STATE OF NEW JERSEY
BOARD OF PUBLIC UTILITIES

In the Matter of the Implementation of Executive Order 317 Requiring the Development of Natural Gas Utility Emission Reduction Plans	))))))))	**Docket No. GO23020099**

COMMENTS OF ENVIRONMENTAL DEFENSE FUND, NATURAL RESOURCES DEFENSE COUNCIL, SIERRA CLUB, AND NEW JERSEY CONSERVATION FOUNDATION ON IMPLEMENTATION OF EXECUTIVE ORDER 317

Dated: September 6, 2023

Pursuant to the New Jersey Board of Public Utilities' ("Board" or "BPU") Notice of Technical Conference issued July 10, 2023, Environmental Defense Fund ("EDF"), Natural Resources Defense Council ("NRDC"), Sierra Club, and New Jersey Conservation Foundation ("NJCF") (together, "Joint Environmental Commenters") respectfully submit the following comments regarding the Board's implementation of Executive Order 317, issued by Governor Murphy on February 15, 2023, and procedures to ensure timely reductions in greenhouse gas emissions by New Jersey gas utilities.

Scientific evidence overwhelmingly demonstrates that climate change is causing immediate, devasting impacts, and that these harms will worsen dramatically as greenhouse gas pollution continues to rise. Methane, the primary component of fossil natural gas, and carbon dioxide, which is emitted when fossil natural gas is combusted, each significantly contribute to climate change and its impacts. To achieve New Jersey's ambitious climate targets by 2030 and 2050, the BPU must act decisively to implement Executive Order 317 by establishing clear standards for gas utility long-term planning consistent with climate goals, and by carefully inspecting existing gas policies to halt continued expansion of the natural gas pipeline system. The Joint Environmental Commenters present the recommendations herein to advise the BPU in this important and time-sensitive proceeding.

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I. Background

The New Jersey Global Warming Response Act ("GWRA"), enacted in 2007 and updated in 2019, mandates an 80% reduction in statewide greenhouse gas ("GHG") emissions by 2050, from 2006 levels.[1] Executive Order 274, issued in 2021 by Governor Murphy, established an interim goal to reduce GHG emissions 50% by 2030, from 2006 levels.[2] Emissions from the Buildings sector—primarily resulting from natural gas combustion in buildings—are the second-largest source of GHG emissions in New Jersey, currently making up 25% or 23.1 million metric tons CO2-equivalent of statewide emissions.[3] The Industrial sector accounts for another 7.2 million metric tons CO2-equivalent, and a significant proportion of these emissions result from natural gas combustion supplied by gas utilities to industrial users.[4]

Executive Order 28, signed by Governor Murphy in 2018, directed the BPU and other state agencies in developing the 2019 Energy Master Plan ("EMP") to "provide a comprehensive blueprint for the total conversion of the State's energy production to 100% clean energy" by 2050, and to also "provide specific proposals to be implemented over the next ten (10) years in order to achieve the January 1, 2050 goal."[5] Based on this directive, the agencies "took a much broader approach to the process of updating its 2019 [EMP] than the state has done traditionally," to create an EMP that "sets higher goals and objectives and includes multiple sectors and governmental agencies."[6] Additionally, New Jersey enacted the Clean Energy Act ("CEA") in 2018, requiring that utilities implement efficiency programs to reduce natural gas reliance. Specifically, gas utility efficiency programs must provide net savings of at least 0.75% annually of retail sales by 2026, and provide total net annual savings of at least 1.1% of retail sales when combined with state-administered efficiency programs.[7]

Per the 2019 EMP, New Jersey's "building sector should be decarbonized and largely electrified by 2050."[8] The least-cost economy-wide decarbonization scenario requires that "buildings began to be retrofitted and electrified aggressively starting in 2030," 90% of building heating (space and water) is powered by electricity in 2050, and "total delivery of gas fuels through the gas transmission and distribution network falls by 75% [by 2050] compared to 2020 levels."[9] The 2019 EMP found building electrification to be more cost-effective than reliance on piped gases like biomethane, because "[w]hile building electrification increases electricity use, it reduces total energy needs because heat pumps are much more efficient than direct combustion of fossil fuels for heat,"[10] and "to avoid large quantities of biofuels or potentially synthetic fuels in the

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[1] P.L. 2007 c.112; P.L. 2019 c.197; *see also* N.J.S.A. 26:2C-40.
[2] N.J. Exec. Order No. 274 (Nov. 10, 2021), https://www.nj.gov/infobank/eo/056murphy/pdf/EO-274.pdf.
[3] *See* N.J. Dep't of Envtl. Protection, NJ Greenhouse Gas Inventory: 2022 Mid-Cycle Update Report (Dec. 2022), https://dep.nj.gov/wp-content/uploads/ghg/2022-ghg-inventory-mcu_final.pdf.
[4] *Id.*
[5] N.J. Exec. Order No. 28 (May 23, 2018), https://nj.gov/infobank/eo/056murphy/pdf/EO-28.pdf.
[6] N.J. BPU, *2019 New Jersey Energy Master Plan: Pathway to 2050* (Jan. 2020), at 20, https://www.nj.gov/emp/docs/pdf/2020_NJBPU_EMP.pdf [hereinafter "2019 NJ EMP"].
[7] P.L. 2018, c17.
[8] 2019 NJ EMP at 157.
[9] 2019 NJ EMP at 160, 175.
[10] 2019 NJ EMP at 161.

future – both of which, at currently projected costs, are a more expensive option than electrification."[11]

In February 2023, Governor Murphy announced a suite of new decarbonization initiatives, including Executive Order 315, adoption of an accelerated target of 100% clean energy by 2035; Executive Order 316, adoption of "a target to install zero-carbon-emission space heating and cooling systems in 400,000 homes and 20,000 commercial properties and make 10% of all low-to-moderate income (LMI) properties electrification-ready by 2030";[12] and Executive Order 317, initiating a process to plan for the future of natural gas utilities in New Jersey. EO317 found that "it is appropriate to conduct a thoughtful and thorough assessment and planning process that takes into account the implications of New Jersey's decarbonization goals and future changes to energy needs on the State's natural gas industry, operations, infrastructure, and customers," and directed the NJ BPU to "initiate a proceeding to formally engage with stakeholders concerning development of natural gas utility plans that reduce emissions from the natural gas sector to levels that are consistent with achieving the State's 50 percent reduction in greenhouse gas emissions below 2006 levels by 2030."[13]

On March 6, 2023, the BPU issued an order initiating a proceeding to implement EO317. The order directed BPU Staff to engage with stakeholders and consult with a series of relevant state agencies "to investigate and recommend how the natural gas industry can best meet the State's 50 percent reduction in greenhouse gas emissions below 2006 levels by 2030."[14] The order directs Staff to "prepare a report summarizing the findings from the Proceeding and providing recommendations . . . on advancing the goal of reducing greenhouse gas emissions while mitigating costs to ratepayers."[15] In July 2023, the Board issued a Notice of Technical Conference, which took place in August, and invited stakeholders to submit written comments.[16]

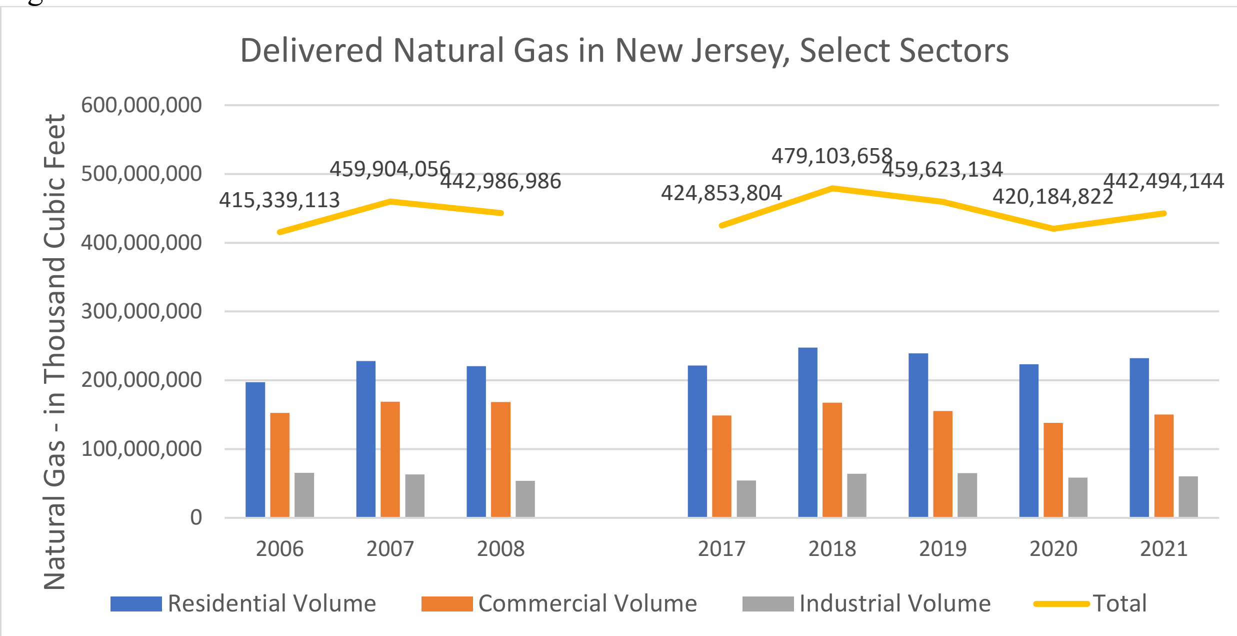
II. Long-Term Planning is Needed to Align Gas Utilities with State Climate Goals

New Jersey law and policy requires an 80% reduction in statewide GHG emissions by 2050 and a 50% reduction by 2030, from 2006 levels.[17] Natural gas use in residential and commercial buildings and industrial settings makes up about one-third of the state's GHG emissions, and must be reduced dramatically to achieve state climate goals. But as shown below, gas reliance in

[11] New Jersey 2019 Integrated Energy Plan Technical Appendix, at 18, Evolved Energy Research (Nov. 29, 2019) https://www.nj.gov/emp/pdf/New_Jersey_2019_IEP_Technical_Appendix.pdf [hereinafter "NJ IEP Technical Appendix 2019"].
[12] Press Release: Governor Murphy Announces Comprehensive Set of Initiatives to Combat Climate Change and Power the "Next New Jersey" (Feb. 15, 2023), https://nj.gov/governor/news/news/562023/approved/20230215b.shtml.
[13] New Jersey Executive Order No. 317, Corrected Copy, Signed by Gov. Murphy (Feb. 15, 2023), https://nj.gov/infobank/eo/056murphy/pdf/EO-317.pdf.
[14] *In the Matter of the Implementation of Exec. Order 317 Requiring the Development of Natural Gas Utility Plans*, Docket GO23020099, Revised Order Initiating a Proceeding (Mar. 22, 2023) (correcting the initial order initiating the proceeding issued Mar. 6, 2023).
[15] *Id.* at 3.
[16] *In the Matter of the Implementation of Exec. Order 317 Requiring the Development of Natural Gas Utility Plans*, Docket GO23020099, Notice of Technical Conference (July 10 & 28, 2023).
[17] P.L. 2007 c.112; P.L. 2019 c.197; N.J. Exec. Order No. 274 (Nov. 10, 2021).

