE and RDF facilities using MSW feedstock, the counterfactual used shall be “worst case emissions municipal solid waste landfill.”

Support: CMPAS, LIUNA, MMPA, MRRA, Olmsted County, Partnership on W&E, Ramsey/Washington R&E

Oppose: CEOs, CURE, Department, MPCA

47. LCA assumptions using a landfill counterfactual shall incorporate realistic landfill methane gas collection percentages and gas-to-energy recovery efficiency.

Support: MMPA, MRRA, Olmsted County, Partnership on W&E, Ramsey/Washington R&E

Oppose: CEOs, CURE

48. In LCAs, parties must incorporate GHG offsets resulting from the recycling or other beneficial use of components found in the MSW that is being processed for use or otherwise used as a fuel.

Support: MRRA, Olmsted County, Partnership on W&E, Ramsey/Washington R&E

Oppose: CEOs, CURE

Renewable Natural Gas

49. RNG and other fuels purchased with associated renewable thermal credits tracked through M-RETS that have already conducted an LCA are eligible for the CFS without requiring a new LCA.

Support: LIUNA, MMPA, Xcel

Oppose: CEOs, CURE, Department, MPCA

50. RNG from large scale animal operations (“CAFOs”) shall not be eligible for carbon-free credit.

Support: CEOs, CURE, Institute for Agriculture and Trade Policy, HPHC

Oppose: Department, LIUNA, MPCA

51. RNG projects shall not be considered carbon-free unless the utilities applying for credit provide an accounting of externalities, leakage, and foreseeable economic and social impacts of RNG production and use.

Support: CURE, HPHC

Oppose: CEOs, Department, LIUNA, MMPA, MPCA

52. MSW landfilling shall be used as the primary counterfactual for RNG. When possible, parties conducting LCAs on RNG shall use a blended counterfactual that also accounts for composting and/or anaerobic digestion without RNG.

Support: Partnership on W&E

Oppose: CEOs, CURE, Department, MPCA

CCS: Eligibility

53. Facilities that employ carbon capture and sequestration/storage systems shall be eligible for partial CFS compliance.

Support: American Petroleum Institute, CEOs, Department, LIUNA, Minnesota Power, MPCA, Xcel

Oppose: CURE

OR

54. Facilities that employ carbon capture and sequestration/storage systems shall not be eligible for full or partial CFS compliance.

Support: CURE, Eureka Recycling, HPHC, Interfaith, MN350, 43 Legislative Members, 56 Public Commenters

Oppose: Department, MPCA

CCS: Percent Carbon-Free

55. To demonstrate partial compliance due to the presence of the CCS system, utilities employing CCS technologies do not have to provide an LCA.

Support: LIUNA, Minnkota, American Petroleum Institute

Oppose: CEOs, CURE

56. Once the Commission has determined a CO₂/MWh value for a plant using CCS considering direct, upstream, and downstream emissions, it will give partial compliance credit to that plant commensurate with the percent reduction in CO₂ emissions per MWh attributable to the CCS project.

Support: CEOs

Oppose: CURE, Department, MPCA

Partridge New 56. A utility proposing to use CCS for partial compliance with the CFS Statute must submit, to the Commission, a detailed analysis of the CCS project, including a detailed explanation of how emissions will be sequestered and over what time period, the annual estimated amount of carbon-equivalent greenhouse gas emissions captured and sequestered, the annual estimated amount of remaining carbon-equivalent greenhouse gases emitted by the CCS facility, annual estimated indirect carbon-equivalent greenhouse gas emissions associated with the CCS facility, the annual estimated amount of MWh and MW provided by the CCS facility, and the resulting percent of the total output that should

qualify as carbon free. This filing will be subject to a public notice and comment process and reviewed by the Minnesota Pollution Control Agency and the Minnesota Department of Commerce (“the Agencies”). The Agencies shall make a recommendation to the Commission on whether to accept, modify, or reject the utility’s proposed partial credit methodology and results.

A utility using CCS for partial compliance with the CFS Statute must submit, in its annual compliance report in Docket No. E-999/PR-YR-12, the actual carbon-equivalent greenhouse gas emissions captured and sequestered at the CCS facility, the actual amount of remaining carbon-equivalent greenhouse gas emissions emitted by the CCS facility, actual indirect carbon-equivalent greenhouse gas emissions associated with the CCS facility, the actual amount of MWh and MW provided by the CCS facility, and the resulting percent of the total output that should qualify as carbon free for each year.

Support: CEOs, LIUNA, Minnesota Power, Xcel

Oppose: CURE

Agencies Modified Partridge New 56. A utility proposing to use CCS for partial compliance with the CFS Statute must submit, to the Commission, a detailed analysis of the CCS project, including a detailed explanation of how emissions will be sequestered and over what time period, the annual estimated amount of carbon-equivalent greenhouse gas emissions captured and sequestered, the annual estimated amount of remaining carbon-equivalent greenhouse gases emitted by the CCS facility, annual estimated indirect carbon-equivalent greenhouse gas emissions associated with the CCS facility, the annual estimated amount of MWh and MW provided by the CCS facility, the estimated emissions of the power plant without CCS, and the resulting percent of the total output that should qualify as carbon free. Partial credit will be based on the net emissions of electricity generation with CCS as compared to the net emissions of electricity generation without CCS, on a kg CO₂e / MWh basis. This filing will be subject to a public notice and comment process and reviewed by the Minnesota Pollution Control Agency and the Minnesota Department of Commerce (“the Agencies”). The Agencies shall make a recommendation to the Commission on whether to accept, modify, or reject the utility’s proposed partial credit methodology and results.

