



August 14, 2024

SUBMITTED VIA EMAIL TO BOARD.SECRETARY@BPU.NJ.GOV

Sherri L. Golden
Secretary of the Board
44 South Clinton Ave., 1st Floor
PO Box 350
Trenton, NJ 08625-0350

Re: Docket No. GM22040270, In the Matter of the Merger of South Jersey Industries, Inc. and Boardwalk Merger Sub, Inc.

Dear Presiding Commissioner Guhl-Sadovy, Members of the Board, and Secretary Golden:

Environmental Defense Fund (“EDF”) respectfully submits to the New Jersey Board of Public Utilities (“BPU” or “Board”) recommended improvements to the Non-Pipeline Alternatives (“NPA”) Proposal filed by Elizabethtown Gas Company (“ETG”) and South Jersey Gas Company (“SJG”) (collectively, “Companies”) on August 1, 2024.¹

On January 25, 2023, the Board approved the Stipulation of Settlement that provided for the acquisition of utilities ETG and SJG by the Infrastructure Investments Fund, a JP Morgan-backed investment firm.² The Stipulation, in relevant part, required the Companies to submit a proposal to incorporate NPAs into their supply and demand planning “[w]ithin 18 months of the closing of the Merger,” and to “collaborate in good faith” with EDF.³ The Companies satisfied these terms by meeting with EDF twice, sharing a draft proposal with EDF, and timely filing the proposal to the BPU. However, the substance of the NPA Proposal can be improved.

A. Non-Pipeline Alternatives Can Help States Achieve Climate Goals and Manage Costs

NPAs are important tools that can facilitate reduced reliance on natural gas, which is necessary for New Jersey to reduce greenhouse gas emissions consistent with the state’s Global Warming

¹ *In the Matter of the Merger of South Jersey Industries, Inc. and Boardwalk Merger Sub, Inc.*, Docket No. GM22040270, ETG and SJG Non-Pipeline Alternative Proposal (August 1, 2024) [hereinafter “NPA Proposal”].

² *In the Matter of the Merger of South Jersey Industries, Inc. and Boardwalk Merger Sub, Inc.*, Docket No. GM22040270, Order on Stipulation of Settlement (Jan. 25, 2023).

³ *In the Matter of the Merger of South Jersey Industries, Inc. and Boardwalk Merger Sub, Inc.*, Docket No. GM22040270, Stipulation of Settlement at 17, 19-20 (Jan. 12, 2023).

Response Act. An effective NPA framework can help to meet near-term energy needs while facilitating a managed energy transition and reducing the risk of stranded assets that results from long-term investments in costly pipeline infrastructure.

ETG and SJG are the first gas utilities in New Jersey to propose a Non-Pipeline Alternatives framework. This is a positive step forward that can responsibly address energy demand through alternatives to traditional natural gas capital projects, consistent with the recommendations of London Economics International to the Board.⁴ But an NPA program should ensure genuine and thorough consideration of alternative solutions, particularly those that reduce gas demand and pipeline investments. Below are concrete recommendations to improve the Companies' proposal.

B. Recommendations to Improve the SJG/ETG NPA Proposal

Prioritize Electrification Over New Gas Appliances. Over half of the measures identified in the NPA Proposal for residential, commercial, and industrial customers involve installing new gas appliances. These measures will prolong customers' reliance on fossil energy. To drive reductions in natural gas reliance and greenhouse gas emissions, the NPA framework should focus on driving installation of efficient electric appliances like heat pumps.

Definition of NPAs. The following change should be made to the definition provided in the Proposal, to ensure that NPAs are considered for all capital projects:⁵

Non-Pipeline Alternative (NPA): Technology or solution that delays, avoids, or reduces the scope of building new or upgrading natural gas infrastructure needed to maintain the safety, reliability, and continuity of firm service.