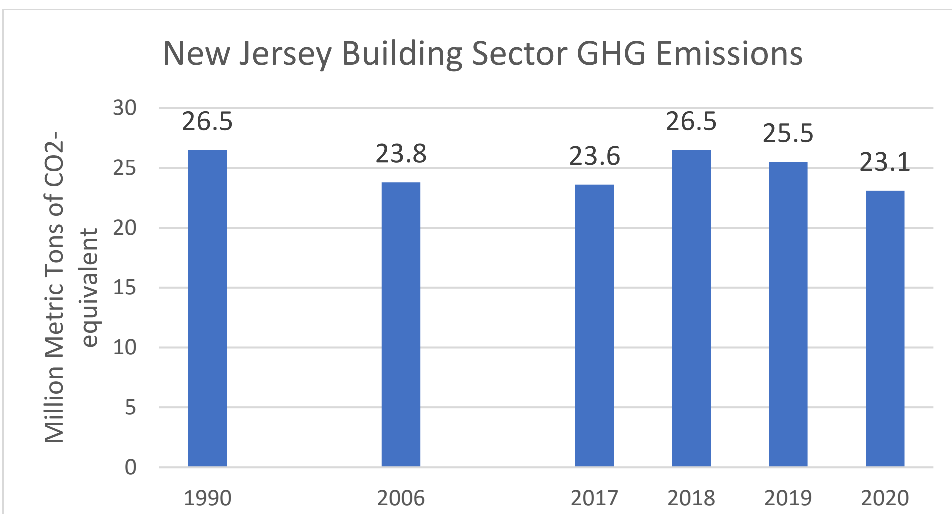
the building and industrial sectors has remained relatively stable—with some growth—since 2006. A fundamental change is needed to cut overall reliance on natural gas.

Figure 1.[18]



Consistent with the continued reliance on natural gas in buildings, the New Jersey Department of Environmental Protection reports minimal changes in GHG emissions from the buildings sector, shown below.

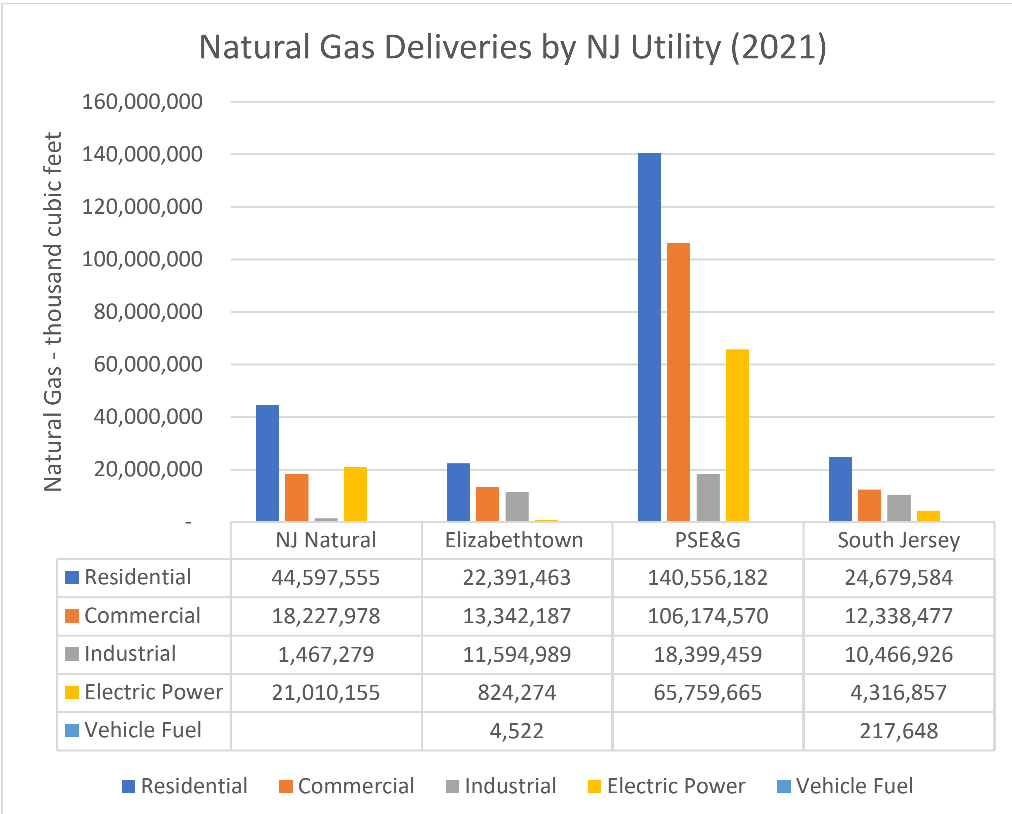
Figure 2.[19]



[18] Data Source: U.S. Energy Information Administration, 176 Report, Natural Gas Deliveries (last updated Oct. 2022), https://www.eia.gov/naturalgas/ngqs/#?year1=2006&year2=2021&company=Name.
[19] Data Source: N.J. Dep't of Envtl. Protection, NJ Greenhouse Gas Inventory: 2022 Mid-Cycle Update Report (Dec. 2022), https://dep.nj.gov/wp-content/uploads/ghg/2022-ghg-inventory-mcu_final.pdf.

These trends demonstrate that New Jersey's building and industrial sectors are not on track to achieve the required GHG emission reductions and mitigate the harms of the climate crisis. Most of the natural gas used in these sectors is transported and sold by the state's four gas utilities—see below—which have largely continued to maintain and expand their systems in a business-as-usual environment with little imposition by the BPU, despite New Jersey's climate goals.

Figure 3.[20]



	NJ Natural	Elizabethtown	PSE&G	South Jersey
Residential	44,597,555	22,391,463	140,556,182	24,679,584
Commercial	18,227,978	13,342,187	106,174,570	12,338,477
Industrial	1,467,279	11,594,989	18,399,459	10,466,926
Electric Power	21,010,155	824,274	65,759,665	4,316,857
Vehicle Fuel		4,522		217,648

A statewide analysis found that natural gas consumption must decline 25% from 2020 levels by 2030 to achieve New Jersey's GHG emissions reduction targets under the EMP Achievement Pathway—and that under current policies, gas consumption will only decrease by 6% by 2030 compared to 2020.

[20] Data Source: U.S. Energy Information Administration, 176 Report, Natural Gas Deliveries (last updated Oct. 2022), https://www.eia.gov/naturalgas/ngqs/#?year1=2006&year2=2021&company=Name.

Figure 4.[21]

TABLE 19: STATEWIDE NATURAL GAS CONSUMPTION (MILLIONS OF MMBTU)

Category	2020	Current Policy Pathway (2030)	EMP Achievement Pathway (2030)	Ambitious Pathway (2030)
Consumption	435.7	409.5	328.4	310.8
Difference From 2020		-6%	-25%	-29%

Natural gas consumption declines by over 100 million MMBTUs in both the EMP Achievement Pathway and Ambitious Pathway. Building electrification in the residential sector alone reduces natural gas consumption by 45 million MMBTUs in the EMP Achievement Pathway and 55 million MMBTUs in the Ambitious Pathway. Statewide energy efficiency targets further reduce consumption by about 25 million MMBTUs across both scenarios.

The Board has taken some important steps, such as commissioning an analysis of natural gas supply capacity through 2030, which found that New Jersey gas distribution companies have sufficient gas supply out to 2030 to meet system demand without adding pipeline capacity to their supply portfolios, that "New Jersey is well positioned with available interstate supply beyond 2030," and concluded that the analysis "supports the argument against the need for additional interstate pipeline capacity, including projects like PennEast."[22] The Board also commissioned a Ratepayer Impact Study that found that customer monthly bills are expected to be lower in 2030 for customers that adopt home and vehicle electrification and efficiency options, while monthly bills will be higher for customers continuing to rely on fossil fuels for heating and transport.[23]

But despite these analyses, in day-to-day oversight of gas utility infrastructure and rates, the Board has not instituted sufficient guardrails to reduce greenhouse gas emissions. For example, when the BPU approved the acquisition of South Jersey Industries by a JP Morgan-backed investment fund earlier this year, the Board order did not mention or acknowledge the relevance of climate policy[24]—even as the company's own press release prominently claimed that completion of the transaction would "support the environmental goals of our state and region through investing in sustainability and clean energy initiatives,"[25] and multiple parties filed testimony discussing the climate implications of the proposed deal and SJI's long-term vision for

[21] S. Sergici et al., New Jersey Energy Master Plan Ratepayer Impact Study at 55, The Brattle Group for NJBPU (Aug. 2022), https://www.nj.gov/bpu/pdf/reports/2022-08-13%20-%20BPU,%20EMP%20Ratepayer%20Impact%20Study%20Report_PUBLIC_Brattle.pdf.

[22] *In the Matter of the Exploration of Gas Capacity and Related Issues,* Docket Nos. GO19070846 & GO20010033, Decision and Order at 11 (June 29, 2022); *see also* London Economics International LLC, Final Report: Analysis of Natural Gas Capacity to Serve New Jersey Firm Customers – Public Version, Prepared for New Jersey Board of Public Utilities (Nov. 5, 2021).

[23] S. Sergici et al., New Jersey Energy Master Plan Ratepayer Impact Study, The Brattle Group for NJBPU (Aug. 2022), https://www.nj.gov/bpu/pdf/reports/2022-08-13%20-%20BPU,%20EMP%20Ratepayer%20Impact%20Study%20Report_PUBLIC_Brattle.pdf.

[24] *In the Matter of the Merger of South Jersey Industries, Inc. and Boardwalk Merger Sub, Inc.*, Docket No. GM22040270, Order on Stipulation of Settlement at 19-22 (Jan. 25, 2023).

[25] SJI, Press Release: Infrastructure Investments Fund Completes Acquisition of South Jersey Industries, Inc. (Feb. 1, 2023); *see also*

its utilities. Moreover, several utilities' recently proposed or approved Infrastructure Investment Plans ("IIPs") facilitating long-term, costly ratepayer-funded investments in the natural gas pipeline distribution system. These include $300 million for Elizabethtown Gas between 2019 and 2024,[26] $140 million for PSE&G in 2023, and more than $2.5 billion during 2024-2026 proposed by PSE&G in its recent GSMP III filing.[27]

This is a concerning trend around the country: "While many states have adopted greenhouse gas (GHG) emissions targets and are conducting long-term planning for the transition away from natural gas, retail gas utilities and their regulators have generally continued to operate in a business-as-usual framework assuming static or increased natural gas usage."[28] As discussed in Part III, however, a series of states have begun to implement enhanced oversight of gas utilities—and New Jersey is well-positioned to demonstrate leadership in this space through thoughtful implementation of EO317.

