Minnesota Public Utilities Commission

Staff Briefing Papers

Meeting Date: June 30, 2016 .....**Agenda Item **#_2_**

Company: All electric utilities

Docket Number: ****E999/CI-07-1199**

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

Issues: What values should the Commission adopt as the likely range of costs for future CO_2 regulation on electricity generation? In what year should the values begin to be applied?

Should the Commission establish values for IRPs filed in 2016 and 2017?

Should the Commission open a generic docket to reexamine the relationship between the external cost of CO_2 and the anticipated regulatory cost of CO_2?

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Relevant Documents

Department of Commerce and MPCA, Analysis and Recommendations ..... March 29, 2016
Otter Tail Power, Initial Comments ..... April 19, 2016
Clean Energy Organizations, Initial Comments ..... April 21, 2016
Xcel Energy, Initial Comments ..... April 21, 2016
Minnesota Power, Initial Comments ..... April 21, 2016
Xcel Energy, Reply Comments ..... May 2, 2016
Minnesota Power, Reply Comments..... May 2, 2016
Clean Energy Organizations, Reply Comments ..... May 2, 2016
Department of Commerce and MPCA, Reply Comments..... May 2, 2016

Statement of the Issues

- What values should the Commission adopt as the likely range of costs for future CO_2 regulation on electricity generation? In what year should the values begin to be applied?
- Should the Commission establish values for IRPs filed in 2016 and 2017?
- Should the Commission open a generic docket to reexamine the relationship between the external cost of CO_2 and the anticipated regulatory cost of CO_2?

1 | Background

Minn. Stat. §216H.06, which was passed as part of the 2007 Next Generation Energy Act, requires the Commission to:

> [E]stablish 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.

These costs are distinct from the externality costs under Minn. Stat. §216B.2422 Subd. 3 (currently under consideration in Docket 14-643). Negative externalities (or "spillover" costs) occur when an economic transaction between two or more parties has a negative impact on one or more unrelated parties. In this context, the externality costs are the economic damages associated with the climate change impacts of CO_2 emissions. Because neither of the parties to the transaction—the electricity generators and electricity consumers—pay for these damages, they will produce (and consume) more than the societally optimal amount. Including these costs in resource planning allows the Commission to determine the optimal resource mix in terms of total societal costs. Regulatory costs, on the other hand, reflect the cost of actions necessary to comply with future regulations, such as a carbon tax or emissions permits. They are included in resource planning to account for the financial risk inherent in fossil fuel generation.[1] As the Commission found in its 2009 Order (at page 2) in this docket:

> 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.

The Commission first adopted regulatory cost estimates in late 2007, and they have been updated several times since, as displayed in the table to the right. As the table shows, the Commission has updated the estimated cost range (in $ per ton) once, and it has twice updated the planning year in which the cost estimate would begin to be applied.

Previously Approved CO_2 Values

Order date	Cost range	Beginning
12.21.2007	$4 to $30	2012
10.8.2009	$9 to $34	2012
6.3.2011	$9 to $34	2012
11.2.2012	$9 to $34	2017
4.28.2014	$9 to $34	2019

In the fall of 2015, the Department of Commerce and the Pollution Control Agency (the Agencies) developed a

[1] Once carbon legislation is enacted and the actual costs of compliance are known and incurred, these cost estimates would no longer need to be included in resource planning.

draft recommendation for an updated cost and requested party comments on their proposal.[2] On March 29, 2016, the Agencies filed their final recommended updated estimates of regulatory costs to be used in IRPs filed in 2016. The Agencies recommended the Commission maintain the current estimate of the range of likely costs of CO_2 regulation ($9 to $34 per ton) but extend the applicable date from 2019 to at least 2022.

2 | Cost Range and Time Frame

The Agencies recommended maintaining the current cost range estimate ($9 to $34 per ton) but extending the applicable date from 2019 to 2022. They based this recommendation on their assessment of the current federal regulatory landscape. Specifically, they discussed possible implementation timelines for the U.S. Environmental Protection Agency's (EPA) Clean Power Plan:

> While there is somewhat more certainty regarding carbon regulation than existed in the previous update, the new federal regulations provide significant discretion to states in developing their compliance plans that significantly impacts the predicted cost of regulation. Therefore, the Agencies recommend that the Commission maintain the current range of $9 to $34 per ton of CO_2 emitted.[3]

The Agencies also considered the Clean Power Plan in their proposed year of applicability: "given the time expected to implement the EPA's final rules (including the EPA's required timelines and compliance schedules), the Agencies anticipate that the earliest electric utilities could be required to comply with the first interim compliance period for these new standards is starting in 2022."[4]

Each of the parties that provided comments supported the Agencies' recommendations for the cost range and the year to begin applying the values. Adopting the Agencies' recommended cost range and timeframe are included as **Decision Options 1 and 3**, respectively.

