STATE OF MINNESOTA
BEFORE THE PUBLIC UTILITIES COMMISSION

In the Matter of Establishing an Updated 2016   Docket No. E999/DI-17-53
Estimate of the Costs of Future Carbon   Related Docket No. E999/CI-07-1199
Dioxide Regulation on Electricity Generation
under Minn. Stat. §216H.06

CLEAN ENERGY ORGANIZATIONS' REPLY COMMENTS

On Behalf Of

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

March 5, 2018

I.   INTRODUCTION

Fresh Energy, Wind on the Wires, Sierra Club and Minnesota Center for Environmental Advocacy ("Clean Energy Organizations") submit these reply comments in response to the Commission's January 23, 2018 Notice regarding Establishing an Estimate of the Likely Range of Costs of Future Carbon Dioxide Regulation. The Clean Energy Organizations respond to initial comments made by the following parties:

- The Minnesota Large Power Industrial Group ("MLIG");

- Great River Energy ("GRE"); and

- Minnesota Power ("MP").

II.   RESPONSE TO THE MINNESOTA LARGE POWER INDUSTRIAL GROUP

On page three of its initial comments, the MLIG states that applying both the regulatory and externality values simultaneously "would effectively double-count the cost of CO_2 emissions, which would adversely impact ratepayers." We agree that applying the full amount of both the regulatory and externality costs for CO_2 would constitute "double-counting." However, that is not our recommendation. Pages 14-15 of our initial comments lay out our recommendation with respect to the two costs: for years in which the regulatory cost is higher than the externality cost, only the regulatory cost would be applied. And for years in which the regulatory cost is lower than the externality cost, only the *incremental* externality amount (i.e. the difference between the externality and regulatory values) would be applied as an externality cost. Because we would only apply the incremental externality cost, there would be no "double counting." Indeed, if the incremental cost were *not* applied, it would amount to "half counting," as the full externality cost would not be applied.

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MLIG also argues that the Commission has previously decided not to apply externality values in addition to regulatory values, citing a 2007 Commission Order:

> […] While the calculation of externality values under § 216B.2422 is not directly comparable to the estimate of regulatory costs under § 216H.06, they both reflect steps to account for the burdens that CO_2 emissions impose on third parties. When a utility calculates the cost of emitting another ton of CO_2 in any given year, therefore, it would be inappropriate to use both the CO_2 externality value and the CO_2 regulatory cost estimate. […][1]

It is important to note that, since this Order was published, the Commission has updated its externality costs for CO_2.[2] Before the update, the interaction between the two values was fairly straightforward: the externality cost range for CO_2 was so low ($0.38 to $3.91/ton) that even the lowest regulatory cost for CO_2 ($4/ton, as approved in 2007) fully "internalized" the externalities. At these cost levels, the utility would directly pay the full societal cost of CO_2, meaning the market failure was corrected—i.e., the free market (with the regulatory cost) would be able to maximize economic efficiency. In this context, the externality cost would not need to be included in years in which the regulatory cost was applied, as clarified in the 2007 Order.

Since the Commission has updated its estimate of externality costs for CO_2, however, the interaction between regulatory and externality costs has become more complex. When the regulatory cost value is lower than the externality cost, the regulatory cost no longer fully internalizes the externalities. Without including the incremental externality cost, the market failure will remain, and the regulatory cost value alone will no longer be sufficient to determine the societally optimal level of CO_2 emissions.

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[1] MLIG at pp 2-3, quoting December 2007 PUC order at 3 (link)
https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=showPoup&documentId={B5E010DB-B66D-411F-85DE-02B376CF5780}&documentTitle=4877738.
[2] Docket 14-643 (link)
https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=eDocketsResult&docketYear=14&docketNumber=643.

Thus, while the Commission's reasoning in the 2007 Order was sound given the approved externality costs at the time, this logic no longer holds under the Commission's newly approved CO_2 externality cost range. In order to avoid "half counting," the Commission must apply the incremental externality cost for years in which the CO_2 externality cost is higher than the CO_2 regulatory cost.