III. The Board Must Adopt Standards for Gas Utility Long-Term Planning and Numeric 2030 and 2050 Gas Throughput Targets for Each Utility

Because natural gas distribution and combustion is a significant contributor to the state's GHG footprint, the BPU must harmonize its natural gas policies with the state's ambitious climate goals. The Board must establish a regulatory environment of careful public scrutiny of gas utility programs and investments, to avoid overinvestment or inappropriate expansion of the state's gas distribution system, and to ensure equitable and accessible public participation in decision-making. Utility investments are often predicated on opaque projections of gas demand and evaluations of gas supply options—these analyses must be made transparent and subject to review by the Board, stakeholders, and the public. And near-term investments should not be approved unless clearly consistent with utility long-term plans that have been subject to a defined review and approval process. This will facilitate not only reduced natural gas reliance consistent with state climate law, but also provide clarity and certainty for shareholders and investors.

To implement a successful long-term planning framework for New Jersey gas utilities, the Board and Staff should develop (1) a proposed framework, i.e., how planning will occur; and (2) proposed 2030 and 2050 targets for each utility that are consistent with state climate goals and policies, i.e., what we're planning for. These proposals should be subject to a public review and comment process, which may include stakeholder sessions on key topics that merit live discussion. The culmination of this process, within the 18-month timeline set by EO317, should be adoption by the Board of a defined long-term planning framework with targets for each utility.

[26] Docket No. GR18101197, https://www.elizabethtowngas.com/Elizabethtown/media/PDF/Regulatory%20Info/2023-IIP-Notice-of-Public-Hearings-08-31-2023.pdf
[27] In the Matter of the Petition of Public Service Electric and Gas Company for Approval of the Next Phase of the Gas System Modernization Program and Associated Cost Recovery Mechanism ("GSMP III"). BPU Docket No. GR23030102. Filed March 1, 2023.
[28] Karas et al., *Aligning Gas Regulation & Climate Goals: A Road Map for State Regulators*, EDF (Jan. 2021), https://tinyurl.com/mw5bsdmy.

A. Make A Plan to Plan – Lessons from Other States

It is crucial that, rather than directing utilities or consultants to develop long-term plans up front, the Board take time to develop a planning framework, and seek and incorporate public input to improve the framework. Regulators in other states have taken various actions to implement gas utility planning procedures, presenting a mix of positive examples and lessons learned.

New York. The New York Public Service Commission ("NY PSC") initiated a proceeding regarding gas utility planning procedures in March 2020, finding that "conventional gas planning and operational practices adopted by natural gas utilities have not kept pace with recent developments and demands on energy systems" and that the "current approach to gas system planning poses risks of incomplete alignment with" the state's climate law.[29] The NY PSC directed gas utilities to each initially submit detailed supply and demand analyses as well as a status report and proposal regarding implementation of "demand reducing measures including energy efficiency, demand response, non-pipe alternative procurements, and other measures"; and directed NY PSC Staff to develop and "issue a proposal for a modernized gas planning process that is comprehensive, suited to forward-looking system and policy needs, designed to minimize total lifetime costs, and inclusive of stakeholders."[30] In February 2021, NY PSC Staff submitted a Gas System Planning Process Proposal, on which numerous stakeholders submitted initial and reply comments,[31] and in May 2022 the NY Commission issued an order adopting the Staff planning proposal, with some modifications based on public comments.[32] The planning process finalized by the NY PSC requires that each gas utility in New York must propose a long-term (20-year) plan with detailed demand and supply projections, and with a focus on reducing natural gas demand and prioritizing non-pipes alternatives. The initial plans will be subject to public comment and review over an approximately three-year period, with each plan taking about eight months to finalize. Key components of the New York gas utility planning standards include:

- **Emphasizing transparency and public participation** — The order recognizes the importance of a collaborative public process and directs utilities to be forthcoming with information. The NY PSC states that "the public interest requires that gas utilities provide information" to regulators and stakeholders, and "the public interest demands that gas utilities provide information to and communicate with customers in a way that promotes effective customer planning, reduces confusion, and avoids inequities."[33]

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[29] *Proceeding on Motion of the Commission in Regard to Gas Planning Procedures*, NYPSC Case 20-G-0131, Order Instituting Proceeding at 2, 6-7 (Mar. 19, 2020), https://documents.dps.ny.gov/public/MatterManagement/MatterFilingItem.aspx?FilingSeq=242672&MatterSeq=62227.

[30] *Id.* at 7, 13-14. Note that the NY PSC's planning proceeding also included moratorium planning, in light of several recent moratoria issued by New York gas utilities. Because New Jersey does not face capacity constraints, it is not likely that the BPU need explore or adopt moratorium planning standards.

[31] *See, e.g.,* NYPSC Case 20-G-0131, Comments of EDF on Staff Gas System Planning Process Proposal (May 3, 2021), https://tinyurl.com/yeykbjrb; NYPSC Case 20-G-0131, Comments of NRDC, Sierra Club, and other Public Interest Organizations (May 3, 2021), https://tinyurl.com/ycx3tm5e.

[32] *Proceeding on Motion of the Commission in Regard to Gas Planning Procedures*, NYPSC Case 20-G-0131, Order Adopting Gas System Planning Process (May 12, 2022), https://tinyurl.com/bbt5kybk.

[33] *Id.* at 5.

- **Community-based approaches** — Utilities must determine how disadvantaged communities can benefit from non-pipes alternative projects including energy efficiency and electrification, and utilities are encouraged to take a neighborhood approach to leak-prone pipe removal efforts.[34]
- **Tracking greenhouse gas emissions** — The order requires utilities to report the GHG emissions associated with all supply and demand-side solutions associated with each proposed scenario.[35] Detailed GHG emissions accounting is essential to compare alternatives and ensure that long-term plans are consistent with climate policies.[36]
- **Avoiding stranded assets** — To avoid unnecessary investments in gas infrastructure, the order directs utilities to develop depreciation plans for gas assets and to assess and report on the cost of new gas service line installations. The NY PSC further directed its Staff to propose revisions to the "100-foot rule" regulation, which has allowed utilities to cover the cost of installing gas service lines for new customers and spread those costs across all customers—a policy that facilities continued expansion of the gas pipeline system.[37]

Colorado. In addition to statewide GHG emissions reduction targets, the Colorado Legislature enacted SB21-264, directing that the Colorado Public Utilities Commission ("PUC") oversee the development and approval of Clean Heat Plans by all gas utilities, to achieve 4% GHG emissions reduction by 2025 and a 22% reduction by 2030.[38] The Colorado PUC conducted a rulemaking to develop gas utility planning standards as well as Clean Heat Plan ("CHP") standards, issuing a comprehensive proposed rule for public comment. The proposal stated:

> The development of Gas Planning Rules concurrently with the promulgation of the rules governing CHPs will enable the utilities, their customers, and the Commission to examine the future use of the utility pipeline system and economics of the retail service they provide over the long-term, culminating in the 2050 statewide reductions in emissions as set forth in § 25-7-102(2)(g), C.R.S. We also propose new Gas Planning Rules to improve the visibility into a gas utility's future projects and expenditures. Such new rules are necessary to understand the scale of investment planned on the utility systems and where new facilities are being considered to meet various needs within specific geographic areas. Recent utility rate cases and proceedings addressing the recovery of system safety and integrity investments through rate riders have raised many issues surrounding the transparency of planning and cumulative investment and expenditures. The rules are intended to advance necessary improvements in planning to better protect the public interest.[39]

[34] *See id.* at 40.
[35] *Id.* at 46.
[36] *See* E. Murphy & C. Hicks, *New innovative tool empowers utilities to reduce emissions in investment planning*, EDF Energy Exchange (May 3, 2021), https://blogs.edf.org/energyexchange/2021/05/03/new-innovative-tool-empowers-utilities-to-reduce-emissions-in-investment-planning/; ERM, Gas Company Planning Tool (lasted updated June 2022), https://www.sustainability.com/thinking/gas-company-climate-planning-tool/.
[37] *See* NYPSC Case 20-G-0131, Order Adopting Gas System Planning Process at 59-60 (May 12, 2022).
[38] Colorado Senate Bill 21-264 at 3(b)(II) (signed June 24, 2021), https://leg.colorado.gov/sites/default/files/2021a_264_signed.pdf.
[39] *In The Matter of the Proposed Amendments to the Commission's Rules Regulating Gas Utilities, 4 CCR 723-4, Relating to Gas Utility Planning and Implementing SB 21-264 Regarding Clean Heat Plans and HB 21-1238*

In addition to soliciting multiple rounds of public comment on its proposal, the Colorado PUC held additional structured discussions, held a workshop on disproportionately impacted communities, and subsequently held community meetings around the state, including in several disproportionately impacted communities.[40] This inclusive process is a positive example of how regulators can actively facilitate opportunities for public input on proposed actions.

In December 2022, the Colorado PUC adopted new standards for gas infrastructure planning, including detailed standards for the submission and review of multi-year plans that must incorporate consideration of Non-Pipeline Alternatives, as well as standards for development of Clean Heat Plans.[41]

Some jurisdictions that have been early actors in seeking to evaluate gas utility decarbonization pathways present valuable lessons learned.

Massachusetts. In 2020, the Massachusetts Department of Public Utilities ("DPU") initiated an investigatory proceeding to explore the future role of gas utilities, in response to a petition from the state Attorney General "requesting that the Department open an investigation to assess the future of LDCs' operations and planning in light of the Commonwealth's target of net-zero GHG emissions by 2050."[42] The Massachusetts DPU directed the state's gas utilities "to initiate a joint request for proposals ('RFP') for an independent consultant to conduct a study and prepare a report," and required that each utility ultimately "submit a proposal to the Department that includes the LDC's recommendations and plans for helping the Commonwealth achieve its 2050 climate goals, supported by the Report."[43] The Attorney General's office and other stakeholders identified numerous concerns with the structure proposed by the Massachusetts DPU, due to the inability of non-utility stakeholders to seek party status, the lack of defined opportunities for public engagement, the lack of clarity around how the DPU would determine if a consultant was appropriate and "independent," and the lack of clarity as to whether the DPU would review and approve the utility plans.[44] In a subsequent order, the Massachusetts DPU declined to specify a

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Regarding Demand Side Management, COPUC Proceeding No. 21R-0449G, Notice of Proposed Rulemaking at p27-28, Decision No. C21-0610 (Oct. 1, 2021), https://www.dora.state.co.us/pls/efi/EFI_Search_UI.Show_Decision?p_session_id=&p_dec=28605.