A utility using CCS for partial compliance with the CFS Statute must submit, in its annual compliance report in Docket No. E-999/PR-YR-12, the actual carbon-equivalent greenhouse gas emissions captured and sequestered at the CCS facility, the actual amount of remaining carbon-equivalent greenhouse gas emissions emitted by the CCS facility, actual indirect carbon-equivalent greenhouse gas emissions associated with the CCS facility, the actual amount of MWh and MW provided by the CCS facility, and the resulting percent of the total output that should qualify as carbon free for each year.

Support: Department, MPCA

DOC Modified 56. Once the Commission has determined a CO₂/MWh value for a plant using CCS considering direct emissions, it will give partial compliance credit to that plant commensurate with the percent reduction in CO₂ emissions per MWh attributable to the CCS project.

Support:

57. Facilities with a CCS system seeking partial CFS compliance credit shall use Minnkota's proposed formula, replicated here:

$$\left[\text{Young 1 Net Meter (MWh)} + \text{Young 2 Net Meter (MWh)} \right] \times \frac{\text{Carbon Captured (actual tons)}}{\text{Carbon Generated (actual tons)}} = \text{Carbon Free MWh}$$

Where:

- A. The point of measurement for the total megawatt-hours generated and transmitted to the grid would be the last revenue quality meter upstream of the substation connecting the generating unit(s) into the transmission grid system (net meter);
- B. The point of measurement for the CO₂ sequestered would be the flow meters identified in the EPA approved monitoring, reporting, and verification plan pursuant to 40 CFR Part 98 Subpart RR, or other equivalent independently approved reporting plan; and
- C. The point of measurement for the CO₂ generated from the electric generating units would be the continuous emissions monitors identified in the air monitoring plan submitted in accordance with 40 CFR Part 75 monitoring plan for the associated electric generating unit(s).

Support: LIUNA, Minnkota

Oppose: CEOs, CURE

58. No carbon-free credit shall be given for facilities where the captured carbon is used for enhanced oil recovery.

Support: CEOs, CURE, Department, HPHC, MPCA, Minnesota Power, Xcel

Hydrogen: Eligibility

59. The following facilities are eligible for partial CFS compliance (*choose one or more*):

- A. Facilities that burn hydrogen produced from EETS via electrolysis (green H₂);
- B. Facilities that burn hydrogen produced from non-biomass EETS via electrolysis (green H₂);
- C. Facilities that burn hydrogen produced from nuclear via electrolysis (pink H₂);
- D. Facilities that burn hydrogen extracted from natural geological sources (white H₂);
- E. Facilities that burn other forms of hydrogen, pending the results of an LCA.

Support: LIUNA, MMPA

Oppose: CEOs, CURE

Xcel Modified 59. The following facilities are eligible for full or partial CFS compliance (*choose one or more*):

- A. Facilities that burn hydrogen produced from EETS via electrolysis (green H₂);
- B. Facilities that burn hydrogen produced from non-biomass EETS via electrolysis (green H₂);
- C. Facilities that burn hydrogen produced from nuclear via electrolysis (pink H₂);
- D. Facilities that burn hydrogen extracted from natural geological sources (white H₂);
- E. Facilities that burn other forms of hydrogen, pending the results of an LCA.

Support: Xcel

Partridge New 59: Facilities that produce electricity using a combination of a carbon-free fuel with a non-carbon free fuel (“dual fuel power plant”), are eligible for partial compliance credit under the CFS Statute. Utilities seeking partial carbon-free credit must submit, to the Commission, a detailed, facility-specific analysis describing the proposed fuels to be used at the dual fuel power plant, the estimated amount of each fuel to be used annually, the estimated amount of electricity to be produced by each fuel annually (MWh and MW), the resulting percent of the total output that should qualify as carbon free. This filing will be subject to a public notice and comment process and reviewed by the Minnesota Pollution Control Agency and the Minnesota Department of Commerce (“the Agencies”). The Agencies shall make a recommendation to the Commission on whether to accept, modify, or reject the utility’s proposed partial credit methodology and results.

A utility seeking partial compliance with the CFS Statute must submit, in its annual compliance report in Docket No. E-999/PR-YR-12, the actual fuels used at the dual-fuel power plant, the actual amount of each fuel used in that year, the actual amount of electricity produced by each fuel in that year (MWh and MW), and the resulting percent of the total output that should qualify as carbon free for that year.

Support: Department, MPCA, Minnesota Power, Xcel

Oppose: CEOs, CURE

OR

60. Facilities that burn hydrogen shall be eligible for partial CFS compliance, pending the outcome of a lifecycle analysis.