Hydrogen Blending. The Proposal characterizes blending hydrogen into gas pipelines and residential buildings as an NPA, claiming that "hydrogen presents a strong opportunity for GDCs in the clean energy future."⁶ The proposal also states that SJG plans to blend hydrogen into the natural gas system and claims that the measure "presents an immediate application for hydrogen fuel."⁷ Hydrogen-methane blending into distribution pipelines, homes, and buildings presents safety, climate, and air quality concerns. In the merger proceeding, EDF filed expert testimony detailing concerns with SJI's plans to blend hydrogen in the gas pipeline system and explaining that blending "will not yield a meaningful climate benefit" and "should not be widely deployed

⁴ London Economics Int'l, *Final Report: Analysis of Natural Gas Capacity to Serve New Jersey Firm Customers* at 16 (Nov. 5, 2021), <https://www.nj.gov/bpu/pdf/boardorders/2021/20211215/9B%20LEI%20Final%20Gas%20Capacity%20Report%2011%2005%202021%20Public%20Redacted.pdf>.

⁵ NPA Proposal, at 8.

⁶ *Id.* at 14.

⁷ *Id.*

in buildings.”⁸ In the context of NPAs, a hydrogen project should only be classified as climate-beneficial if it uses clean hydrogen to service a hard-to-electrify sector, such as heavy industry.

NPA Eligibility Thresholds. The NPA Proposal uses thresholds to determine NPA eligibility, stating that, in general, a project must be scheduled for completion in five or more years and must be one of the top 5% most costly projects in the companies’ portfolio to be considered for an NPA.⁹ These proposed thresholds are arbitrarily narrow and can severely limit the number of capital projects that undergo NPA evaluation.

The appended report includes an analysis demonstrating that New York utility National Fuel Gas Distribution Co. proposed a two-year eligibility threshold for NPAs even though the company has historically identified and completed expansion projects in 88 days on average.¹⁰ Thus, a two-year threshold would automatically disqualify much of National Fuel’s expansion projects from NPA consideration. Similarly, the five-year and top-5% cost thresholds proposed by ETG and SJG could inappropriately exclude many projects from NPA evaluation. Instead, all projects should be eligible for NPA consideration and undergo a feasibility analysis for NPA implementation.

Service Solicitation Process. A robust request-for-proposal (“RFP”) process is an essential element to any NPA framework, as the practice fosters local competition, can build or attract expertise that lowers costs and timeframes of NPA implementation over time, and introduces innovative solutions to provide supply or demand relief. The NPA Proposal refers to a solicitation process developed in another area of its operations—“the existing EE programs and other programs where solicitation is needed.”¹¹ The NPA Proposal should explain the referenced process in full detail so the Board and stakeholders can assess its effectiveness.

Respectfully submitted,

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⁸ *In the Matter of the Merger of South Jersey Industries, Inc. and Boardwalk Merger Sub, Inc.*, Docket No. GM22040270, Pre-Filed Direct Testimony of Tianyi Sun on Behalf of EDF at p26, line 9, p25, line 8 (Dec. 2, 2022).

⁹ NPA Proposal, at 18-19.

¹⁰ See Sullivan & Murphy, *Non-Pipeline Alternatives: Meeting Energy Demand Responsibly* at 19-21, EDF (Feb. 2024), https://www.edf.org/sites/default/files/2024-02/Non-Pipeline-Alternatives-Report_EDF_Feb2024.pdf.

¹¹ NPA Proposal, at 27.



NON-PIPELINE ALTERNATIVES:

Meeting Energy Demand Responsibly

Magdalen Sullivan & Erin Murphy



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EXECUTIVE SUMMARY

As gas utilities, regulators, and stakeholders seek to address rising pressure on rates, ensure responsible management of natural gas distribution systems, and reduce overall reliance on natural gas to address climate change, the incorporation of non-pipeline alternatives (“NPAs”) into utility planning and operations can maximize the pursuit of cost-effective solutions.

The traditional utility business model assumes continuous use of natural gas and relies on continued investment in and expansion of the gas pipeline system to generate a guaranteed rate of return for shareholders while ensuring reliable service for customers. But traditional approaches present new risks in the face of volatile gas prices and changing energy policies, and utilities and regulators need to think outside the box to meet energy demand more sustainably.