[40] COPUC Proceeding No. 21R-0449G, Commission Decision Adopting Rules at p7-12, Decision No. C22-0760 (Dec. 1, 2022), https://www.dora.state.co.us/pls/efi/EFI_Search_UI.Show_Decision?p_dec=29605&p_session_id=.

[41] *Id.* at p71, 117.

[42] *Investigation by The Department of Public Utilities on its Own Motion into the Role of Gas Local Distribution Companies as the Commonwealth Achieves its Target 2050 Climate Goals*, Mass. D.P.U. 20-80, Vote and Order Opening Investigation at 2 (Oct. 29, 2020), https://fileservice.eea.comacloud.net/FileService.Api/file/FileRoom/12820821; *see* Mass. D.P.U. 20-80, Petition of the Office of the Attorney General Requesting an Investigation (June 4, 2020), https://fileservice.eea.comacloud.net/FileService.Api/file/FileRoom/12255773.

[43] Mass. D.P.U. 20-80, Vote and Order Opening Investigation at 4, 6 (Oct. 29, 2020).

[44] *See, e.g.*, Mass. D.P.U. 20-80, The Office of the Attorney General's Motion for Clarification (Nov. 6, 2020), https://fileservice.eea.comacloud.net/FileService.Api/file/FileRoom/12854391; Mass. D.P.U. 20-80, Comments of Environmental Defense Fund on Petition from the Office of the Attorney General (Sept. 7, 2020), https://fileservice.eea.comacloud.net/FileService.Api/file/FileRoom/12642349 ("[T]his proceeding would benefit from more inclusivity to enable joint problem solving, including quality outreach and public participation from frontline communities."); Mass. D.P.U. 20-80, Response of the Sierra Club to the Attorney General's Motion for Clarification (Dec. 1, 2020), https://fileservice.eea.comacloud.net/FileService.Api/file/FileRoom/12946753 ("The

detailed process for stakeholder input and stated, amongst other findings, that "the LDCs are responsible for accomplishing the tasks specifically described in the Order, and thus the Department intentionally made the LDCs the final decision-makers with respect to the scope of work to be included in the RFP."[45] In the proceeding, the utilities eventually submitted several overarching consultant reports along with individual utility proposals, and members of the public filed final comments in October 2022. The comments of the Attorney General are particularly instructive, recommending:

> The Department should decline to adopt, approve, or incorporate the analysis of the *LDCs' Joint Pathways Report* and should refrain from incorporating the analysis in Department decisions. The LDCs' Joint Pathways Report may be useful as a guide through a series of scenarios, but it should not be used as the basis for regulatory approvals. . . . Further, the LDCs' Joint Pathways Report was not subject to a Department adjudicatory process. The LDCs' consultants were not cross examined about their opinions regarding the assumptions and the import of their analysis, and stakeholders were not provided an opportunity to present their own expert opinions regarding the LDCs' consultants' assumptions or methodology.
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> …
>
> One important area of consensus is the need for comprehensive and coordinated planning.[46]

To date, the DPU has not taken further action in this investigative proceeding, and many stakeholders have called on the regulator to initiate a subsequent phase to begin developing standards for long-term utility planning. The Massachusetts proceeding demonstrates the importance of proposing and adopting clear standards for the development of utility plans; providing for participation by stakeholders and the public in the development of standards and the eventual development of plans; and instituting a clear process for the utility regulator to review and approve, modify, or disapprove plans. By contrast, directing the utilities to develop (or pay consultants to develop) plans without clear guardrails is less likely to yield actionable outcomes.

District of Columbia. When the District of Columbia Public Service Commission ("D.C. PSC") approved the acquisition of gas utility Washington Gas by AltaGas in 2018, one component of the approved settlement was a commitment that "AltaGas will file with the Commission a long-term business plan on how it can evolve its business model to support and serve the District's 2050 climate goals (e.g., providing innovative and new services and products instead of relying

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existing ambiguity in the Order as to input processes may leave stakeholders without an opportunity to provide meaningful feedback on the consultant reports and LDC proposals. The Department should create a plan outlining the manner in which stakeholder input will be solicited and provide a schedule for the process within the existing time frame set forth in the Order."); Mass. D.P.U. 20-80, Response of Environmental Defense Fund to The Office of the Attorney General's Motion for Clarification (Nov. 24, 2020), https://fileservice.eea.comacloud.net/FileService.Api/file/FileRoom/12915784.

[45] Mass. D.P.U. 20-80, Order on the Office of the Attorney General's Motion for Clarification at 14 (Feb. 10, 2021), https://fileservice.eea.comacloud.net/FileService.Api/file/FileRoom/13138249.

[46] Mass. D.P.U. 20-80, The Office of the Attorney General's Final Comments at 8-9 (Oct. 14, 2022), https://fileservice.eea.comacloud.net/FileService.Api/file/FileRoom/15636862.

only on selling natural gas).”[47] This was an innovative proposal in 2018, but the ensuing process indicates the limitations of allowing utilities to invest resources in developing major plans without upfront structure from regulators and a process for input from stakeholders. After AltaGas / Washington Gas filed the Climate Business Plan in March 2020, stakeholders identified the need for a more thorough proceeding – the District of Columbia Government “request[ed] that the Commission open an investigative proceeding to evaluate the merits of the new [Climate Business] Plan and how best to strategically and gradually phase out the use of natural gas over the next 30 years”; and the Office of the People’s Counsel for the District of Columbia “respectfully request[ed] that the Commission follow the lead of other forward-looking jurisdictions and open a new comprehensive investigation into heating sector transformation in the District and the impact of the District’s environmental policies on Washington Gas’ ratepayers and regulated business activities.”[48] In December 2020, the D.C. PSC initiated a new proceeding “to consider whether and to what extent utility or energy companies under our purview are meeting and advancing the District of Columbia to achieve its energy and climate goals.”[49] These early steps in seeking to align gas utility oversight with climate policy in Washington, D.C. demonstrate the value of first proposing and adopting planning standards, before dispatching utilities to develop plans. The D.C. PSC has since set requirements for the gas and electric utilities to submit, for public comment, 5-year and 30-year plans related to climate goals.[50]

B. Establish Clear Targets and Timeframes for Utility Plans

The BPU should propose and ultimately adopt specific targets for New Jersey gas utilities, that are consistent with the state’s overall GHG emissions reduction targets for 2030 and 2050. The 2019 NJ EMP finds that, to achieve statewide targets, “total delivery of gas fuels through the gas transmission and distribution network falls by 75% [by 2050] compared to 2020 levels.”[51] Therefore, it could be appropriate for the BPU to propose that gas utilities develop long-term plans that demonstrate a 75% reduction in gas delivered by 2050, with the adoption of an appropriate interim standard for 2030 (i.e., 25% reduction in gas delivered by 2030 below 2020 levels, based on the Ratepayer Impact Study referenced above in Figure 4). The specific GHG emission reduction requirements contained in the Colorado Clean Heat Plan standards described above are a useful example. Adoption of numeric targets, along with clear requirements for reporting and tracking GHG emissions and gas throughput, can facilitate accountability for utilities to stay on track. Meanwhile, the New York planning proceeding did not adopt numeric delivered natural gas or GHG emissions reduction targets for individual utilities. In the absence of such targets, stakeholders have referenced New York’s statewide targets—to reduce statewide

[47] *In the Matter of the Merger of AltaGas Ltd. and WGL Holdings, Inc.*, D.C. PSC Formal Case No. 1142, Order No. 19396 (June 29, 2018), Appendix A at 29, Term #79.
[48] D.C. PSC F.C. 1142, Comments by the Department of Energy and Environment on behalf of the District of Columbia Government Concerning AltaGas Ltd.’s Climate Business Plan at p2 (June 26, 2020); D.C. PSC F.C. 1142, Office of the People’s Counsel for the District of Columbia’s Initial Comments on AltaGas Ltd.’s Filing Regarding Merger Term Nos. 6 and 79, at p4 (June 26, 2020).
[49] *In the Matter of the Implementation of the Climate Business Plan*, D.C. PSC F.C. No. 1167, Order No. 20662 at 1 (Nov. 18, 2020), https://edocket.dcpsc.org/public/search/details/fc1142/712.
[50] *See In the Matter of the Merger of AltaGas Ltd. and WGL Holdings, Inc.,* D.C. PSC Formal Case Nos. 1142 & F.C. No. 1167, Order No. 20754, (June 4, 2021).
[51] 2019 NJ EMP at 160, 175.

GHG emissions 40% by 2030 and 85% by 2050—but utilities have responded to emphasize that each service territory is unique and those targets should not necessarily apply universally.[52] In New York, the lack of specific targets for each utility has led to some lack of clarity in the planning process.

If the Board finds that additional analysis and a first round of planning is required before establishing targets for each utility, then the Board could consider initially instituting long-term planning standards along with an explicit plan to develop targets to reduce delivered natural gas at a later date. There should be regularly established intervals to review and update utility long-term plans—in New York, for example, this is set to occur every 3 years—and that could present an opportunity to implement numeric targets for reducing gas deliveries in New Jersey.

The BPU should also propose and ultimately adopt specific time scales for the development of gas utility long-term plans, and those time scales should be consistent with state climate policy. By contrast, the New York gas planning proceeding faces a challenge because the NY PSC required utilities to develop long-term plans on a 20-year time frame. The first utility to undergo long-term planning, National Fuel Gas Distribution Company, filed an initial long-term plan in 2022 that plans only out to 2042, consistent with the NY PSC's direction.[53] This has prompted some weakness in the planning process, as the utility asserts that its plan need not be fully consistent with New York's 2050 climate goals, in part because the plan is not required to cover the 2050 timeframe.[54] Thus, the BPU should consider how to structure long-term planning standards in a manner that is durable over time while ensuring planning on timeframes that are aligned with state climate targets.

C. Takeaways for New Jersey

Learning from experiences from other states, it is important that the Board institute long-term planning standards with clear targets and timeframes, based on input from stakeholders, utilities, and communities. This will ensure a constructive process and outcomes, rather than instructing utilities or consultants to develop long-term plans without guidance. If BPU Staff are concerned that capacity and Staff time will not allow for timely development of proposed planning standards, it may be appropriate for the Board and/or Staff to direct a consultant to help develop a proposal[55] – but Staff should review such materials before they are published for public

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[52] *See, e.g.*, *In the Matter of a Review of the Long-Term Gas System Plan of National Fuel Gas Distribution Corporation*, NY PSC Case No. 22-G-0610, Reply Comments of National Fuel Gas Distribution Corp. at 4, 10 (Apr. 18, 2023), https://documents.dps.ny.gov/public/MatterManagement/MatterFilingItem.aspx?FilingSeq=304831&MatterSeq=69307.

[53] *See* NY PSC Case No. 22-G-0610, NFGD Initial Long-Term Plan (Dec. 22, 2022), https://documents.dps.ny.gov/public/MatterManagement/MatterFilingItem.aspx?FilingSeq=297387&MatterSeq=69307.

