

**STATE OF MINNESOTA
PUBLIC UTILITIES COMMISSION**

Katie Sieben	Chair
Joseph Sullivan	Vice Chair
Valerie Means	Commissioner
Matthew Schuenger	Commissioner
John Tuma	Commissioner

September 30, 2021

**In the Matter of Establishing Frameworks to
Compare Lifecycle Greenhouse Gas Emissions
Intensities of Various Resources, and to Measure
Cost-Effectiveness of Individual Resources and of
Overall Innovative Plans**

Docket No. G999/CI-21-566

COMMENTS OF FRESH ENERGY

Fresh Energy submits these comments in response to the Commission's September 3, 2021 Notice of Comment Period regarding the establishment frameworks for lifecycle greenhouse gas (GHG) emissions intensity and cost-benefit accounting (CBA) for comparing and measuring the cost-effectiveness of innovation plans within the Natural Gas Innovation Act (NGIA). The Commission's Notice summarizes the myriad of issues that must be addressed prior to the June 1, 2022 deadline in the NGIA, after which gas utilities may propose innovation plans containing the resources that will be assessed using the analytical frameworks established in this docket.

This initial comment period is an opportunity to establish a procedural path upon which the Commission can work to develop the frameworks in advance of the June 1, 2022 statutory deadline. Fresh Energy signed the Joint Comments along with several stakeholders that proposes a conceptual and procedural path forward, as described in greater detail below. In addition, Fresh Energy submits these comments with additional recommendations for the Commission to consider in this docket.

Before addressing these individual recommendations, however, these comments will first address the larger context out of which the NGIA and this docket arises. It is important to ground the work that will be accomplished in this docket with its connection to the broader conversation on the future of the gas system and the need to transition away from fossil gas.

The Transition from Fossil Gas and the Role of Innovation Plans

While the immediate focus of this docket is to establish frameworks for cost-effectiveness and carbon intensity for utility innovation plans, it is critical to consider the larger context that underlies this work—the climate crisis. The recent report from the Intergovernmental Panel on Climate Change (IPCC) underscores the urgency required to address this emergency. The IPCC report stresses the need to limit cumulative carbon emissions “reaching at least net zero CO₂ emissions,” and notes that “[s]trong, rapid and sustained reductions in [methane] emissions would also limit the warming effect . . . and would improve air quality.”¹

Minnesota has an important role to play to address this global climate crisis and the state is currently falling short of its goals. According to the most recent data from the Minnesota Pollution Control Agency (MPCA), the state is not meeting the economy-wide GHG emission reduction goals established by the Next Generation Energy Act (NGEA).² In fact, fossil gas consumption (and thus, emissions) have risen over the past 15 years.³ Even with recent advances in decarbonizing the electricity and transportation sectors, Minnesota will not meet its GHG emission reduction goals if it does not address the fossil gas system. We are thus at a critical juncture and must act now to put into place the policies that will get the state back on track to meet its statutory goals and achieve carbon neutrality by 2050.⁴

There is consensus amongst stakeholders that the fossil gas system must be decarbonized to meet these GHG emission reduction goals by 2050.⁵ Over the past two years, Fresh Energy worked with a diverse group of stakeholders to discuss pathways to decarbonize Minnesota’s fossil gas end uses. The group published the report, titled “Decarbonizing Minnesota’s Natural Gas End Uses,” in the summer of 2021. Fresh Energy was on the steering committee for this report and played a central, guiding role in its development. All stakeholders agreed that Minnesota must take definitive, immediate steps to reshape the current trajectory of fossil gas use in buildings and industry.

Fresh Energy supports a fossil gas decarbonization pathway that focuses on three technology-specific prongs that are discussed in the G21 report.⁶ First, and foremost given the scale of building sector emissions, a decarbonization pathway should advance electrification paired with deep energy efficiency. Second, to deploy ground-source district energy systems to

¹ INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2021: THE PHYSICAL SCIENCE BASIS: SUMMARY FOR POLICYMAKERS (Aug. 7, 2021) 36.