When anticipating traditional gas investments,
the following NPA solutions should be considered by utilities, and implemented where appropriate.

Traditional Utility Projects	Non-Pipeline Alternatives to Consider	
<ul style="list-style-type: none">Gas supply procurement, such as capacity contracts;New gas system infrastructure, such as installing new pipeline or system expansions;Upgrading existing system infrastructure, such as increasing existing pipe pressure to transport more gas; orReplacing leak-prone pipe segments.	Demand-Side <ul style="list-style-type: none">Demand response programsEnergy-efficiency – for residential, commercial, and industrial customersThermal energy networksResidential/commercial building electrificationIndustrial electrification, where feasible	Supply-Side <ul style="list-style-type: none">Compressed natural gasLiquefied natural gasClimate-beneficial biomethane (for hard-to-electrify end users)Climate-beneficial hydrogen (for hard-to-electrify end users)

NPAs can help utilities and regulators diversify options to satisfy energy demand and avoid locking in long-term commitments to costly pipeline infrastructure. Utilities can demonstrate leadership and innovation by adopting NPA processes that involve comprehensive and transparent reporting and a robust RFP process that fosters competition and innovation. These programs also present a key opportunity to facilitate reduced reliance on natural gas and cut climate-warming greenhouse gas emissions.

Leading states around the U.S. have implemented new standards to incorporate NPA consideration and adoption into gas utility operations. Recent actions by Colorado, New York, California, and New Jersey are valuable examples to consider and follow.

Regulators and gas utilities should implement NPA procedures that:

- 1. Identify demand needs as early as possible** and quantify with specificity the demand that needs to be met.
- 2. Consider NPAs, including solicitation for third-party proposals**, for all supply, capacity, and capital projects.
 - Projects ranging from short duration demands to extensive facility replacements can all benefit from NPAs.
 - Regulators and utilities should not establish cost or time thresholds that limit when NPAs are considered.
- 3. Seek all possible solutions** to meet demand or address infrastructure needs, via an open and transparent RFP process.
- 4. Evaluate costs and benefits of bids**, including the climate and health benefits of avoiding a traditional gas infrastructure project.
- 5. Keep a robust record** of the basis for the utility's decision about the chosen solution.
- 6. Ensure an open, equitable process**, with information about the demand, options considered, and basis for the chosen solution made publicly available; consider impacts to disadvantaged communities when considering projects; and allow for public participation during the NPA selection process if feasible.
- 7. Make cost recovery contingent on proper solicitation and evaluation of NPAs.** If an NPA is ultimately not suitable to meet the identified need, then the utility may proceed with a traditional gas supply solution.

NPAs should always be considered when a utility is undertaking a facility expansion or replacement project, unless the project is of immediate need to respond to an emergency or urgent safety concern. The preliminary implementation of NPA frameworks by gas utilities in New York provide some key lessons learned.

First, regulators and utilities should not establish cost or time thresholds that limit when NPAs are considered. The threshold proposed by several NY utilities, that projects planned within 2 years should not be eligible for NPAs, will result in the inappropriate exclusion of various types of projects. Many system expansion projects could be relatively minor and quick to implement—like connecting new customers to the system. For such projects, a company could have a well-established NPA approach—like a referral program for electric service—that should be considered and made available.

Second, broad exclusionary categories can result in unhelpfully narrow consideration of NPAs. One New York utility evaluated 183 capital projects for NPAs, deemed 174 capital projects ineligible for NPA consideration, and 84 of those ineligible projects were excluded on the basis of “reliability” limitations. Overly broad terms should not be a loophole to avoid NPA implementation.