[54] *See* NY PSC Case No. 22-G-0610, Reply Comments of National Fuel Gas Distribution Corp. at 8 (Apr. 18, 2023) ("Emissions reductions are projected to continue after 2042, through 2050 and beyond.").

[55] *See, e.g.*, *In re: Investigation into the Future of the Regulated Gas Distribution Business in Rhode Island in Light of the Act on Climate*, Docket No. 22-01-NG, Proceeding Scope at p4, (discussing, at Part D. Policy Development, the need to review existing policies and identify new needed policies to achieve GHG emissions reductions from the gas system), https://ripuc.ri.gov/sites/g/files/xkgbur841/files/2023-01/22-01-NG_FoG_Scope.pdf.

comment. The Board and Staff have expertise specific to New Jersey that should inform planning standards.

Given the significant amount of planning parameters the Board and stakeholders need to develop, the Commenters recommend that as a first step the Board pause all non-critical IIPs currently pending approval before the Board until it has completed a gas planning process.

IV. Detailed Recommendations for Long-Term Planning Standards

The Commenters first present several principles that should guide the New Jersey BPU's approach to long-term planning, and then present specific recommendations that the BPU should incorporate into proposed standards for long-term utility planning.

Planning Principles

1. **Planning should be a transparent, inclusive, equitable process**: An open planning process facilitates public trust in both the utility and the regulator. When more stakeholders can inspect and understand the utility's planning methodology, inputs, and assumptions, then stakeholders are better able to provide feedback and recommendations to improve demand/supply planning, and to feel confident that the results are reasonable. An open planning process also ensures better understanding of future energy needs utility service territories.

2. **Planning should be consistent with New Jersey climate policy**: Appropriate planning standards achieve the dual goals of ensuring adequate energy supply for New Jersey customers, and ensuring that energy demand is satisfied in a manner that drives deep GHG emissions necessary to avert the climate crisis. As established by the GWRA and EO317, reliance on natural gas must decrease significantly by 2030 and 2050 to achieve statewide GHG emission limits.

3. **Planning should consider and account for risk**: It is important that planning reflects the uncertainties associated with the gas utility industry. These uncertainties introduce more risk than is typically addressed in traditional utility planning processes. Therefore, gas planning should acknowledge and, wherever possible, model risk of failure along different pathways. It should also account for the option value of different decisions.

4. **Planning should be integrated between gas and electric utilities**: Achieving the goals of the GWRA and EO 316 and 317 will require the electrification of many end-uses, including the conversion of many fossil gas end-uses to electric end-uses. Moreover, the Board and regulated electric utilities also have programs to support the electrification of fossil gas end-uses. Therefore, it is critical to consider electric and gas consumption, technology options, prices, and sales in an integrated manner. Moreover, each NJ gas distribution company ("GDC") has different relationships with the EDC that serves its customers, and in one case, are part of the same corporate entity. Therefore, planning should reflect that relationship.

Proposed Planning Standards

The type of analyses needed to successfully engage in long-term gas system planning will have to be broader and more comprehensive than past BPU processes. As a first step, the process should be guided by the following principles and practices:

1. **Plans must satisfy climate standards**: As discussed above, the BPU should adopt clear standards (which could be declining GHG emissions limits or declining delivered natural gas limits) for each utility. Plans must satisfy these standards, and thus must be consistent with the objectives of the GWRA and the approach detailed in the 2019 EMP. Plans should include detailed GHG emissions analysis, including a breakdown by project and program and a systemwide year-over-year emissions estimate for the full timeframe of the plan.

2. **Demand and supply must be presented and evaluated**: To ensure that utilities are accurately estimating long-term demand expectations for energy, and to facilitate the incorporation of non-pipeline alternatives into supply planning, gas utilities should present thorough analysis of recent demand/supply, use the most granular information available to maximize accuracy, and make assumptions and analysis public. BPU should review this information and ensure that demand projections constitute a sound foundation on which to build supply plans—which must include non-pipeline solutions.[56]

    a. <u>Historic Demand/Supply Data</u>: At minimum, GDCs should be required to submit 5-year history of hourly demand and supply (including hourly receipts of gas, daily scheduled quantities for deliveries, and hourly data of the pressure and volume of supply delivered by significant discrete sub-systems of the overall system)[57]

    b. <u>Design Day and Hour Methodology</u>: Design day and design hour should be established by the GDCs, including the articulation of the methodology employed by the GDCs for determining firm customers' design hour and design day demands, respectively.

    c. <u>Projected Demand/Supply</u>: GDCs should be required to provide peak day, peak hour, and annual load estimates on a 20-year horizon for demand; and provide corresponding supply forecasts including firm pipeline contracts, gas storage, peaking supplies, demand response, energy efficiency, electrification, and contingency supplies such as trucked compressed or liquefied natural gas. GDC plans should include utility-specific load forecasts developed with modernized forecasting principles that include the necessary level of location-specific and

[56] *See generally*, *In the Matter of Natural Gas Commodity and Delivery Capacities in the State of New Jersey – Investigation of the Current and Mid-Term Future Supply and Demand*, BPU Docket No. GO20010033, Comments of Environmental Defense Fund and NJ Conservation Foundation (May 13, 2021).

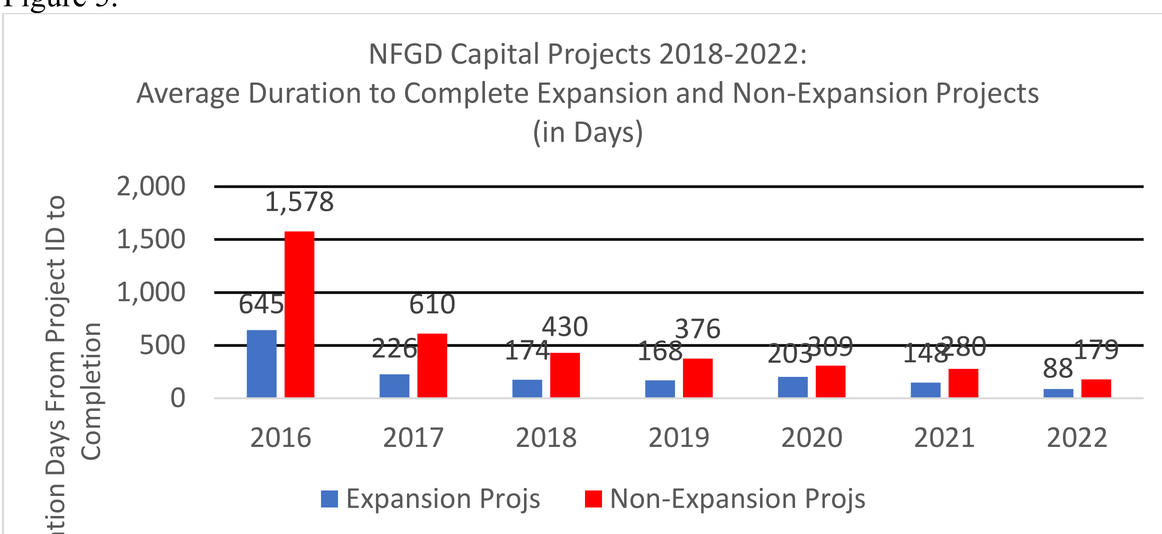
[57] Tracking hourly supply and delivery data can enable GDCs to assess key sector opportunities for demand response programs.

customer class-specific forecasts required to understand geographic and financial analysis.

3. **Incorporate Non-Pipeline Alternative frameworks**: Non-Pipeline Alternatives ("NPAs") are an essential tool that can prevent overinvestment in long-lived natural gas infrastructure, facilitate efforts to reduce gas reliance, and contribute to achieving New York's climate goals—while ensuring that near-term demand is satisfied.[58] NPAs can be demand-side (reduce natural gas demand, such as energy efficiency, demand response, or building electrification) or supply-side (provide gas supply via CNG, etc.).[59]

    a. Universal NPA evaluation: All proposed new supply contracts and proposed new gas system infrastructure projects—including leak-prone pipe replacement projects—must be evaluated for NPAs. This approach will ensure that unnecessary expansion of the gas system is minimized, and that opportunities to strategically decommission segments of the gas system are appropriately explored. An analysis of the timing of capital projects by New York utility National Fuel Gas Distribution demonstrates the importance of evaluating all capital projects for NPAs. During 2017-2022, National Fuel completed its expansion capital projects in well under 1 year, much more quickly than non-expansion capital projects, as demonstrated below. Therefore, if NPAs are only considered for projects that are being planned years in advance, utilities may exclude many capital projects from NPA consideration.

Figure 5.[60]



[58] *See* N. Karas et al., *Aligning Gas Regulation and Climate Goals: A Road Map for State Regulators* at 20, EDF (Jan. 2021), https://blogs.edf.org/energyexchange/files/2021/01/Aligning-Gas-Regulation-and-Climate-Goals.pdf.
[59] Although not an "NPA," utilities should also be required to evaluate shorter-term pipeline supply options that are consistent with efforts to reduce long-term gas demand. For example, utilities should explore short term capacity contracts rather than 20-year precedent agreements when near-term supply needs are identified.
[60] NYPSC Case 22-G-0610, *In the Matter of a Review of the Long-Term Gas System Plan of National Fuel Gas Distribution Corp.*, Comments of EDF on NFGD's Revised Long-Term Plan at p10 (June 12, 2023), https://tinyurl.com/3sv2fjtn.

b. Establish RFPs or other approaches to rapidly evaluate and implement NPAs: To facilitate quick NPA evaluation, the BPU should require GDCs to develop template Requests for Proposals or other tools that can be quickly customized for a given supply need or infrastructure project. GDCs will have to seek out NPAs with enough lead time to ensure meaningful market participation, and with enough detail in their requests for information or RFPs so that market participants clearly understand the needs of the customers.

4. **Prioritize strategic asset retirement:** The GDC must develop a detailed Targeted Network Retirement Plan, including criteria and a strategy to identify planned leak-prone pipe replacement projects that could be converted to pipe retirement projects and specific plans for customer transition.[61] To avoid an unmanaged transition, GDCs should geographically target customers served by a particular distribution line, and then develop a plan to retire that line by offering electrification or other alternative energy services—potentially in coordination with the EDC. This approach is particularly important for distribution lines that are aging, leaking, are due to be replaced, or have other characteristics that make retirement for cost-effective, feasible, or desirable.

5. **Assess impacts on gas and electricity sales:** The potential for decreased consumption of fossil gas by customers may make it necessary for GDC's to increase costs for those customers who remain on the system. This possibility can have dramatic consequences for fossil gas utilities and their customers, and therefore should be accounted for in long-term planning.

6. **Use appropriate depreciation schedules:** GDC infrastructure assets are often depreciated over extremely long timeframes, more than 60 years in some cases. However, depreciation schedules that are longer than the actual operating life of an asset will unduly reduce the cost of that asset and result in a skewed economic analysis that may favor that asset when it should not. It might also result in stranded costs that will have to either be recovered from customers or from utility shareholders. Therefore, appropriates depreciation schedules should be applied to both new and exist gas assets.

