

**STATE OF MINNESOTA
PUBLIC UTILITIES COMMISSION**

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**In the Matter of the Investigation into
Environmental and Socioeconomic Costs
Under Minn. Stat. §216B.2422, Subd. 3**

Docket No. E-999/CI-00-1636

COMMENTS OF THE CLEAN ENERGY ORGANIZATIONS

I. INTRODUCTION

The Clean Energy Organizations¹ submit the following comments to assist the Department of Commerce and the Pollution Control Agency (the “Agencies”) in making their recommendation to the Public Utilities Commission (“Commission”) regarding the scope of the reopened investigation into the environmental costs of electricity generation and the role of an expert in the investigation. The Clean Energy Organizations appreciate the opportunity to comment on these questions and we appreciate the time and effort that the Agencies put into planning and implementing the stakeholder meeting held on April 24, 2014.

II. BACKGROUND

On February 10, 2014, the Commission issued a written order after granting the motion of the Clean Energy Organizations to reopen this docket to establish new values for SO₂, NO_x, PM_{2.5} and CO₂. The Commission concluded that “there is an adequate basis to consider updating or expanding the environmental cost values established under Minn. Stat. § 216B.2422, subd. 3.”² Accordingly, after soliciting comments from interested parties, the Commission agreed to “investigate the appropriate range of externality values for PM_{2.5}, SO₂, NO_x, and CO₂.”³ But

¹ The Clean Energy Organizations include the Minnesota Center for Environmental Advocacy, the Will Steger Foundation, the Izaak Walton League – Midwest Office, Fresh Energy, the Sierra Club, and Center for Energy and the Environment.

² *In the Matter of the Investigation into Environmental and Socioeconomic Costs Under Minn. Stat. § 216B.2422, Subd. 3* Docket No. E-999/CI-00-1636, *Order Reopening Investigation and Convening Stakeholder Group to Provide Recommendations for Contested Case Proceeding* at 4 (Feb. 10, 2014).

³ *Id.* at 3.

before referring the matter to the Office of Administrative Hearings for a contested case proceeding, and because the comments received did not reveal consensus regarding the proper scope of the investigation, the Commission sought “additional input concerning the scope and conduct of the investigation, and whether to retain an expert.”⁴ The Commission therefore asked the Agencies to convene a stakeholder group and “provide the stakeholder group’s recommendations about whether the investigation should address other issues—including whether to investigate the costs of methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆)—and the need for and possible role of an expert, if the Commission were to retain one.”⁵

In response to this request, the Agencies convened a stakeholder meeting on April 24, 2014, and offered six potential “Process Scenarios” for stakeholders to discuss and comment on. In addition, the Agencies indicated that written comments would be welcome. At that stakeholder meeting and through these comments, the Clean Energy Organizations continue to advocate for a scope of investigation similar to that laid out in our original motion to reopen this proceeding.

III. CRITERIA POLLUTANT PROCESS SCENARIOS

Process Scenario Evaluation

The Clean Energy Organizations agree with the criteria that the Agencies enumerated in the Discussion Document: cost; time; complexity; credibility; specificity to Minnesota; need for an outside contractor; and updateability. The Clean Energy Organizations stress, however, that the credibility of the results should primarily drive the selection of the Process Scenario. The current values are based on outdated science and lack sufficient credibility for the Agencies, Minnesota utilities, and the Commission to use the values as intended for planning and other purposes. If this fundamental lack of credibility is not addressed, then nothing will have been accomplished.

But in addition to the fundamental need to produce credible values, the Clean Energy Organizations recognize that achieving credibility needs to be balanced with the other criteria identified by the Agencies—such as the time and cost that will be necessary to produce those results. Because time, cost, and the need for an outside consultant are all driven by the

⁴ *Id.* at 5.

⁵ *Id.*

complexity of the model that is chosen, the Clean Energy Organizations urge the selection of the Process Scenarios that will best balance credibility on the one hand with the complexity of the model or process needed to obtain credible results on the other. The least complex—and therefore the least time and cost-intensive process that can nevertheless produce credible results should be selected.