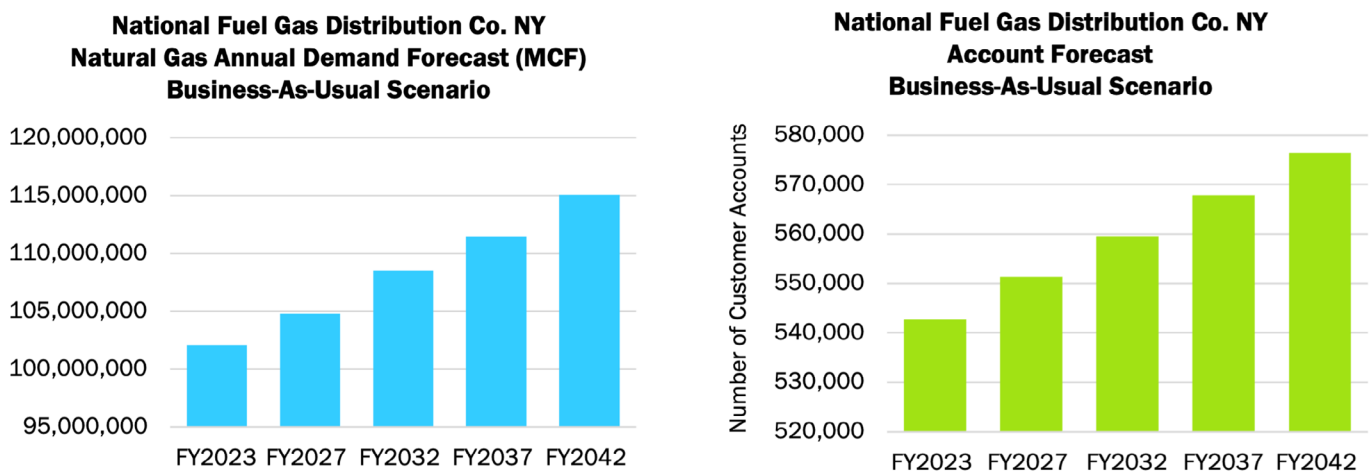
Clear and inclusive standards for consideration and implementation of NPAs can help to meet near-term energy needs while facilitating a managed energy transition. NPA implementation can also create alternative pathways for shareholder value outside of traditional natural gas investments. At a time of rapid change in energy markets and policies, regulators and utilities should use every opportunity available to manage costs for ratepayers, avoid inappropriate investments, and reduce greenhouse gas emissions.

TRADITIONAL UTILITY APPROACHES TO MEET NATURAL GAS DEMAND

Gas utilities in many jurisdictions are required to ensure continued provision of safe and reliable service to customers, as part of the regulatory compact by which regulators permit utilities to operate.¹ To ensure such service, utilities contract for gas capacity, gas supply, and undertake on-system capital projects that may address system integrity, reliability, continued supply, and system expansion. For example, a utility might enter a long-term agreement with an interstate gas transmission pipeline for capacity to ensure minimum gas deliveries, or a utility might replace an older pipeline segment on its system to lower the risk of an incident that would threaten public safety and disrupt service to customers.

Utilities also regularly expand their distribution systems to reach new customers. Historically, such investments and projects have been considered prudent utility investments so long as they are necessary to provide continued service to existing and new customers. The traditional utility business model assumes continuous use of natural gas, and thus relies on continued investment in the existing system and possible expansion to generate a guaranteed rate of return for shareholders while ensuring reliable service for customers. Regulators often only conduct prudence reviews—to determine that a utility’s investment was a reasonable decision—after a project is underway or completed.²