7. **Prioritize customer equity:** Planning should consider the customer-facing economics of each potential scenario, differentiate customers as necessary, and explicitly identify policies or programs to make the adoption of clean and efficient end-sure technologies more economic for customers. Plans should be required to identify programs to assist low- and middle-income customers, as well as customers in environmental justice communities, to ensure that they will have equitable access to programs such as home weatherization, energy efficiency, and building electrification.

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[61] *See, e.g.,* NYPSC Case 20-G-0131, *Proceeding on Motion of the Commission in Regard to Gas Planning Procedures*, Staff Planning Proposal, at 19 (Feb. 12, 2021) (stating that utilities should explore "[o]pportunities to merge the retirement of leak-prone pipe with an NPA"), https://tinyurl.com/d9drthwx; NYPSC Case 20-G-0131, *Proceeding on Motion of the Commission in Regard to Gas Planning Procedures*, Order Adopting Gas System Planning Process at 39 (May 12, 2022) (requiring that utilities identify in their annual reports "the locations of specific segments of LPP [leak-prone pipe] that could be abandoned in favor of NPAs and where infrastructure projects may be needed in the near future to maintain reliability"), https://tinyurl.com/bbt5kybk.

8. **Update plans intermittently and report on progress regularly**: Long-term plans should be revisited and revised on a regular schedule, such as every 3-5 years, with approval required by the BPU for each revision. GDCs should also be required to submit public annual reports to the BPU detailing progress and investments consistent with the long-term plan, and identifying any shifts in demand, supply, etc. that depart from the plan (departures from the plan should not be eligible for cost recovery unless extenuating circumstances can be demonstrated).

In addition to the above-stated principles and proposed standards, it is also critical that this process be grounded in a comprehensive economic assessment to identify the lowest-cost path for decarbonizing each GDCs fossil gas systems, while meeting other important policy goals such as provisions of energy services, compliance with the GWRA, customer equity, and energy justice. A comprehensive Benefit-Cost Analysis (BCA) should be the core component of a comprehensive economic assessment. However, other analysis should as rate and bill impacts, utility financial analysis and others should be included such as:

Figure 6. [62]

Type of Analysis	Purpose	Parties Considered	Key Outputs
Benefit-Cost Analysis	To assess cost-effectiveness by indicating whether the benefits of the transition pathway exceed the costs	All customers on average	Present value (PV) of costs, PV of benefits, PV of net benefits, benefit-cost ratios
Rate and Bill Analysis	To assess customer equity by indicating the impact on customers' rates and bills	All customers, by customer class	change in ¢/kWh and $ per therm, change in $/month and year, by customer class
Energy Justice Analysis	To assess energy justice issues by focusing on specific customer segments and community-level impacts	Vulnerable customers[19] and disadvantaged communities	bills, energy burden, distributed energy resource participation rates, environmental and health impacts
Financial Analysis	To assess the financial viability of current and proposed utility business models	Utility management and investors	retail sales, customers, earned ROE, gross profit, net profit, earnings per share
Macroeconomic Analysis	To assess impacts on state's economy	Workforce in the state	number of jobs, state gross domestic product
Other Considerations	To account for factors that are not addressed in the other analyses	Customers, utilities, society	metrics for factors not considered above

[62] Synapse Energy Economic, Inc., *Long-Term Planning to Support the Transition of New York's Gas Utility Industry, at* 10. https://www.synapse-energy.com/sites/default/files/Synapse_Long-Term%20Planning%20to%20Support%20the%20Transition%20of%20New%20York%27s%20Gas%20Utility%20Industry.pdf.

V. Detailed Recommendations for Additional Alignment of Gas System Oversight with Climate Law & Policy

A. Proposals to Mix Hydrogen into Gas Distribution Systems Must be Cautiously Evaluated

Hydrogen (H_2) is an energy carrier that can be combusted for heat or converted to electricity. Unlike methane, the combustion and conversion of hydrogen does not emit carbon dioxide, so it has the potential to be a low-carbon fuel and play a role in decarbonizing hard-to-electrify sectors.[63] However, there is no reservoir of existing H_2 on earth, and thus any hydrogen used for energy purposes must first be stripped off of other molecules—such as water—in an energy-intensive process. Moreover, hydrogen itself is an indirect GHG and will cause warming when emitted into the atmosphere.[64] Hydrogen triggers chemical reactions in the atmosphere that increase the amounts of potent greenhouse gases methane, stratospheric water vapor, and tropospheric ozone.[65] Hydrogen contributes to warming in the following ways:

- Oxidation of hydrogen depletes the hydroxyl radical (OH), the primary sink for methane, leading to a lengthening of the methane atmospheric lifetime ($H2 + OH = H + H2O$).[66]
- Production of atomic hydrogen (H) from H2 oxidation leads to a chain of reactions that produces tropospheric ozone (O3). When H2 oxidation occurs in the stratosphere, the water vapor produced leads to stratospheric cooling due to the enhancement of the stratosphere's radiative capacity, which results in the planet's overall warming.[67]

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[63] *Net Zero by 2050: A Roadmap for the Global Energy Sector*, INT'L ENERGY AGENCY (revised Oct. 2021), https://www.iea.org/reports/net-zero-by-2050.

[64] Ilissa B. Ocko & Steven P. Hamburg, *Climate Consequences of Hydrogen Emissions*, 22 ATMOS. CHEM. PHY. 9349 (2022), https://acp.copernicus.org/articles/22/9349/2022/; Fabien Paulot et al., *Global Modeling of Hydrogen Using GFDL-AM4.1: Sensitivity of Soil Removal and Radiative Forcing*, 46 INT'L J. HYDROGEN ENERGY 13446 (2021), https://www.sciencedirect.com/science/article/abs/pii/S0360319921001804; Dick Derwent, *Hydrogen for Heating: Atmospheric Impacts – A Literature Review*, U.K. DEP'T BUS., ENERGY & INDUS. STRATEGY (Oct. 7, 2018), https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/760538/Hydrogen_atmospheric_impact_report.pdf; Nicola Warwick, *Atmospheric Implications of Increased Hydrogen Use*, U.K. DEP'T BUS., ENERGY & INDUS. STRATEGY (Apr. 8, 2022), https://www.gov.uk/government/publications/atmospheric-implications-of-increased-hydrogen-use.

[65] Derwent et al., *Global modelling studies of hydrogen and its isotopomers using STOCHEM-CRI: Likely radiative forcing consequences of a future hydrogen economy,* 45 INT'L J. HYDROGEN ENERGY 9211 (2020); Derwent et al., *Global environmental impacts of the hydrogen economy,* 1 INT'L J. NUCLEAR HYDROGEN PRODUCTION & APPLICATION 57 (2006); R.A. Field & R.G. Derwent, *Global warming consequences of replacing natural gas with hydrogen in the domestic energy sources of future low-carbon economies in the United Kingdom and the United States of American,* 46 Int'l J. Hydrogen Energy 30190 (2021), https://doi.org/10.1016/j.ijhydene.2021.06.120; Warwick et al., *Atmospheric composition and climate impacts of a future hydrogen economy,* ATMOS. CHEM. PHYS. DISCUSS (2023), https://doi.org/10.5194/acp-2023-29.

[66] Esquivel-Elizondo et al., *Wide range in estimates of hydrogen emissions from infrastructure*, 11 FRONTIERS ENERGY RSCH. 1207208 (2023), https://doi.org/10.3389/fenrg.2023.1207208; D.H. Ehhalt & F. Rohrer, *The tropospheric cycle of H2: a critical review*, 61B TELLUS 500 (2009).

[67] Derwent, Hydrogen for Heating: Atmospheric Impacts—A Literature Review, BEIS Research Paper Number 2018: no 21 (2018); D.H. Ehhalt & F. Rohrer, *The tropospheric cycle of H2: a critical review*, 61B TELLUS 500 (2009).

Hydrogen's indirect warming impact is concerning because hydrogen is a small molecule known to easily leak into the atmosphere,[68] and the total amount of emissions from existing hydrogen systems is unknown (i.e., leakage, venting, and purging). The effectiveness of hydrogen as a decarbonization strategy, especially over timescales of several decades, remains unclear. Recent peer-reviewed research found that the near-term warming power of hydrogen is two to six times greater than previously recognized.[69] The research assessed the climate impact of hydrogen made either by using renewable electricity ("green" hydrogen) or from natural gas with the residual carbon dioxide emissions captured and stored ("blue" hydrogen) – the two most widely anticipated methods for producing climate-friendly (or low-carbon) hydrogen.[70] The study found that with a hydrogen leak rate of 10% across the value chain—which many scientists agree is plausible—switching to blue hydrogen (with carbon capture and 3% methane emissions) could cause more warming than the traditional fossil fuel over the first 20 years. Green hydrogen with a high hydrogen leak rate may still achieve a climate benefit—reducing the 20-year warming effects by two-thirds relative to fossil fuels—but far less than the climate-neutral promise that many hydrogen proponents claim.

As the smallest molecule on earth, hydrogen is difficult to contain. Extensive measurements of methane emissions from the natural gas value chain show that there is often significant leakage.[71] If methane is hard to manage, hydrogen can be even harder based on its physical properties.

In addition to climate concerns, hydrogen combustion likely generates higher nitrogen oxides ("NOx") emissions than natural gas, and it is unclear whether current NOx removal technologies are effective against NOx generated from blended methane/hydrogen used in buildings.[72] NOx is a harmful pollutant that reduces air quality and can have adverse effects on lung health.[73] Although blended hydrogen may help reduce the toxic risk of carbon monoxide—a consequence of natural gas combustion—it would likely not reduce, and may even increase, NO_x emissions that all fuels, when burned in air, generate by virtue of the reaction of atmospheric nitrogen with oxygen. Thus, combustion of hydrogen or methane/hydrogen blends in buildings could increase health risks for consumers.