Process Scenarios A, B, and C

With the above balancing test in mind, the Clean Energy Organizations would support either Process Scenario A (full photochemical model) or Process Scenario B (reduced-form model), on the condition that the full photochemical modeling process would not take an unnecessarily long time. Given the exceedingly complex modeling that would be required to establish new values using Process Scenario A, the time and resources necessary to achieve these results might outweigh the incremental increase in credibility that would be achieved between Process Scenario A and Process Scenario B. Moreover, it is not clear that such a complex process is needed to achieve credible results.

The Clean Energy Organizations assert that there are reduced-form models that can provide the desired level of credibility while balancing the other concerns. A reduced-form model such as the Air Pollution Emission Experiments and Policy (“APEEP”) analysis would require limited customization to provide credible Minnesota-specific results. For example, APEEP is already designed to run at a county level and could easily be used to model air dispersions for Minnesota counties. In addition, there is no need to customize the model to limit it to damages within Minnesota. By limiting the model in such a way, the credibility of the ultimate damage value would be decreased. The model that was used to assign the original values, in 1994, that was commissioned by NSP (now Xcel Energy), included receptors outside of Minnesota. There is no reason to change this aspect of the original methodology and there is simply no scientific justification for not including damages that occur due to emissions from Minnesota facilities because they happen to occur across a state line.

Using the same balancing test, the Clean Energy Organizations do not support the selection or recommendation of Process Scenario C because it does not achieve the necessary level of credibility. It is not clear that Process Scenario C would achieve the necessary pollutant-specific values nor is it clear that the geographic specificity of Process Scenario C can be narrowed to county-specific emissions levels. The level of environmental and health damages due to air emissions from a specific source vary greatly based on proximity to population centers.

Values that are uniform across all of Minnesota would not account for this variability and would not be an effective tool for utilities to use as they engage in resource planning and other dockets.

Outside Contractor Role and Competencies

As stated previously, we support the Commission's authority to retain an outside contractor under Minn. Stat. § 216B.62 and to assess the public utilities it regulates for this cost. Retaining an expert will be a relatively cost-effective and efficient way to proceed. After the scope of the work has been defined by the Commission, the Clean Energy Organizations urge the Commission to put out a Request for Proposals for the work. Selection of the outside contractor should be made based on the demonstrated expertise with each step in the process of developing an externality value. First, the Commission should look for expertise with the specific type of model that will be used. Second, the contractor must have expertise with the application of concentration-response function to the modeling results. Finally, the contractor must be able to translate those results into appropriate externality values. To ensure that these varied areas of expertise are sufficiently covered, we would support retaining a firm or a team to do this work rather than a single expert or consultant. The report produced by this outside contractor would then become the central document of the upcoming contested case proceeding.

IV. PROCESS SCENARIOS FOR CARBON DIOXIDE

The Clean Energy Organizations urge the Agencies to recommend Process Scenario E to the Commission. Climate change is fundamentally changing our nation's environment and starting to impose real costs to Minnesota's health and our economy. The 2014 National Climate Assessment released this week found that the Midwest's agricultural lands, forests, Great Lakes, industrial activities and cities are all vulnerable to climate variability and climate change. Longer growing seasons and rising carbon dioxide levels increase yields of some crops, although these benefits have already been offset in some instances by occurrence of extreme events such as heat waves, droughts and floods.⁶

Social Cost of Carbon

The Environmental Protection Agency's Social Cost of Carbon ("SCC") value "is meant to be a comprehensive estimate of climate changes and includes, but is not limited to, changes in

⁶ *National Climate Assessment, NCA Overview: Midwest*, (May 6, 2014) available at <http://nca2014.globalchange.gov/report/regions/midwest>.

net agricultural productivity, human health, and property damages from increased flood risk.”⁷ As stated by PCA, the SCC “is a current and credible estimate of the environmental and other non-market costs of greenhouse gas emissions.”⁸ The SCC is based on three integrated assessment models that are frequently cited in peer-reviewed literature.⁹ In contrast, the current externality values are based on the simple assumption that GDP will decrease one percent due to climate change.¹⁰ But “the scientific understanding of climate damages has increased significantly in the last 20 years. For example, the damages from climate change are expected to increase as the concentration of carbon dioxide increases, which is reflected in the [SCC] but not the externality values established in the mid-1990s.”¹¹ The SCC was most recently updated in 2013.¹² It is the most up-to-date and credible value for the damage caused by CO₂ emissions that is available to the Commission.