² MINN. POLLUTION CONTROL AGENCY, GREENHOUSE GAS EMISSIONS INVENTORY 2005–2018 (Mar. 17, 2021).

³ CTR. FOR ENERGY & ENVT. & GREAT PLAINS INST., DECARBONIZING MINNESOTA’S NATURAL GAS END USES (JUL. 2021) 10 (hereinafter the “G21 Report”).

⁴ The NGEA requires a reduction of 80 percent of GHG emissions by 2050, but more recent science support a zero-carbon by 2050 goal; this is the assumption used by the G21 Report for the scenarios it modeled.

⁵ There is, however, a lack of consensus about the best way to achieve these goals, which will be the central discussion/conflict in the future of gas docket in 21-565.

⁶ Fresh Energy, “What’s Next for fossil gas in Minnesota? New report outlines decarbonization pathways and recommendations,” Jul. 13, 2021, <https://fresh-energy.org/whats-next-for-fossil-gas-in-minnesota-new-report-outlines-decarbonization-pathways-and-recommendations>.

mitigate peak electric demand. And third, a pathway should utilize a mix of electrification and non-fossil gaseous fuels like renewable natural gas (RNG), synthetic methane, and hydrogen in the industrial sector. These three prongs focus on the best and highest use case for the resource and sector under consideration.

In focusing on the best and highest use cases for these resources, especially the alternative gaseous fuels listed in NGIA, the Commission should view these resources through a realistic lens. Study after study has shown that the technical potential of many alternative gaseous fuels is limited and should be directed toward end uses where electrification may be difficult to accomplish.⁷ In addition, alternative gaseous fuels like RNG present many of the same concerns as fossil gas, including methane leakage, air quality concerns, and health risks.⁸ Under NGIA, utilities may propose any number of resources. The Commission should consider not only the resource's cost-effectiveness and carbon intensity through the frameworks established in this docket, but also whether that resource is scalable and the effect it has on the existing gas infrastructure and public health. Alternative gaseous fuels will play a role in a decarbonized future, but they should be deployed only to their best and highest use.

Next, these comments will briefly introduce the structure of the NGIA that is relevant to this docket. The NGIA allows utilities to propose resources for approval in their innovation plan. The list of innovative resources includes strategic electrification, energy efficiency, and district energy along with non-fossil gaseous technologies like biogas, renewable natural gas, power-to-hydrogen, power-to-ammonia, and carbon capture.⁹

Utilities may file innovation plans that include resources that “contribute to meeting the state’s greenhouse gas and renewable energy goals.”¹⁰ In particular, NGIA requires the utility to calculate the GHG emissions reductions attributable to the plan and the cost-effectiveness of the resources from “the perspective of the utility, society, the utility’s nonparticipating customers, and the utility’s participating customers” compared to other innovative resources that could be deployed to reduce or avoid the same GHG emissions targeted by the innovative resource in question.

Section 21 of the NGIA requires the Commission to take the action in the present docket to issue frameworks to calculate the lifecycle GHG emission intensities by June 1, 2022.¹¹ The NGIA requires the Commission to approve a general framework to compare the lifecycle GHG emission intensities of the potential innovative resources as well as a cost-benefit analytic framework. The cost-benefit framework must take into account the total incremental cost of the plan/resource and the lifecycle GHG emissions avoided/reduced by the plan;

⁷ See, e.g., G21 Report at 34 (displaying costs curves for gaseous fuels in conservative and optimistic scenarios in 2030 and 2050 in Minnesota and showing that the state would have to rely upon synthetic natural gas for the majority of supply in both scenarios at a cost between approximately \$25 and \$55/mmBTU compared to approximately \$5/mmBTU for conventional, industrial fossil gas costs).

⁸ BRADY SEALS & ANDEE KRASNER, RMI, GAS STOVES: HEALTH AND AIR QUALITY IMPACTS AND SOLUTIONS (2020).