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[68] *Fugitive Hydrogen Emissions in a Future Hydrogen Economy,* FRAZER-NASH CONSULTANCY (Mar. 2022), https://www.gov.uk/government/publications/fugitive-hydrogen-emissions-in-a-future-hydrogen-economy, Zhiyuan Fan et al., Hydrogen Leakage: A Potential Risk for the Hydrogen Economy, CTR. GLOB. ENERGY POL. (July 2022), https://www.energypolicy.columbia.edu/sites/default/files/file-uploads/HydrogenLeakageRegulations_CGEP_Commentary_070622.pdf; Jasmin Cooper et al., *Hydrogen Emissions from the Hydrogen Value Chain-Emissions Profile and Impact to Global Warming*, 830 SCI. TOTAL ENV'T 154624 (2022), https://doi.org/10.1016/j.scitotenv.2022.154624.
[69] Ilissa B. Ocko & Steven P. Hamburg, *Climate Consequences of Hydrogen Emissions,* 22 ATMOS. CHEM. PHYS. 9349, 9363 (2022), https://acp.copernicus.org/articles/22/9349/2022/.
[70] *Id.*
[71] Ramón Alvarez et al., *Assessment of Methane Emissions from the U.S. Oil and Gas Supply Chain*, 361 SCIENCE 186 (2018), https://doi.org/10.1126/science.aar7204; Zachary D. Weller et al., *A National Estimate of Methane Leakage from Pipeline Mains in Natural Gas Local Distribution Systems*, 54 ENV'T. SCI. TECH. 8958 (2020), https://doi.org/10.1021/acs.est.0c00437.
[72] Madeleine Wright & Alastair C. Lewis, *Emissions of NO_x from Blending of Hydrogen and Natural Gas in Space Heating Boilers,* 10 SCI. ANTHROPOCENE 00114 (2022), https://online.ucpress.edu/elementa/article/10/1/00114/183173/Emissions-of-NOx-from-blending-of-hydrogen-and.
[73] *Nitrogen Dioxide,* AM. LUNG. ASS'N, https://www.lung.org/clean-air/outdoors/what-makes-air-unhealthy/nitrogen-dioxide (last visited Nov. 10, 2022).

Around the country, utilities and other operators are proposing to mix hydrogen into complex pipeline networks that are designed and maintained specifically to transport natural gas, primarily methane. But there is not clear consensus from industry or the scientific community about a safe level at which hydrogen can be blended into natural gas pipelines, and it will likely depend on the specific properties of the infrastructure. An NREL 2013 study claimed that less than 5%-15% hydrogen blended by volume has minor issues and should not increase risks associated with end use devices and public safety.[74] NREL later published a 2022 report which argues that "[b]lending limit generalization is problematic because hydrogen compatibility depends on existing infrastructure component factors including specific equipment model, equipment condition, and material of construction."[75] A 2022 UC Riverside study says only 5% by volume is safe for system-wide blending,[76] and a 2022 report by Fraunhofer Institute says there is no established limit value for hydrogen when blending, and that it depends on a case-by-case basis.[77] The main engineering concerns with hydrogen blending includes embrittlement in steel pipelines, compromising the integrity of polymeric materials (such as those used in pipelines in the gas distribution systems), capacity of in-line compressors, and compatibility with end-use appliances like cooktop burners and heating furnaces. Without a clear path to reach a scientific consensus on a universal safe hydrogen blending limit, large-scale hydrogen blending into gas distribution systems should not be pursued without careful safety, environmental, and community evaluation.

Experts and communities have identified numerous concerns with such projects, including safety, climate impacts, air quality impacts, costs to consumers, and whether hydrogen is a scalable decarbonization solution to mitigate natural gas reliance in buildings.[78] Many of these concerns relate back to the fact that operators are seeking to inject a new gas, hydrogen, into pipeline systems that are specifically used to transport natural gas and are not designed for the leakier hydrogen molecule. But all gases are not interchangeable, and changing the use of existing pipeline systems to transport a different gas must be carefully evaluated.

Furthermore, New Jersey policies have identified building electrification as a more cost effective and beneficial pathway to decarbonize the building sector, over "alternative" fuels like hydrogen. The 2019 EMP found building electrification to be more cost-effective than reliance on piped gases because "[w]hile building electrification increases electricity use, it reduces total energy needs because heat pumps are much more efficient than direct combustion of fossil fuels for

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[74] M.W. Melaina et al., *Blending Hydrogen into Natural Gas Pipeline Networks: A Review of Key Issues,* NREL (Mar. 2013), https://www.nrel.gov/docs/fy13osti/51995.pdf.
[75] Kevin Topolski et al., *Hydrogen Blending into Natural Gas Pipeline Infrastructure: Review of the State of Technology*, NREL (Oct. 2022), https://www.nrel.gov/docs/fy23osti/81704.pdf.
[76] Arun SK Raju & Alfredo Martinez-Morales, *Hydrogen Blending Impacts Study,* CAL. PUB. UTIL. COMM. (July 18, 2022), https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M493/K760/493760600.PDF.
[77] Jochen Bard et al., *The Limitations of Hydrogen Blending in the European Gas Gird,* FRAUNHOFER IEE (Jan. 2022), https://www.iee.fraunhofer.de/content/dam/iee/energiesystemtechnik/en/documents/Studies-Reports/FINAL_FraunhoferIEE_ShortStudy_H2_Blending_EU_ECF_Jan22.pdf.
[78] *See, e.g.*, PIPELINE SAFETY TRUST, *Summary for Policymakers: Hydrogen Pipeline Safety* (Jan. 2023), https://pstrust.org/wp-content/uploads/2023/01/hydrogen_pipeline_safety_summary_1_18_23.pdf; Andee Krasner & Barbara Gottlieb, , *Hydrogen Pipe Dreams: Why Burning Hydrogen in Buildings is Bad for Climate and Health,* PHYSICIANS FOR SOCIAL RESPONSIBILITY (June 2022), https://psr.org/wp-content/uploads/2022/07/hydrogen-pipe-dreams.pdf.

heat,"[79] and "to avoid large quantities of biofuels or potentially synthetic fuels in the future – both of which, at currently projected costs, are a more expensive option than electrification."[80]

The BPU should approach hydrogen mixing proposals with caution, and consider exploring this issue more deeply in a future phase of this proceeding. In the near term, it is important not to set any default assumptions that hydrogen mixing into gas distribution systems would be appropriate or beneficial. Proposals should be evaluated on an individual basis. Exploration of hydrogen deployment is most appropriately focused on industrial gas users, where electrification may not be as efficient (or even may not be possible for some high heat applications), making hydrogen more likely to be a decarbonization solution.

B. Proposals to Mix Biomethane into Gas Distribution Systems Must be Cautiously Evaluated

Similar to hydrogen, many GDCs in New Jersey have proposed biomethane blending, sometimes called "renewable natural gas", or "RNG", as a proposed tool for decarbonization.[81] However, biomethane is costly, in limited supply in New Jersey, and still emits harmful air pollution when combusted.

A New Jersey-specific analysis on this topic by Montclair State found that "GHG reductions from RNG projects at [landfill and waste water treatment facilities] utilizing all available biogas out be 1.628 MMT of CO2e per year."[82] To put that number into context, emissions from New Jersey's commercial and residential building sector were 25 MMT CO2e in 2018,[83] meaning full development of all available biomethane has a maximum potential reduction of 6% of current emissions associated with the buildings sector. The report also acknowledges the high operational and capital expenses associated with development of those resources.

Additionally, both the production of biomethane for injection into the distribution system, and continued maintenance and expansion of the distribution system itself, are extremely costly and will increase ratepayer bills without providing meaningful benefits. An analysis of rate impacts of decarbonization pathways found that a high-biomethane electrification scenario could increase bills by a factor of 4, "suggesting building energy decarbonization would benefit more from strategic planning than from seeking an alternative to efficient electrification for most applications."[84] The 2019 NJ EMP found that widespread building electrification would be more

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[79] 2019 NJ EMP at 161.
[80] NJ IEP Technical Appendix 2019, at 18, https://www.nj.gov/emp/pdf/New_Jersey_2019_IEP_Technical_Appendix.pdf
[81] *See, e.g.*, *In the Matter of the Petition of PSE&G for Approval of the Next Phase of the Gas System Modernization Program and Associated Recovery Mechanism (GSMP III)*, BPU Docket No. GR23030102, Miller Direct Testimony at p45, (Mar. 1, 2023) (proposing a $123M RNG project); *In the Matter of the Merger of South Jersey Industries, Inc. and Boardwalk Merger Sub, Inc.*, NJ BPU Docket No. GM22040270, Petition Exh. G p21 (PDF p149); SJI, *Investor Fact Sheet: REV LNG, LLC* (Feb. 25, 2021), https://www.sjindustries.com/sji/media/ir/SJI-Investor-Fact-Sheet-REV-LNG-02-25-21.pdf.
[82] Dyer et al., *The feasibility of renewable natural gas in New Jersey*, Sustainability (Switzerland), *13*(4), 1-31, 1618 (2021), https://doi.org/10.3390/su13041618.
[83] NJ DEP, 80x50 Report (2020), https://www.nj.gov/dep/climatechange/docs/nj-gwra-80x50-report-2020.pdf.
[84] Steven Nadel, *Impact of Electrification and Decarbonization on Gas Distribution Costs* at p31, ACEEE (June 2023), https://www.aceee.org/sites/default/files/pdfs/U2302.pdf.

energy efficient and cost effective compared to an alternative scenario that deploys biomethane in pipelines and buildings.[85]

New York's Climate Action Council Scoping outlines a helpful approach to biomethane usage, recommending that any use of these fuels should "be targeted to strategic uses or when needed for safety, reliability, resilience or affordability and should demonstrate air quality, health and life cycle GHG benefits including avoiding localized pollution in Disadvantaged Communities before implementation."[86]

Most simply stated, the role for green hydrogen and biomethane needs to be limited, strategic, and well planned.

C. Statewide Infrastructure Cost Assessment and Heightened Review of Major Gas Infrastructure Proposals

The Joint Environmental Commenters recommend that the Board continue its evaluation of the policies, rules, and regulations, that allow for large-scale investments in the gas distribution system. Many of these policies, such as accelerated infrastructure plans, or line extension regulations, were created when GDCs were in their infancy—primarily to rapidly expand the size of distribution infrastructure and bring more customers onto that system.

However, the continued usage of those policies in the present-day present significant challenges, not just to the achievement of New Jersey's climate goals, but to the overall affordability of utility service. During the August 2-3 Technical Conference convened by the BPU, several stakeholders indicated that the existing gas system should be included as a pathway for decarbonization because the gas system was already "paid for." Joint Environmental Commenters do not share this sentiment—the continued maintenance and expansion of the gas distribution system will impose significant costs on GDC customers and should be evaluated closely. For example, an analysis by Synapse Energy Economics found that new gas infrastructure would cost NY customers more than $150 billion in by 2050.[87] A study by the Building Decarbonization Coalition further outlines system and maintenance costs for New York.[88]

In addition to evaluation policies and regulations that incentivize continued capital investments in infrastructure that may not be required, the Board should follow the lead of the Maryland Office of Peoples Counsel and commission a report that provides detailed information on current and future spending to maintain and expand the gas delivery system.

