

**STATE OF MINNESOTA
BEFORE THE PUBLIC UTILITIES COMMISSION**

In the Matter of Establishing an Updated 2016
Estimate of the Costs of Future Carbon
Dioxide Regulation on Electricity Generation
under Minn. Stat. §216H.06

Docket No. E999/DI-17-53
Related Docket No. E999/CI-07-1199

CLEAN ENERGY ORGANIZATIONS' COMMENTS

On Behalf Of

**Fresh Energy
Minnesota Center for Environmental Advocacy
Sierra Club
Wind on the Wires**

September 22, 2017

TABLE OF CONTENTS

I.	BACKGROUND	1
II.	APPROACHES TO UPDATE REGULATORY COST VALUE RANGES FOR CO ₂ EMISSIONS.	2
III.	2022 IS A REASONABLE YEAR IN WHICH UTILITIES CAN BE EXPECTED TO INCUR REGULATORY COSTS TO FURTHER REDUCE CO ₂ EMISSIONS	5
IV.	THERE IS A BASIS FOR THE COMMISSION TO RE-ASSESS ITS DECISION REGARDING HOW TO APPLY THE REGULATORY COST VALUE AND THE EXTERNALITY VALUE IN A GIVEN PLANNING YEAR.	6
V.	IF THERE IS A BASIS TO RE-ASSESS HOW THE REGULATORY COST VALUE AND THE EXTERNALITY VALUE RANGES ARE APPLIED, WHAT OPTIONS SHOULD THE COMMISSION CONSIDER?	8

I. BACKGROUND

Minnesota Statute Section 216H.06 states:

By January 1, 2008, the Public Utilities Commission shall establish an estimate of the likely range of costs of future carbon dioxide regulation on electricity generation. The estimate, which may be made in a commission order, must be used in all electricity generation resource acquisition proceedings. The estimates, and annual updates, must be made following informal proceedings conducted by the commissioners of commerce and pollution control that allow interested parties to submit comments.

The Commission's August 5, 2016 *Order Establishing 2016 and 2017 Estimate of Future Carbon Dioxide Regulation Costs* determined that for 2016 and 2017 the range of costs would remain between \$9 and \$34 per ton of CO₂, and that utilities would begin applying the values in 2022. The current regulatory cost estimates are based on cap and trade programs that seemed likely in 2007 and 2009.¹ Those costs began being incorporated in 2016, which was based on Clean Power Plan implementation.²

¹ See *In the Matter of Establishing an Estimate of the Costs of Future Carbon Dioxide Regulation on Electricity Generation Under Minn. Stat. § 216H.06*, "Joint Comments of the Izaak Walton League of America – Midwest Office, Fresh Energy, The Union of Concerned Scientists, and Minn. Ctr. for Env't'l Advoc., PUB. UTIL. COMM'N, E999/CI-07-1199, 8, 13 (Oct. 8, 2007) (proposing a high estimate value of \$30.20, which is very close to the current value, based on a 2005 Synapse report that examined cap and trade programs that had been suggested in Congress); *In the Matter of Establishing an Estimate of the Costs of Future Carbon Dioxide Regulation on Electricity Generation Under Minn. Stat. § 216H.06*, Letter from Paul Eger, Comm'r, MPCA, & William Glahn, Dir., Off. of Energy Security, to Dr. Burl W. Haar, Exec. Sec'y, Minn. Pub. Util. Comm'n, MINN. PUB. UTIL. COMM'N, E999/CI-07-1199, 3 (Mar. 27, 2009) (supporting the now-adopted regulatory values with a proposed Presidential budget that noted a cap and trade program).

² *In the Matter of Establishing an Updated 2016 Estimate of the Costs of Future Carbon Dioxide Regulation on Electricity Generation under Minn. Stat. § 216H.06*, "Analysis and Recommendations of the Minn. Dep't of Comm. and the Minn. Pollution Control Agency", E999/DI-15-708, E999/CI-07-1199, 3 (March 29, 2016).