⁹ MINN. STAT. § 216B.2427, subd. 1 (NGIA Sec. 20).

¹⁰ MINN. STAT. §216B.2427, subd. 2.

¹¹ MINN. STAT. § 216B.2428 (NGIA Sec. 21).

additional costs and benefits; and a baseline cost-effectiveness criteria against which an innovation plan should be compared.

At this early stage in the proceeding it is reasonable for the Commission to focus on high-level guiding principles to apply in this docket and on the process that should be followed to develop the analytical frameworks by the June 1, 2022 deadline. The remainder of these comments will focus on guiding principles, procedure, and initial recommendations. In addition, Fresh Energy will provide more substantive technical comments in future comments.

Guiding Principles

Fresh Energy will address broader guiding principles in the future of gas docket (21-565), but these comments will highlight a subset of three guiding principles that are especially applicable here. These principles have emerged out of the G21 stakeholder report and from recent literature.

The first guiding principle is to set a clear direction for aligning the utility system with the climate imperative. This was the top recommendation made by authors of a 2020 RMI (formerly the Rocky Mountain Institute) study on decarbonizing the building sector.¹² The need for Minnesota to reduce GHG emissions from the fossil gas sector was introduced above and is a foundational element of NGIA itself—the first requirement of a utility’s innovation plan is for the plan or resource to “contribute to meeting the state’s greenhouse gas and renewable energy goals.”¹³ Further, the utility must show the total lifecycle GHG emissions the project will reduce or avoid using the frameworks developed in this docket.

Aligning the gas utility system with the statutory GHG reduction goals in this docket means looking at the issue from a quantitative and qualitative perspective. From the quantitative angle, it means establishing robust analytical frameworks. And from a qualitative perspective, it means viewing each innovation plan/resource with an eye toward whether that resource will contribute or delay the transition away from fossil gas, including whether it would add to the existing, long-lived fossil gas infrastructure. Investing time and resources into a technology or technologies with significant scalability limitations (i.e., most, if not all alternative gaseous fuels) means diverting time and resources from technologies or approaches such as electrification or efficiency that can be broadly adopted throughout the economy. It may also be an indicator that the resource is not being applied to its best and highest use potential, especially if the resource is simply being injected into the existing gas infrastructure.

A second, related guiding principle is to establish clear guidelines for alternative gaseous fuels.¹⁴ The Commission is on the path to accomplishing this, but the RMI Report’s authors caution that alternative fuels “have significant limitations” including scalability, cost, and technical maturity.¹⁵ The RMI Report also cites a variety of studies, including those that have analyzed the Midwest, that have concluded that “the lowest-cost pathways for achieving a

¹² SHERRI BILLIMORIA & MIKE HENCHEN, RMI, REGULATORY SOLUTIONS FOR BUILDING DECARBONIZATION: TOOLS FOR COMMISSIONS AND OTHER REGULATORY AGENCIES (2020) 6 (hereinafter “RMI Report”).

¹³ MINN. STAT. § 216B.2427, subd. 2(a)(1).

¹⁴ BILLIMORIA & HENCHEN at 21–25.

¹⁵ *Id.* at 21.

1.5 degree climate-aligned future have concluded that residential and commercial buildings need to be electrified.”¹⁶ Again, alternative gaseous fuels, to the extent they play a role in a decarbonized economy, “may be more useful in applications that are hard to electrify . . . rather than the residential and commercial buildings sector.”¹⁷

As the Commission establishes these clear guidelines for alternative gaseous fuels, the RMI study authors also recommend that any utility claims that “rely on offsetting emissions that continue in the gas system with claimed reductions elsewhere in the economy, must be held to rigorous standards” and that these standards will fail “if substantial direct emissions of CO₂ remain, and if offset accounting does not guarantee that negative emissions are additional to those that could have occurred through other means.”¹⁸ In addition, the RMI Report authors noted that alternative gaseous fuels may compete with demand in other sectors¹⁹ and highlighted the importance of establishing clear guidelines.