Support: Minnesota Power, LIUNA

Oppose: CEOs, CURE

OR

61. Facilities that co-fire with hydrogen shall be eligible for partial CFS compliance, provided the hydrogen was produced using a process that can reasonably be considered carbon-free. Hydrogen production that qualifies for the highest tax credit under the current federal section 45V guidance may reasonably be considered carbon-free.

Support: CEOs, HPHC

Oppose: CURE

OR

62. Facilities that burn hydrogen shall be eligible for partial CFS compliance and do not need to submit a lifecycle analysis.

Support: American Petroleum Institute

Oppose: CEOs, CURE, Department, MPCA

OR

63. Facilities that burn hydrogen shall not be eligible for full or partial CFS compliance at this time.

Support: CURE

Oppose: CEOs, Department, MMPA, MPCA

64. The Commission delegates to the Executive Secretary the authority to determine the timing of and begin a new proceeding on whether hydrogen may be eligible for the CFS.

Support: CURE

Oppose: CEOs, Department, MMPA, MPCA

Hydrogen: Percentage Compliance Calculation

65. For a generation facility that burns any amount of partially carbon-free resources mixed with any other fuel (*choose one or more*):

- A. The base case emissions shall be derived from the primary fuel source that is displaced by the partially carbon-free electricity; and
- B. If the primary fuel source is partially carbon-free, the base case shall be the base case used to determine the carbon-free percentage of the primary resource.

Support:

Oppose: CEOs, CURE, Department, MPCA

66. The percentage of partial compliance credit for co-firing with carbon-free hydrogen shall be determined by the percentage reduction in CO₂/MWh at the plant, when compared to the CO₂/MWh produced at the plant without any co-firing implemented.

Support: CEOs, HPHC

Oppose: CURE

67. The percentage of partial credit at a hydrogen co-firing facility shall be determined by the following equation:

$$\text{Direct Emissions} + \text{Indirect Emissions} - \text{Emissions Displaced by CF Fuel Mixing} \\ = \text{Net Compliance Percentage}$$

Support: LIUNA, Minnesota Power

Oppose: CEOs, CURE

68. For a carbon-free fuel pathway, the percentage of the annual net generation in MWh, based upon MMBtu heat input from that CF fuel, should contribute to compliance demonstration. Any hydrogen blended with natural gas can be analyzed on a heat input (MMBtu/MWh) basis.

Support: Xcel

Oppose: CEOs, CURE

69. When hydrogen is combusted with other fuels, the utility shall conduct an engineering study to determine whether the final output ratio of fuels is the same as the initial input ratio.

Support: HPHC

Oppose: CEOs, CURE

Storage

70. Energy storage assets shall be treated as load for CFS compliance purposes, unless storage assets are used to substantiate hourly matching requirements. In order to qualify storage assets for CFS eligibility, the asset must:

- A. Retire hourly EACs to match charging from fully CFS-eligible resources; and
- B. Generate hourly EACs to match discharging.

Support:

Oppose: CMPAS, Connexus, Great River Energy, Otter Tail Power

Partridge Modified 70. Energy storage assets shall be treated as load for CFS compliance purposes.

Support: Department, MPCA, Xcel

Oppose: Minnesota Power

Note: This DO was withdrawn from Updated Partridge Framework filed January 14, 2026, in favor of Partridge Modified 71.

71. The Commission declines to adopt a separate accounting methodology for storage assets.

Support: CMPAS, Connexus, Great River Energy, LIUNA, Minnesota Power, Otter Tail Power, Xcel

Oppose: Department, MPCA

GRE New A. The Commission shall direct the opening of a new commission investigation into the accounting and compliance demonstration of energy storage under the carbon-free standard, including transmission interconnected large-scale energy storage resources.

Support: Great River Energy, Minnesota Power

Partridge Modified 71. The Commission declines to adopt a separate accounting methodology for storage assets.

Partridge Modified GRE New A. The Commission delegates to the Executive Secretary to begin proceedings to establish a process to develop an accounting methodology for energy storage to comply with the carbon-free standard, including but not limited to transmission interconnected large-scale energy storage resources.

Net Market Purchases

72. The Commission adopts following list of resources to be eligible as carbon-free for net market purchase compliance (*choose one or more*):

- A. Wind
- B. Solar
- C. Hydropower
- D. Hydropower with a nameplate capacity of 100 MW or greater, if built before February 8, 2023
- E. Geothermal
- F. Nuclear

Support: Department (A, B, D, E, F), Connexus (if 73 not chosen, Connexus okay with 72 A, B, C, E, F), MPCA (A, B, D, E, F)

Oppose: Connexus (D)

73. The Commission declines to determine which resources in net market purchases shall be eligible as carbon-free at this time.

Support: Connexus, LIUNA

Oppose: Department, MPCA

Other Resources

74. All types of emitting generation may submit an LCA to attempt to qualify for the CFS.

Support: CMPAS, LIUNA

Oppose: CEOs, CURE, Department, MPCA