FIGURE 1 & 2 ³

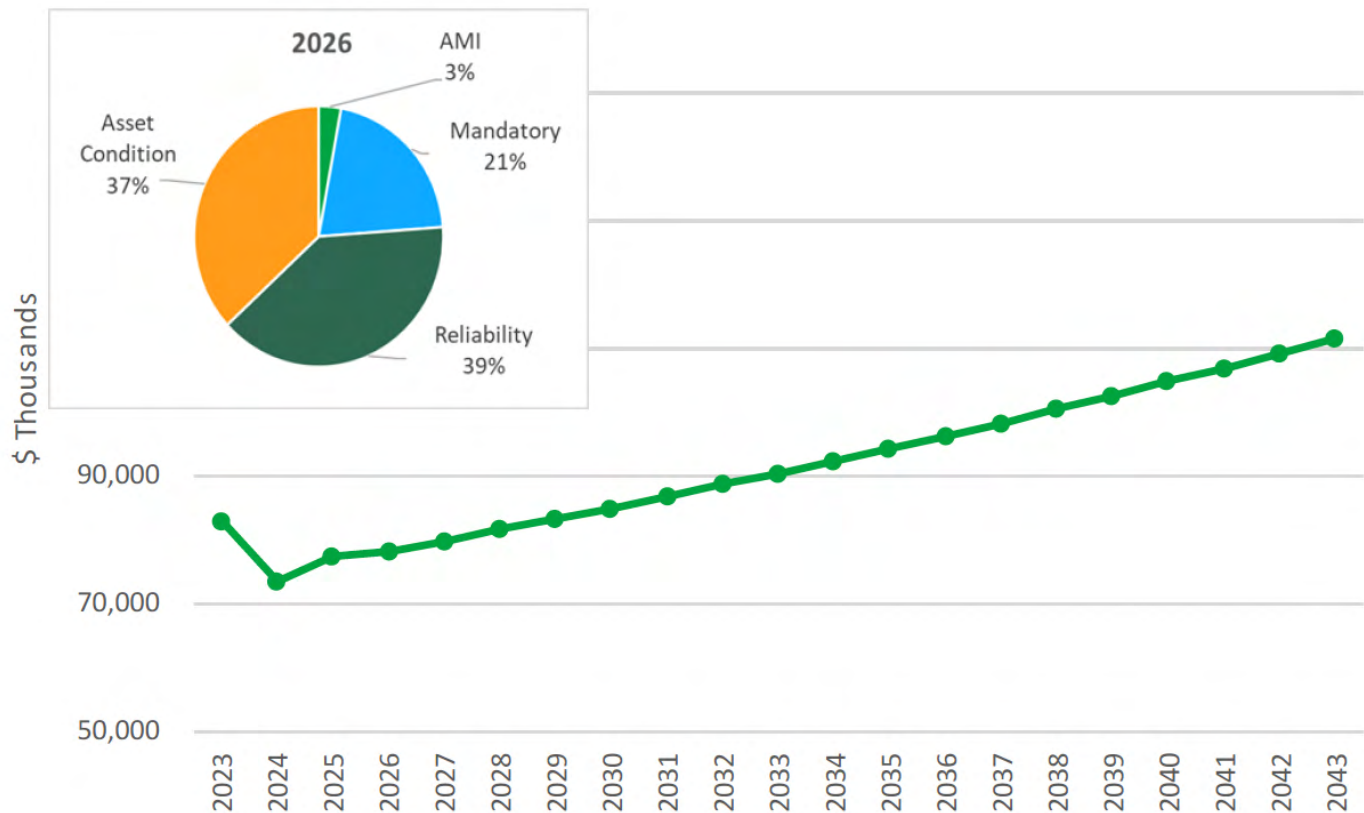


Regulators permit utilities to earn profits on infrastructure projects to maintain, update, and expand their gas distribution systems. This is intended to allow the utility an opportunity to earn a fair rate of return that will enable it to continue to access reasonably priced capital, and thus to maintain its system to continue to provide safe and reliable service. For investor-owned utilities, return on equity (“ROE”) is used to generate profits for shareholders—and ROE averages around 9% for U.S. gas utilities.⁴ Stakeholders have advanced concerns that by having a set rate of return, utilities are incentivized to make unnecessary investments to increase their rate base and associated profits.⁵

To identify what additional projects and contracts are needed to ensure safe and reliable service, utilities develop estimates for future energy demand, and then correspondingly plan to ensure adequate supply. Gas distribution systems generally have a wintertime demand peak—gas demand will be highest during the coldest parts of winter because many customers use gas for heating. While many states require electric utilities to engage in Integrated Resource Planning, regulators have not traditionally established comparable planning requirements for gas utilities.⁶