III.   RESPONSE TO GREAT RIVER ENERGY

GRE's initial comments mischaracterize the Clean Energy Organizations' position, misinterpret the relationship between the regulatory and externality cost values, and misunderstand basic economics. On page 2 of its initial comments, GRE states:

> GRE is concerned with the Comments by the Clean Energy Organizations (CEOs) in this proceeding filed on February 15th, where the CEOs recommend the use of *both the future regulatory cost of CO_2 and externality values* in years where externality values are greater than the regulatory cost. GRE does not believe this double counting of environmental damages and proxy values is in the best interest of our members, or the state of Minnesota. (emphasis in original)

This mischaracterizes our position. As explained above, we do not recommend applying the full value of both the CO_2 externality and regulatory costs simultaneously; that would constitute double counting. Rather, we recommend applying the *incremental* externality cost for years in which the CO_2 externality cost is higher than the CO_2 regulatory costs. This is not double counting.

GRE's initial comments also misinterpret the interaction between the Commission's externality and regulatory cost values. On page 2, GRE states:

> The cost of federal regulation to reduce CO_2 emissions as outlined by the future regulatory cost of CO_2 represents the potential costs by which utilities would comply with future requirements levied at the federal level. This would internalize the external societal costs of CO_2 emissions *at a level as determined by the regulation this value represents*, therefore rendering additional externality values unnecessary as proposed by the CEOs. (emphasis added)

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As GRE itself notes, a future CO_2 regulatory cost would only internalize the externality costs up to the regulatory cost level. However, the new CO_2 externality cost ranges reflect Commission's determination of the total societal costs of CO_2 emissions. If the externality costs are higher than the regulatory costs, then the regulatory value would not internalize the societal costs. In those instances, an additional, incremental cost is required to fully internalize the externality and maximize economic efficiency.

GRE continues (on page 2): "Bearing the full cost of all future damages in addition to a future regulatory cost is an economically inefficient solution and would serve to increase costs borne by society and Minnesota electricity end-users."

This comment misunderstands basic economics. Unlike regulatory costs, utilities do not "bear" CO_2 externality costs; that is the problem that Minn. Stat. §216B.2422 Subd. 3 seeks to address. Externalities occur when an economic transaction between two or more parties has an impact on other, unrelated parties. When significant externalities exist, the free market will not maximize economic efficiency. Accordingly, the Legislature has directed the Commission to consider externality costs in resource acquisition and planning. Not including the full externality cost—as GRE recommends—would be economically inefficient and would result in CO_2 production above the societally optimal amount.

IV.   RESPONSE TO MINNESOTA POWER

The Clean Energy Organizations are concerned by Minnesota Power's statement that it "strongly believes that the regulatory cost value and externality values should be used to inform

a resource decision, but a resource decision should not be made based solely on the regulatory

cost value and externality values."[3]

In its 2009 Order in this docket, the Commission explained the importance of considering

CO_2 regulatory costs in resource planning and acquisitions:

> Minnesota Statutes § 216H.06 reflects the Legislature's conclusion that it is likely that eventually laws will govern the emission of CO_2 and that utilities and their ratepayers will need to bear these costs. The statute's chief requirement is to compel utilities to plan accordingly. A utility's failure to correctly forecast the magnitude of CO_2 regulation costs may result in the utility's making choices that prove to be costly in retrospect.[4]

As the Commission noted, CO_2 emissions are an economic liability, and many of the

state's utilities have exposed their customers to potentially significant expenses if and when a

carbon price is enacted at the state or federal level. Figure 1 shows selected Minnesota utilities'

projected carbon emissions intensity through 2030. As the chart shows, Xcel projects significant

CO_2 emissions reductions[5], but GRE, MP, and OTP each plan to continue emitting substantial

amounts of CO_2 throughout the next decade.[6] For perspective, the red line shows the average

CO_2 emissions intensity in the U.S. in 2016. Not only are GRE, MP, and OTP well above this

figure today, under their current plans they will remain above the 2016 national average

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[3] MP initials, at p 3.

[4] 2009 Order at page 2 (link)
https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=showPoup&documentId={12B0DA3E-BDE7-4102-B279-626C16181609}&documentTitle=200910-42619-01.

[5] Xcel's projections do not include its recent wind acquisitions and its goal of 85% carbon-free energy by 2030, so its actual emissions intensity will likely be even lower.

[6] MP, OTP, and Xcel data come from their initial comments. GRE data come from its 7/10/17 response to MCEA IR 12 (table 4) in its last IRP (link)
https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=showPoup&documentId={C77F2CBF-BCB8-437E-B26A-E19D574658B6}&documentTitle=20176-133113-02.

throughout the 2030s. In fact, GRE's preferred emissions intensity *in 2030* would be roughly 60% higher than the U.S. average *for 2016*.