At this time, however, federal legislative cap and trade program does not appear imminent. Moreover, there is significant uncertainty surrounding the implementation of the Clean Power Plan.³ As such, the Agencies have requested comments on the following topics:

- What approaches could be used within the next few months to develop updated regulatory cost value ranges for CO₂ emissions?
 - If existing carbon trading markets are used as a reference, should only markets located in the U.S./North America be considered or should all global values be considered?
- Given the United States Supreme Court's stay of the Clean Power Plan implementation and the United States Environmental Protection Agency's (USEPA) stated intention to replace the Clean Power Plan as well as other considerations, what is a reasonable date (year) in which utilities can be expected to incur regulatory CO₂ emission costs?
- Is there a basis for the Commission to re-assess its decision to apply only the regulatory cost value or the externality value, but not both, to emissions in a given planning year? If so, please provide the basis.
- If there is a basis for the Commission to re-assess how the regulatory cost value and the externality value ranges are applied, what options should the Commission consider?

In response to this request, the Minnesota Center for Environmental Advocacy, Fresh Energy, Sierra Club, and Wind on the Wires (collectively, the Clean Energy Organizations) provide the following comments.

II. APPROACHES TO UPDATE REGULATORY COST VALUE RANGES FOR CO₂ EMISSIONS.

Carbon pricing can take many forms, all of which represent an attempt to correct what is fundamentally a market failure. When external costs are not included in the price of production,

³ As discussed below, we believe that until the Clean Power Plan is replaced or the uncertainty surrounding its implementation is resolved through likely litigation, the rule should still be considered as a helpful and relevant data point for the Agencies.

overconsumption is the usual result. Calculating a damage-cost estimate, and adding that to the price of generating electricity from fossil fuels, is one way to correct for this market failure.⁴

Cap-and-trade markets are another.⁵

Consistent with our 2016 recommendations in this proceeding, a better approach to using existing cap-and-trade markets would be to adopt a regulatory cost that is based on up-to-date carbon pricing forecasts. If the agencies were to adopt this approach, we would recommend either the mid-case or range of forecasts reflected in Synapse Energy Economics' most recent CO₂ Price Forecasts. The Synapse forecast is based upon a comprehensive assessment of existing carbon markets throughout the country, state and federal policies, modeling, and forecasts that utilities across the country are using in their resource planning.⁶ The Synapse forecast reflects a reasonable range of expectations regarding future efforts to limit greenhouse gas emissions and is updated regularly to include the Clean Power Plan and other relevant regulations. The Synapse forecasts also includes low, mid, and high case projections for CO₂ prices out to 2040 based on thorough analysis of proposed federal regulatory measures, ongoing state and regional policies, the price of CO₂ already being factored into federal rulemakings, recent CO₂ price forecasts from utility IRPs, and policy analysis and modeling from the research community.

While the adoption of a forecast like the Synapse carbon price forecast is consistent with resource planning around the country and is supported by extensive analysis, the Clean Energy

⁴ Frank Ackerman & Elizabeth A. Stanton, *The Social Cost of Carbon*, 53 REAL-WORLD ECON. REV. 132 (2010), <http://www.paecon.net/PAEReview/issue53/AckermanStanton53.pdf>.

⁵ *Id.* Although the use of actual prices from existing carbon trading markets is an option, there are significant shortcomings with such an approach. In particular, existing carbon trading prices are based only on current and historic values, and do not typically predict what the price is going to be in the future as carbon regulation becomes more stringent. This limitation can be avoided by using carbon price forecasts.

⁶ *Synapse Carbon Dioxide Price Forecast*, SYNAPSE ENERGY ECON., INC. (2016), <http://www.synapse-energy.com/project/synapse-carbon-dioxide-price-forecast>.

Organizations recommend that—at least until regulation of carbon dioxide emissions is again imminent at either a state or federal level—the Agencies consider using the newly updated cost values under section 216B.2422 as an appropriate reflection of Minnesota’s “likely range of costs of future carbon dioxide regulation on electricity generation.” Although Minnesota has historically used different values for the “environmental cost” of electricity generation under Minnesota Statute § 216B.2422, subdivision 3 and Minnesota Statute § 216H.06, there is support for using the newly updated externality cost under section 216B.2422 as a proxy for the regulatory cost under section 216H.06.