Finally, the third guiding principle is to emphasize the importance of consumer protection and equity in designing the analytical frameworks and eventually assessing utilities’ innovation plans. The G21 stakeholder group reached consensus on this general principle²⁰ and it appears throughout other reports on this topic as well. For instance, a recent Regulatory Assistance Project report declared this as a “universal and persistent challenge” to “ensure that all communities are able to access these opportunities and that they are equitably represented in related decisions that affect them.”²¹

Fresh Energy does not believe that a business-as-usual approach is sustainable, much less affordable, for Minnesota ratepayers or the environment. This past winter, we saw how volatile the fossil gas market can be and we face the prospect of increasing rates and bills year-after-year. The gas system continues to expand with investments that will take decades to pay off. A transition from the fossil gas system will not be without costs, but through smart, targeted, cost-effective investments, the Commission can ensure that the costs are minimized and borne equitably. A significant step forward can be made in this docket to advance this goal. Accordingly, Fresh Energy is committed to working with the Commission to establish robust methodologies that follow these guiding principles because the greatest risk is that ratepayers will bear the costs of expensive, untested technologies that will not help Minnesota achieve its GHG emission reduction goals.

¹⁶ *Id.*

¹⁷ *Id.*

¹⁸ *Id.* at 24.

¹⁹ The G21 Report made a similar finding/assumption. *See* G21 Report at 33 (noting that competition from the liquid fuel transportation market drove assumptions about the supply of decarbonized gaseous fuels).

²⁰ CTR. FOR ENERGY & ENVT. & GREAT PLAINS INST., DECARBONIZING MINNESOTA’S NATURAL GAS END USES (JUL. 2021) 4–6 (encompassing recommendations 1 and 25).

²¹ RAP Report at 7.

Recommendations

Fresh Energy is a signatory to the Joint Comments submitted concurrently with several other stakeholders in this docket. Below are several other Fresh Energy-specific recommendations that were not included in the Joint Comments.

First, the Commission should hold a hearing to establish the procedural steps for this docket and make initial findings on the direction of the analytical frameworks following the October 15 reply comment deadline. Although many of the questions posed in the Commission's Notice will not be ripe following the brief comment and reply period, it is important for the Commission to have the opportunity to provide a clear direction for stakeholders at this early stage in the docket, prior to the more substantive work that will occur over this fall and winter.

Second, because many of these concepts are highly technical and unfamiliar to many parties, and because of the impact that these frameworks could have on the broader discussion of gas transition, the Commission should consider retaining an expert. Such an expert could assist the Commission and stakeholder synthesize practices from other jurisdictions while utilizing Minnesota-specific data to modify existing frameworks and help develop new analytical tools for those technologies for which no existing model can be adapted. An expert could also help the Commission incorporate policy objectives that mirror future discussion in 21-565 regarding the future of the fossil gas system.

Third, the Commission should prioritize those resources that have the greatest potential to scale up to meet the state's GHG emission reduction goals and effectuate the transition of the gas system in the most cost-effective manner possible. Fresh Energy supports electrification and energy efficiency for the residential and commercial building sector, district energy to mitigate peak electric demand, and targeted application of alternative gaseous fuels in certain applications. The Commission should use the record developed in this docket and in the future of gas docket to inform the direction it takes to decarbonize the gas system.

Conclusion

Fresh Energy supports Commission action that will rapidly decarbonize the fossil gas system in the most cost-effective, durable, and equitable manner possible. The establishment of robust analytical frameworks to measure carbon intensity and cost-effectiveness of resources in utility innovation plans will provide valuable insight into the characteristics of each resource so that they can be put to their best and highest use. Fresh Energy looks forward to developing the record in this docket with more substantive technical comments in the coming months.

/s/ Joe Dammell

Joe Dammell

Fresh Energy

408 St. Peter Street, Suite 220

St. Paul, MN 55102

651.374.1356

dammell@fresh-energy.org