Figure 1

Projected CO_2 emissions intensity by utility
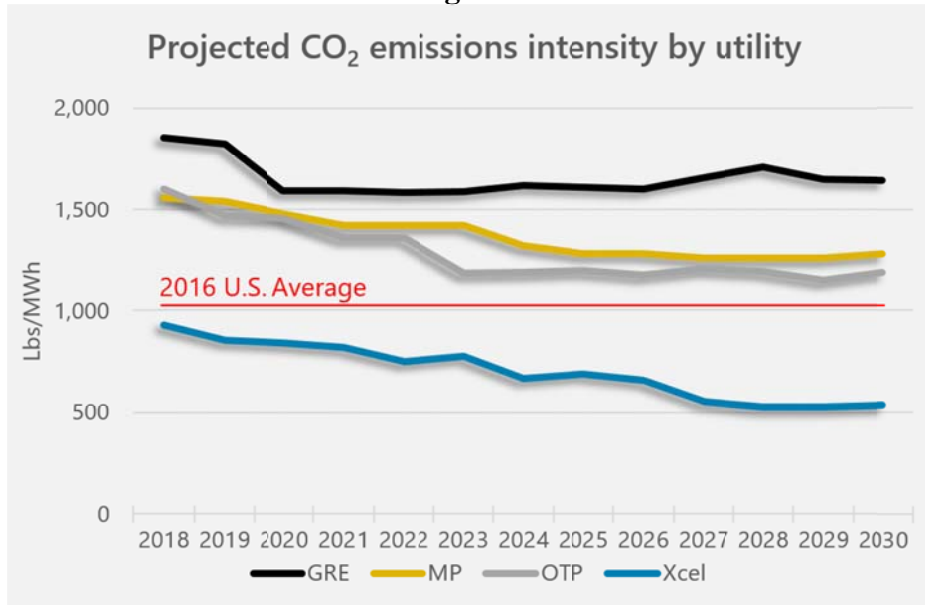
These projected CO_2 emissions are a substantial liability for Minnesota's electricity customers. Figure 2 displays the CO_2 regulatory cost liability (at the midpoint of the current regulatory values) for each utility's customers under the utility's preferred resource plans. As the table shows, if and when a carbon tax is enacted, Minnesota's electricity consumers would face *billions* of dollars' worth of carbon price payments. As the Commission's 2009 Order acknowledged, utilities' failure to plan for future carbon regulation may well turn out to be extremely costly for their customers. This is all the more reason to reject the Agencies' proposal to significantly reduce the CO_2 regulatory cost range.

Figure 2

Projected CO_2 regulatory cost liability (at $21.50/ton)				
	GRE	MP	OTP	Xcel
2018	$251,682,139	$203,556,625	$87,290,000	$460,100,000
2019	$244,656,864	$201,620,980	$85,785,000	$423,550,000

2020	$212,473,707	$195,008,376	$80,410,000	$419,250,000
2021	$214,004,507	$187,598,938	$82,130,000	$408,500,000
2022	$214,351,711	$189,867,317	$73,100,000	$374,100,000
2023	$218,521,872	$189,648,275	$74,820,000	$387,000,000
2024	$224,782,629	$178,118,836	$76,540,000	$335,400,000
2025	$230,799,942	$171,294,413	$76,540,000	$346,150,000
2026	$231,827,900	$171,719,941	$78,905,000	$331,100,000
2027	$243,247,152	$171,302,992	$78,475,000	$281,650,000
2028	$250,526,063	$171,771,412	$76,110,000	$275,200,000
2029	$246,746,879	$172,014,599	$78,905,000	$275,200,000
2030	$257,003,841	$175,835,923	$78,690,000	$279,500,000
Total	**$3,040,625,202**	**$2,379,358,625**	**$1,027,700,000**	**$4,596,700,000**

V.   SUMMARY OF CEO RECOMMENDATIONS

The Clean Energy Organizations continue to urge the Commission to adopt the following

recommendations in its Order:

- Establish the regulatory cost values based on the RGGI and WCI trading programs by calculating the low value as the average of the programs' floor prices and the high value as the average of the programs' ceiling prices.

- Maintain 2022 as the applicability date.

- Establish an escalation rate for the chosen values at 5% above the rate of inflation.

- Clarify that the regulatory cost value must be incorporated into the reference or base case of all modeling by all utilities in all resource acquisition and planning proceedings.

- Clarify that externality costs in excess of regulatory costs must be included when assessing the societal costs of a resource package or plan.

Respectfully submitted,

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