Basing Minnesota’s externality value for CO₂ on the SCC figure will also allow for relatively easy updating of the value in the future. First, as the federal value is updated based on new information and additional model runs, the Minnesota value can be correspondingly and automatically updated without needing to go through this process again. Second, the SCC already contains built-in “updates” because it provides different externality values for emissions that occur in different years. For example, in the 2013 Technical Support Document, the value for CO₂ emissions that occur in 2015 is \$38/tonne while the value for CO₂ emissions that occur in 2020 is \$43/tonne. Finally, the Commission already determined that the Minnesota externality values should be adjusted annually for inflation, and this automatic adjustment process can easily be applied to the federal SCC.

The Clean Energy Organizations assert that Process Scenario E strikes the best balance between credibility and the complexity of the process. There is a growing body of research that suggests that the SCC is in fact much too low and represents a very conservative estimate of the

⁷ U.S. Environmental Protection Agency, *The Social Cost of Carbon*, available at <http://www.epa.gov/climatechange/EPAactivities/economics/scc.html>.

⁸ Docket No. E-999/CI-00-1636, *Minnesota Pollution Control Agency Comments* at 2 (Nov. 8, 2013).

⁹ See Docket No. E999/M-14-65, *Minnesota Department of Commerce Division of Energy Resources Supplemental Comments* at 3 (Mar. 11, 2014).

¹⁰ *Id.* at 6.

¹¹ *Id.*

¹² Interagency Working Group on Social Cost of Carbon, United States Government, *Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866*, (May 2013, Revised November 2013).

damage caused by CO₂ emissions.¹³ “[T]he bulk of the literature and arguments indicates that social-cost models are underestimating climate-change harms.”¹⁴ It is entirely possible, therefore, that by hiring an outside consultant to establish a new Minnesota externality for CO₂ (Process Scenario D) the value would in fact be higher than the SCC. Despite this possibility, the Clean Energy Organizations remain cognizant of the time and resource constraints faced by the Agencies and the parties and believe that aligning the Minnesota externality value for CO₂ with the SCC is a reasonable and credible alternative.

Inclusion of Other Greenhouse Gases

The Clean Energy Organizations advocate for Process Scenario E as opposed to Process Scenario F because we believe that creating values for greenhouse gases (“GHGs”) in addition to CO₂ is appropriate. Because Process Scenario E uses the global warming potential of CO₂ equivalents to account for other non-CO₂ GHGs, the time and cost for including additional GHGs would be minimal. The process of converting other GHGs into CO₂ equivalents based on global warming potential is relatively simple. Minnesota law requires the Commission to establish values for all environmental costs “to the extent practicable.” There is no practical reason to exclude additional GHGs from the process at this juncture. Therefore, although our original petition did not request establishing values for other GHGs in addition to CO₂, the Department urged the consideration of other GHGs for purposes of thoroughness and credibility and we support the Department’s position.

V. GENERAL SCOPE OF THE INVESTIGATION

The Clean Energy Organizations’ motion to reopen this docket did not ask the Commission to revisit many of the broad policy pronouncements, statutory interpretations, and other contentious decisions that were thoroughly addressed in the original proceeding. And the Commission’s decision to grant our motion did not contemplate revisiting these questions.