The Agencies recently participated in the Commission update of Minnesota’s “externality” cost of carbon in electricity generation,⁷ which resulted in a per-ton dollar figure for each ton of CO₂ emitted by regulated utilities. The Minnesota Public Utilities Commission explicitly considered its role as *economic regulators* when updating the environmental cost values and adjusted the damage-cost values developed by the Federal Interagency Working Group in ways it found better reflected its role as economic regulators. Given this understanding of what the values adopted under section 216B.2422 are intended to represent, one relatively straight-forward option, which already has substantial analytical support, would be to use the newly updated “externality values” as reasonable regulatory cost value ranges for CO₂.

If the Agencies prefer to use carbon trading markets as a reference in lieu of the recently updated environmental cost values, however, the Clean Energy Organizations take no position on whether regional or global markets should be considered. There are at least 17 active cap-and-trade systems in place worldwide.⁸ On the one hand, because CO₂ is a global pollutant, it seems

⁷ *In the Matter of the Further Investigation into Environmental and Socioeconomic Costs*, MINN. PUB. UTIL. COMM’N, E-999/CI-14-643.

⁸ Camille Serre, et al., *Emissions Trading Worldwide: International Carbon Action Partnership (ICAP) Status Report 2015*, INT’L CARBON ACTION P’SHIP (2015),

reasonable to use all global values to create a reasonable range. On the other hand, market conditions in any region will not accurately reflect market conditions if a cap-and-trade system existed in Minnesota or the U.S., and it is possible that global markets are less similar than North American markets are to what market system in Minnesota would produce.

The Clean Energy Organizations therefore recommend that, until regulation of carbon dioxide emissions is again imminent at either a state or federal level, the newly updated cost values under section 216B.2422 are an appropriate reflection of Minnesota's "likely range of costs of future carbon dioxide regulation on electricity generation." Alternatively, we recommend that the Agencies adopt either the Synapse mid-range carbon price forecast, or a range of prices corresponding with Synapse's range of projections.

III. 2022 IS A REASONABLE YEAR IN WHICH UTILITIES CAN BE EXPECTED TO INCUR REGULATORY COSTS TO FURTHER REDUCE CO₂ EMISSIONS

If the likely range of the cost of carbon dioxide regulation were set at the same dollar figures as the recently updated environmental costs (adjusted to reflect economic considerations), there would be no need to determine in which future year regulatory costs might first be incurred. In fact, there is no reason the Minnesota PUC's recently-adopted externality values cannot be implemented immediately. Indeed, utilities are already incorporating those externality costs into utility planning decisions.

If alternate values are recommended, however, it will be necessary to determine in what year utilities will begin incurring regulatory costs. Although the Clean Power Plan is currently stayed by the U.S. Supreme Court and set to be revised by the Environmental Protection Agency, Minnesota has state Greenhouse Gas Emission Reduction goals with specific years as goal posts.

https://icapcarbonaction.com/images/StatusReport2015/ICAP_Report_2015_02_10_online_version.pdf.

Specifically, Minnesota aims to reduce greenhouse gas emissions across all sectors to a level at least:

- 15 percent below 2005 levels by 2015,
- 30 percent below 2005 levels by 2025, and
- 80 percent below 2005 by 2050.⁹

According to this statutory scheme, 2025 is the next goal-post year. To reach those goals, utilities would begin incurring costs well before 2025, as they ramp up to meet that target.

Accordingly, it would be reasonable year to assume that utilities will begin to incur costs to reduce CO₂ emissions in or about 2022. This corresponds to first year of compliance with the Clean Power Plan.¹⁰ Although there is significant uncertainty about the implementation of the Clean Power Plan, it remains on the books. And regardless of whether the rule is ultimately replaced, there is a nonzero chance that compliance with some kind of federal CO₂ regulation will be required within a comparable timeframe.

IV. THERE IS A BASIS FOR THE COMMISSION TO RE-ASSESS ITS DECISION REGARDING HOW TO APPLY THE REGULATORY COST VALUE AND THE EXTERNALITY VALUE IN A GIVEN PLANNING YEAR.

The Commission's 2007 Order ruled that external cost estimates would not apply to years to which regulatory cost estimates applied.¹¹ But the decision to not require utilities to calculate external costs of CO₂ in years that they calculate regulatory costs assumes that regulations eliminate external costs of CO₂. This will not be the case. There have been no regulations

⁹ Minn. Stat. § 216H.02, subd. 1.