For that reason, Commenters recommend the Board undertake an analysis similar in scope and scale to that taken by the Office of People's Counsel of Maryland to fully understand the ongoing

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[85] NJ IEP Technical Appendix 2019 at 17-19.
[86] New York State Climate Action Council, Scoping Plan at 255 (Dec. 2022), https://climate.ny.gov/resources/scoping-plan/.
[87] *See* Chris Casey, Will New York Squander Its Opportunity for a Just Transition?, NRDC Expert Blog (Feb. 15, 2023), https://www.nrdc.org/bio/christopher-casey/will-new-york-squander-its-opportunity-just-transition.
[88] Building Decarbonization Coalition, The Future of Gas in New York State (Mar. 2023), https://buildingdecarb.org/wp-content/uploads/BDC-The-Future-of-Gas-in-NYS.pdf.

costs of the gas system to customers, as well as identify the appropriate avoided cost metrics to guide decision-making.[89] The report provides various projections and analysis on the current trajectory of gas infrastructure investments and corresponding rate impacts for the three largest gas distribution companies in Maryland. The top finding of the report is that, even under conservative assumptions, "the continuation of the utilities' spending practices means significantly higher costs for the gas delivery system, resulting in higher bills for most Maryland residential customers."[90] The report also found that through the year "2100, Maryland's three largest gas utilities are projected to spend $34.5 billion on capital investments. Based on current regulatory treatment, the utilities' customers would be on the hook for $125 billion for this spending."[91]

In addition, the BPU should apply a high threshold for approving new gas infrastructure investments. When GDCs file IIPs, those filings should fully document how proposed investments meet the standards set under this proceeding. Those filings should include quantitative analysis of the benefits, costs, and risks associated with alternatives; should demonstrate that NPAs were considered before proposing fossil natural gas assets; and should show that any new gas asset's useful life will end in line with NJ's fossil natural gas reduction goals. This higher threshold for approving IIPs and similar investments should reflect the risk of failing to meet the requirements of the GWRA, as well as the cost associated with locking into large conventional investments.

For example, the California Public Utilities Commission adopted robust reporting requirements for all natural gas utilities' major capital projects. For all capital projects that are projected to exceed $50 million in the next ten years, the utilities must report a "detailed description of the project, projected capital expenditures, cost drivers, and environmental implications."[92] The utilities also must consider NPAs for projects expected to start within five years,[93] and "address at a high level"[94] questions regarding the project's 1) customer base and its members' cost constraints, 2) environmental and emissions impact, and 3) health impact.[95]

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[89] Maryland Office of People's Counsel, Maryland Gas Utility Spending: Projections and Analysis (Oct. 2022), https://opc.maryland.gov/Gas-Utility-Spending-Report.

[90] *Id*., Executive Summary at 1.

[91] Key Findings, Maryland Gas Utility Spending: Projections and Analysis at 1, https://opc.maryland.gov/Portals/0/Files/Publications/Consumer-Learning/Key%20Findings%20on%20GasUtilitySpending%202pgr%2010-6-22%20rev.pdf?ver=iLja3qGVz-PjMXUPeijqzQ%3d%3d.

[92] *CPUC Creates New Framework to Advance California's Transition Away from Natural Gas,* CPUC (Dec. 1, 2022), https://www.cpuc.ca.gov/news-and-updates/all-news/cpuc-creates-new-framework-to-advance-california-transition-away-from-natural-gas.

[93] *Id.*

[94] CPUC R. 20-01-007, *Order Instituting Rulemaking to Establish Policies, Processes, and Rules to Ensure Safe and Reliable Gas Systems in California and perform Long-Term Gas System Planning,* Decision Adopting Gas Infrastructure General Order at 81 (Dec. 1, 2022).

[95] *Id.* at 70.

D. The BPU Must Revisit Outdated Policies and Limit Unnecessary Gas System Expansion

Achieving New Jersey's greenhouse gas reduction goals will necessitate profound changes in the provision of natural gas service available in the State, with significant ramifications for the State's gas utilities.[96] Yet until now, the governing assumption is that demand always goes up, and never down. The assumption that gas utilities must always be growing the gas system – and that their existence as viable commercial entities is inextricably linked to such growth – is based on policies enacted decades before the GWRA went into effect. The GWRA, EO274 (2021), and EO317 (2023) create a new imperative for the BPU to assess steps it can take to update policies, regulations, and standards to support GHG emission reductions within the existing law—and to identify and root out those which conflict with the mandates of the GWRA and associated policies.[97] While it is important to ensure safe and reliable service for existing customers who depend on natural gas, such service can be achieved while simultaneously working to reduce overall gas dependence. And existing customers should not be the hook to help add new gas customers to the system.

The BPU should revisit and scrutinize policies that incentivize continued expansion of the gas distribution system. A starting place is to request information from the GDCs and begin to scrutinize the costs of system expansion; another is to revise policies that allow for subsidization of system expansion to add new gas customers.

The New York PSC recently directed all gas utilities to publicly submit the following information:

> [W]e direct each LDC to file a report on the costs of the 100-foot rule within 90 days of the issuance of this Order. The reports shall include the following information: how many natural gas service lines were installed for new customers each year for the last five years (2017-2021); the average length of new service lines, broken down by residential and non-residential customers, for each of those years; and the average per foot cost of installation for residential and non-residential natural gas service lines for each of those years. In addition, the LDCs shall provide the number of new customers were attached in each of the five years, distinguishing between residential and non-residential customers, and the annual dekatherm load increase those customer additions represent. We expect that Staff will develop a proposal for revisions to Part 230 within 60 days of receipt of the LDCs' reports regarding the costs of the 100-foot rule.[98] 59-60.

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[96] *See infra* Part VI.

[97] *See generally* Justin Gundlach & Elizabeth Stein, *Harmonizing States' Energy Utility Regulation Frameworks and Climate Laws: A Case Study of New York*, Energy Law Journal Vol 41:211 (Nov. 15, 2020), https://policyintegrity.org/publications/detail/harmonizing-states-energy-utility-regulation-frameworks-and-climate-laws.

[98] *Proceeding on Motion of the Commission in Regard to Gas Planning Procedures*, NYPSC Case 20-G-0131, Order Adopting Gas System Planning Process at 59-60 (May 12, 2022), https://tinyurl.com/bbt5kybk.

Based on a cost analysis by RMI reviewing the reported information, from 2017-2021, gas pipeline line extensions cost New York ratepayers $1.043 billion.[99]

The BPU should require GDCs to submit similar information, which can improve transparency about the true costs of the gas system and inform the Board's assessment of line extension and other policies.

The BPU should also explore regulatory steps to remove incentives for gas system expansion. BPU regulation N.J.A.C. 14:3-8:3 articulates general requirements to provide extensions. This regulation requires a regulated entity, such as a gas utility, to install requested extensions if applicable requirements are met.[100] Applicants do not face a heavy burden in meeting these obligations, which require that the applicant ensure the regulated entity has the legal authority to construct, operate, or maintain an extension on the property in question, such as through an easement or right of way.[101]

More explicit line extension procedures are contained in the tariffs of individual gas utilities. Some NJ gas utilities incentivize system expansion by offering to install the infrastructure free of charge if the cost of installation does not exceed ten times the estimated annual distribution revenue to be realized from the extension.[102] South Jersey Gas's, New Jersey Natural Gas's, and Elizabethtown Gas's tariffs exemplify how these procedures can drive expansion of natural gas infrastructure through a tariff provision that allows up to 200 feet of service connection, as well as meters and regulators, to be installed at no cost to the applicant.[103] Public Service Electric & Gas. Co. does not offer this 200-foot rule for new gas extensions to residential customers, and instead requires a deposit for gas line extensions. The customer could, however, receive a part of the deposit back over time if the revenue used as the basis for the original deposit calculation later exceeds those predictions.[104]

BPU should direct GDCs to revise their tariffs to, at minimum, remove provisions that allow 200 feet of service connection, meters, and regulators, to be installed at no cost to the applicant. Recognizing that the Board must set policies consistent with state law,[105] it is important that the Board consider the interactions of historic utility law with more recent climate mandates, and ensure that its policies are set in a way that is consistent with requirements to reduce GHG emissions from the state's energy systems.

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[99] RMI, *New York Spends Millions on Subsidized Gas Line Extensions* (Dec. 2022), https://rmi.org/wp-content/uploads/2022/12/new_york_subsidized_gasline_extensions.pdf.
[100] N.J. Admin. Code § 14:3-8:3(b).
[101] N.J. Admin. Code § 14:3-8:3(c).
[102] South Jersey Gas Tariff, NJ BPU, Docket No. GR20030243, at PDF p. 113 (revised Aug. 1, 2022), https://southjerseygas.com/SJG/media/pdf/pdf-regulatory/SJG-Tariff-No-13-August-1-2022.pdf; New Jersey Natural Gas, NJ BPU, Docket No. GR21030679, at PDF p. 17, https://www.njng.com/regulatory/pdf/Tariff-12-1-22-monthly-bgss.pdf; Elizabethtown Gas Tariff, NJ BPU, Docket No. GR19040486, at PDF p. 15 (revised Aug. 1, 2022), https://www.elizabethtowngas.com/Elizabethtown/media/PDF/Regulatory%20Info/Elizabethtown-Gas-TARIFF-NO-17.pdf?version=20220728.
[103] *Id.*
[104] Public Service Electric and Gas Company, NJ BPU, Docket No. GR22060362, at PDF p. 14 (issued Sept. 29, 2022), https://nj.pseg.com/-/media/pseg/public-site/documents/current-gas-tariff/gas-tariff-16-gsmp-ii--june-2022-12012022.ashx.
[105] *See* N.J.S.A. 48:2-27.

E. Evaluate Pathways to Diversify Gas Utility Business Model

Compliance with the GWRA and EO317 will require fundamental shifts in gas utility business models, including district heating systems, alternative fuels, and other standards. Studies that assess these potential alternatives should be grounded in realistic assumptions about local fuel supply, constraints, costs, the risks of perpetuating fossil natural gas use, and increasing stranded costs associated with system infrastructure.

By law, gas utilities in New Jersey must provide gas service to interested customers and are limited in the other types of infrastructure they can own and recover costs for from customers. This framework locks the utility business model into relying on continued expansion of the gas distribution system and deprives utilities alternative pathways for return on investment.[106] The BPU (and legislature) must consider solutions to diversify investment opportunities for these entities; or in the alternative, consider approaches for winding down these businesses altogether. If these issues are not explored, the possibility of remaining gas customers faced with huge bills to pay for stranded assets, and investor-owned utilities being sold off in the coming decades, could be significant concerns.

VI. Conclusion

The Joint Environmental Commenters respectfully submit these comments to inform the BPU's actions to implement EO317, consistent with New Jersey's Global Warming Response Act. Commenters look forward to continuing to engage in the development of standards to ensure decarbonization of the New Jersey natural gas system.

Respectfully,

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[106] *See, e.g.*, Davis & Hausman, Who Will Pay for Legacy Utility Costs? J. Assoc'n Envtl. & Resource Economists, 9(6): 1047-1085, 2022, https://www.journals.uchicago.edu/doi/10.1086/719793 ("Using historical evidence from growing and shrinking US natural gas utilities, we show that utilities add pipelines but rarely remove them, even when the customer base from which to recover costs is shrinking. Correspondingly, we find that utility revenues decrease less than one for one when a customer base is shrinking, consistent with higher bills for remaining customers.").

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