¹³ See, e.g., Richard L. Revesz et al., *Global Warming: Improve Economic Models of Climate Change*, *Nature* (Apr. 4, 2014); van den Bergh, J.C.J.M and W.J.W. Botzen, *A Lower Bound to the Social Cost of CO₂ Emissions*, *Nature Climate Change* (March 2014); Wagner, Gernot, *Pay Now or Pay More Later* (Apr. 10, 2014) available at <http://ensia.com/voices/pay-now-or-pay-more-later>; Howard, Peter, *Omitted Damages: What’s Missing from the Social Cost of Carbon*, (Mar. 13, 2014) available at http://costofcarbon.org/files/Omitted_Damages_Whats_Missing_From_the_Social_Cost_of_Carbon.pdf.

¹⁴ Richard L. Revesz et al., *Global Warming: Improve Economic Models of Climate Change*, *Nature* (Apr. 4, 2014).

Accordingly, we urge the Agencies to recommend that the Commission limit the scope of this proceeding to updating the outdated monetary values attached to specific pollutants and developing values for additional pollutants to the extent practicable. The Commission has already decided how, where, and when those values should be applied and there is no basis for revisiting those decisions. In particular, the Commission determined the appropriate geographic scope within which the externality values will apply and “set values for emissions originating within . . . 200 miles from the state border.”¹⁵ These values apply to facilities in adjoining states, including North Dakota, and the updated values will continue to apply to this same geographic region.¹⁶

This proceeding should remain focused on the purpose of the externalities statute. There is a fundamental conceptual difference between an externality value that is designed to force the utilities to consider the damages caused by the emissions from their facilities and the regulatory costs that are actually incurred by those utilities due to complying with environmental regulations. Any regulation costs that have already been incurred have been internalized by the utilities and any emission reductions that have already occurred will be appropriately accounted for in the models. Externality values will only apply to those emissions that remain. Regulations may require utilities to reduce emissions, but until a given emission is eliminated, there is still damage caused by those emissions and the use of externality values to account for those damages is appropriate.

For these reasons, the Clean Energy Organizations strongly disagree with PCA’s position that the cost of carbon regulation and the damage cost of carbon as an externality will over account for damages from carbon.¹⁷ The future cost of carbon regulation is a cost borne by a utility for complying with a regulation and does not account for the costs borne by society for any remaining unregulated emissions. As stated by the Department, “[t]he Commission’s costs of carbon regulation (\$9-\$34 dollars per ton) are estimates of expected costs of utilities complying with regulations pertaining to carbon dioxide; these costs are not environmental costs for the

¹⁵ Docket No. E-999/CI-93-583, *Order Establishing Environmental Cost Values* (Jan. 3, 1997).

¹⁶ The exception to this is for the CO₂ value. The Commission concluded that the CO₂ values would not apply to North Dakota facilities and that this decision would not be revisited. See Docket No. E-999/CI-00-1636, *Order Reopening Investigation and Convening Stakeholder Group to Provide Recommendations for Contested Case Proceeding* (Feb. 10, 2014).

¹⁷ See Docket No. E-999/CI-00-1636, *Minnesota Pollution Control Agency Comments* at 2 (Nov. 8, 2013).

damages to society from carbon dioxide pollution.”¹⁸ By including the actual costs of a utilities’ actions—not just the cost of complying with the law—Minnesotans will be better served by the Commission and utilities in making energy decisions that are in the best interest of society.

VI. CONCLUSION

Assigning an externality value to emissions allows the Commission to require utilities to account for the damage caused to society because of those emissions. And, to be clear, these are damage costs that are *already being paid* by every Minnesotan—in our medical bills, health insurance bills, property insurance, and taxes. Minnesota law requires utilities to consider these damages that Minnesotans are already paying when the utilities make decisions that affect us. Without realistic values, Minnesotans will go on paying these bills and the utilities will go on making decisions that in no way consider these societal costs.

The Clean Energy Organizations appreciate the opportunity to submit these comments and we look forward to working with the Agencies, the Commission and other interested parties to establish updated externality values.

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Respectfully submitted,

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¹⁸ Docket No. E999/M-14-65, *Minnesota Department of Commerce, Division of Energy Resources Supplemental Comments* at 7 (Mar. 11, 2014).