Staff Comment

Staff makes no recommendation on the appropriate cost range and implementation date. However, Staff notes that the Commission is not necessarily limited to the values and date proposed by the Agencies. The Agencies' recommended implementation date was selected because it was the "earliest potential date" for the Clean Power Plan to take effect, given the legal challenges it faces. However, Staff notes that there could be additional CO_2 regulations beyond the Clean Power Plan. For example, in the 113th U.S. Congress, there were five different carbon tax bills introduced. The range of the values varied[5], but each of the five would have taken effect within two years of passage.[6] While such a bill is unlikely to be passed by the current Congress, Staff notes that there will be two presidential and three congressional elections between now and the Agencies' proposed implementation date, so much could change in the political landscape over the next few years. Adopting a different cost range and timeframe are included as **Decision Options 2 and 4**, respectively.

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[2] A summary of parties' comments on the Agencies draft proposal is included as Attachment A of the Agencies' March 29, 2016 Analysis and Recommendations.

[3] Department of Commerce and Pollution Control Agency, Analysis and Recommendations, at page 3.

[4] Ibid.

[5] One (H.R.5307) was set at $10/ton; two others (S.332 and H.R.5796) would start at $20/ton, roughly the midpoint of the Agencies' proposed values; a fourth (S.2940) would begin at $42/ton; and the fifth (H.R.4754) would begin at a lower range than the Agencies', but escalate rapidly to $118.75 to $131.25/ton by 2024.

[6] Ye, Jason, "Comparison of Carbon Pricing Proposals in the 113th Congress," *Center for Climate and Energy Solutions*, December 2014 (link).

3 | Application to 2017

When the Commission has set CO_2 regulatory values in the past, it has occasionally set them for two years at once; in this case that would mean setting the values not just for IRPs filed in 2016, but also for IRPs filed in 2017. While the Agencies did not make an explicit recommendation for whether to set values for 2017 at this time, they argued it "may be reasonable" for the Commission to do so.[7]

Minnesota Power (MP) and Otter Tail Power (OTP) recommended the Commission also set values at this time for IRPs filed in 2017. OTP argued that "very little will change between now and the end of 2017 regarding the regulatory cost of carbon. Adopting the recommended range of CO_2 values for two years is a more efficient use of resources for all parties in the proceeding."[8]

Xcel Energy and the Clean Energy Organizations (CEO) recommended against setting values for IRPs filed in 2017 at this time. In Xcel's words: "While we do not expect any final legal determination by spring or summer of 2017, more might be known at that point that would affect the most appropriate first year of application of the CO_2 regulatory cost range. If no further information is available in 2017 about the start of CPP compliance, the Commission could simply adopt the same range and first year of application for its 2017 update."[9]

Setting the values for IRPs filed in 2017 is included as **Decision Option 5**. Declining to set values for 2017 at this time is included as **Decision Option 6**.

4 | Generic Docket on CO_2 Regulatory and Externality Costs

The Clean Energy Organizations (CEO) recommended the Commission open a generic docket to reexamine the relationship between the external cost of CO_2 and the anticipated regulatory cost of CO_2 because "the current interaction is not theoretically sound."[10] Currently, utilities apply the externality value for all CO_2 emissions before 2019 and the regulatory value for all CO_2 emissions in 2019 and beyond; in other words, they apply one value or the other, but not both. This approach assumes that the CO_2 externalities coasts are fully "internalized" by the regulatory cost, meaning the regulatory cost is set at a level that accounts for all the associated externality costs.

However, CEO argues, the Clean Power Plan will not internalize all of the externalities of CO_2. In CEO's words, "the CPP is not likely to eliminate all or even a majority of CO_2 emissions, those emissions will continue to exert costs on society," and so, "[u]tilities and the Commission should assess the external costs of CO_2 emissions that will not be mitigated by carbon regulations."[11] Thus, CEO concluded:

> Because the CPP establishes specific emission reduction targets for Minnesota, the Commission is in the position now to estimate how many tons of CO_2 will be regulated. Either the state-wide CPP target or the Next Generation Energy Act goals may be a good proxy for regulated emissions, the proportion of a power plant's emissions that will need to

[7] Department of Commerce and Pollution Control Agency, Analysis and Recommendations, at page 3.
[8] Otter Tail Power, Initial Comments, at page 1.
[9] Xcel Energy, Initial Comments, at page 2.
[10] Clean Energy Intervenors, Initial Comments, at page 4.
[11] Ibid, at page 5.

> be regulated nationally in the near term. Utilities could then apply the external cost of CO_2 to the remaining projected emissions.[12]

CEO's full explanation of its proposal can be found on pages 4-7 of its initial comments.

The Agencies, MP, OTP, and Xcel argued against opening a generic docket at this time.