¹⁰ The Synapse Carbon Price forecasts assume that costs begin to be incurred in 2022, beginning with the Clean Power Plan, and increasing through 2040.

¹¹ *In the Matter of Establishing an Estimate of the Costs of Future Carbon Dioxide Regulation on Electricity Generation Under Minnesota Statutes §216H.06*, "Order Establishing Estimate of Future Carbon Dioxide Regulation Costs", MINN. PUB. UTIL. COMM'N, E-999/CI-07-1199, 4 (Dec. 21, 2007).

proposed to date that eliminate CO₂ emissions entirely and therefore fully internalize the external costs of CO₂. In 2016, the Clean Energy Organizations argued that:

When a utility calculates the costs of emitting a given ton of CO₂ in a year, it would be inappropriate to use both the CO₂ externality value and the CO₂ regulatory cost estimate *for that ton*. That is, a given ton of CO₂ should be covered by the regulatory cost *or* the externality value. But that does not mean that in a given year, all CO₂ emitted by a utility would only have a regulatory cost or an external cost. Utilities and the Commission should assess the external costs of CO₂ emissions that will not be mitigated by carbon regulations.

While we continue to think the approach we advocated for in 2016 is theoretically sound, our understanding of the damages caused by climate change and the Commission's recently-updated externality values together warrant a new approach to utility planning for reducing carbon emissions. Indeed, the Commission, the Department of Commerce, regulated utilities, and numerous industry and public intervenors invested extensive resources and nearly four years evaluating the costs associated with continuing to emit. The Commission's recently-updated environmental costs are based on extensive record evidence and better capture the full cost of pollution to society of electricity production than do potential values from carbon trading markets that are untethered to actual impacts. At the same time, the prospect of an immediate legislative carbon tax or cap-and-trade program have diminished somewhat.¹² Accordingly, at this time, we believe that there is a basis for reevaluating the regulatory cost of CO₂ pollution for the short- and mid-term.

¹² Although there is uncertainty surrounding the Clean Power Plan and any carbon legislation, prudent utility regulation requires the Agencies to revisit the potential for new or updated regulatory CO₂ costs based on a continuing analysis of proposed federal regulatory measures, ongoing state and regional policies, the price of CO₂ already being factored into federal rulemakings, recent CO₂ price forecasts from utility IRPs, and policy analysis and modeling from the research community.

V. IF THERE IS A BASIS TO RE-ASSESS HOW THE REGULATORY COST VALUE AND THE EXTERNALITY VALUE RANGES ARE APPLIED, WHAT OPTIONS SHOULD THE COMMISSION CONSIDER?

Absent a specific regulatory value for CO₂ that is established through a trading or tax program, we believe that the Agencies should adopt one of two options. First, as discussed, we believe that the Agencies can and should use Commission's externality values as a surrogate for any regulatory value to reflect these true costs to society associated with CO₂ emissions.

Minnesota Statute § 216B.2422 is broad enough to support the use of those the newly updated externality cost under as a proxy for the regulatory cost under section 216H.06. Moreover, the Agencies each participated in the Commission update of Minnesota's "externality" cost of carbon in electricity generation,¹³ which resulted in a per-ton dollar figure for each ton of CO₂ emitted by regulated utilities. Using the newly updated "externality values" as reasonable regulatory cost value ranges for CO₂ represents a straight-forward option, which already has substantial analytical support, and could be implemented immediately.

Second, and in alternative, the Agencies should adopt a regulatory cost that is based on up-to-date carbon pricing forecasts, like the Synapse carbon price forecasts. The Synapse forecast is a comprehensive assessment of existing carbon markets throughout the country, state and federal policies, modeling, and forecasts that is used by utilities and public service commissions across the country. The Synapse forecast reflects a reasonable range of expectations regarding future efforts to limit greenhouse gas. If the Agencies prefer to use such a carbon price forecast in lieu of the recently updated environmental cost values, we recommend that the Agencies assume that those regulatory costs begin to be incurred in 2022, which

¹³ *In the Matter of the Further Investigation into Environmental and Socioeconomic Costs*, MINN. PUB. UTIL. COMM'N, E-999/CI-14-643.

corresponds to the still-existing compliance dates for the Clean Power Plan and the other utility forecasts, including Synapse, which assume carbon costs are incurred in that same timeframe.

Respectfully submitted,

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