The Agencies called the question "an interesting and relevant one," but argued that "while damages still exist under regulation, so too does the possibility of stricter regulations. This was true at the time of the Commission's December 21, 2007 Order and remains true today. Therefore, the Agencies do not believe there is sufficient justification to re-examine how these values are applied in the Commission's proceedings at this time."[13]

While Xcel stated it believes the issue is "worthy of Commission consideration," it argued a separate docket is unnecessary and that CEO's proposal would be difficult to implement. In Xcel's words:

> [T]he percentage reduction targets that the CPP provides at the state level do not apply at the utility level. Practically speaking, it would be difficult to identify a certain amount of CO_2 reduction that the CPP requires of a given utility, and to then assign the CO_2 regulatory cost values to this portion and the CO_2 environmental cost values to the remainder.[14]

OTP argued there would be "little value" in opening a generic docket, and the issues could be better addressed in individual companies' resource plans. MP agreed with Xcel and OTP, recommending the Commission defer opening a generic docket until "impending federal regulatory changes currently underway and decision on what actions the State of Minnesota will take for compliance with the Clean Power Plan are known and finalized."[15]

CEO's recommendation to open a generic docket to reexamine the relationship between the Commission's estimates of the external cost of CO_2 and the anticipated regulatory cost of CO_2 is included as **Decision Option 7**. Declining to open a generic docket at this time is included as **Decision Option 8**.

Staff Comment

While Staff agrees with parties that CEO raises an interesting and relevant issue, Staff questions the timing of CEO's proposal.

When the Commission first considered this legislation, the externality values for CO_2 were relatively low, with a range of $0.38 to $3.91/ton. In that context, a regulatory cost range of $4 to $30/ton would fully internalize all CO_2 externalities, even at the low point of the range. However, many argue the true externality costs of CO_2 are much higher: the U.S. Environmental Protection Agency's Social Cost of Carbon, for example, provides a range of $11 to $105/ton for emissions in 2015.[16] In late 2014, the Commission opened a docket to review the externality costs for CO_2 and criteria pollutants.

[12] Ibid, at page 7.
[13] Department of Commerce and Pollution Control Agency, Reply Comments, at page 2.
[14] Xcel Energy, Reply Comments, at page 2. Xcel argued there is a similar problem with the use of the Next Generation Energy Act, which is a statewide goal that applies to all economic sectors, not a utility-specific mandate.
[15] Minnesota Power, Reply Comments, at page 2.
[16] *See, e.g.*: https://www3.epa.gov/climatechange/EPAactivities/economics/scc.html

The recently released ALJ Report recommends the use of the Social Cost of Carbon, though with modifications.[17] Staff does not mean to pre-judge the Commission's decision in this docket; hypothetically, however, if the Commission were to adopt the ALJ's recommended range, the Agencies' proposed regulatory values would likely be *below* the externality values. In this scenario, the regulatory cost range would not fully internalize the CO_2 externalities. In this case, it may be appropriate to reconsider the relationship between the externality and regulatory cost ranges.

But, while this hypothetical example illustrates the potential value to reexamining the relationship between the two costs, it also suggests this is not the appropriate time to begin the generic docket. At this time, the Commission has not established updated externality values for CO_2, so any discussion of whether the regulatory values would fully internalize the externality costs would be speculative and hypothetical. Moreover, both the Commission and the Department are currently facing an unprecedented workload. Adding another generic docket *before* establishing updated externality values for CO_2 may not be the best use of scarce regulatory resources. Thus, while Staff believes CEO raises an important issue, Staff does not believe it would be appropriate to initiate a generic docket before the updated externality values for CO_2 have been established. Even after the externality values have been updated, the Commission may want to weigh the potential value of this inquiry against other topics that may be worthy of generic dockets to determine the best use of Commission resources.

5 | Decision Options

Cost range (Section 2)

1) Maintain the current regulatory cost range of $9 to $34 per ton of CO_2 (The Agencies, CEO, OTP, MP, and Xcel); ***OR***

2) Adopt some other regulatory cost range.

Time frame (Section 2)

3) Begin applying the values in 2022 (The Agencies, CEO, OTP, MP, and Xcel); ***OR***

4) Begin applying the values in some other year.

Application to 2017 (Section 3)

5) Apply the cost range and timeframe adopted above to resource plans filed in 2017 as well as 2016 (MP, OTP); ***OR***

6) Do not set the cost range or timeframe to be used in 2017 at this time (CEO, Xcel).

Generic Docket on CO_2 Regulatory and Externality Costs (Section 4)

7) Open a generic docket to reexamine the relationship between the Commission's estimates of the external cost of CO_2 and the anticipated regulatory cost of CO_2 (CEO); ***OR***

8) Do not open a generic docket at this time (MP, OTP, Xcel, Staff).

[17] *See:* pages 123-124 of the ALJ's April 15, 2016 Report in Docket 14-643.