FIGURE 3

Rochester Gas & Electric Utility, Gas Capital Expenditures Forecast (\$ Thousands), Business-As-Usual Scenario ⁷



Typical utility investments include the following types of projects:

- Expanding to new customers
- Meeting increased demand from existing customers
- Meeting increased demand during a projected winter peak
- Replacing aging infrastructure
- Other infrastructure upgrades to ensure safety
- Accessing additional/alternative supply for reliability or economic reasons

Utilities generally do not earn profits on the commodity cost of gas, which is passed along directly to the consumer.⁸ Thus, ratepayers can be negatively impacted by increases in and volatility of the price of natural gas.⁹ Although state regulators do not allow utilities to profit from commodity costs, some investor-owned utilities have implemented business strategies to extract revenues from gas supply costs. Utilities with affiliate midstream companies (i.e., pipeline, storage, or gas gathering) that are investors in new projects have entered long-term precedent agreements for capacity on those projects. Where the midstream company is a pipeline, the affiliated pipeline can leverage the precedent agreement to help obtain federal approval to build the pipeline, since the Federal Energy Regulatory Commission considers precedent agreements to be a demonstration of market need indicating that a project will have economic benefits.¹⁰

With this transactional structure, utility ratepayers are on the hook for helping to pay for the project through their rates once the pipeline is operational.¹¹ Meanwhile, the midstream affiliate and its shareholders are guaranteed a rate of return. This business approach can support unjustified buildout of pipeline infrastructure, and demonstrates why utility agreements to increase or diversify supply merit careful scrutiny similar to that required for major utility infrastructure projects.¹²





NON-PIPELINE ALTERNATIVES: WHAT THEY ARE AND WHY THEY MATTER

The traditional approaches to gas supply and infrastructure investment outlined above are no longer adequate in the face of changing policies and customer desires. Public Utility Commissions around the country are instituting new long-term planning processes to align gas utility oversight with climate and consumer protection goals.¹³ But utilities are constantly making decisions to ensure they meet customer needs, and in addition to big-picture planning efforts, companies can incorporate alternative solutions into their evaluation of each supply and investment decision. NPAs are approaches to address energy demand that can reduce current and projected gas consumption; and reduce reliance on long-lived gas infrastructure to meet short duration gas demand. Achieving these objectives can help reduce the cost of investments in the gas system while minimizing greenhouse gas emissions and local air pollution.

A. Types of Non-Pipeline Alternatives

In the face of projected increases in gas demand or specific gas system projects, NPAs can avoid the addition of pipeline capacity contracts or pipeline infrastructure development, especially those intended to meet peak day and/or peak hour demands.¹⁴ NPAs can address total customer demand, where geographically targeted to a specific neighborhood or area, to eliminate gas use entirely and facilitate targeted retirement of segments of the gas system. NPAs have also been described as “virtual pipelines,” particularly in the context of LNG transported by truck.¹⁵

Successful NPA implementation requires a framework to transparently and regularly assess demand and supply. As utilities project future energy demand and develop plans to acquire adequate supply, they should consider non-pipeline solutions on an equal playing field to traditional solutions.

The following types of gas utility projects should be compared against NPAs before regulators approve cost recovery:

Traditional Utility Projects	Non-Pipeline Alternatives to Consider	
<ul style="list-style-type: none"> Gas supply procurement, such as capacity contracts; New gas system infrastructure, such as installing new pipeline or system expansions; Upgrading existing system infrastructure, such as increasing existing pipe pressure to transport more gas; or Replacing leak-prone pipe segments. 	<p>Demand-Side</p> <ul style="list-style-type: none"> Demand response programs Energy-efficiency – for residential, commercial, and industrial customers Thermal energy networks Residential/commercial building electrification Industrial electrification, where feasible 	<p>Supply-Side</p> <ul style="list-style-type: none"> Compressed natural gas Liquefied natural gas Climate-beneficial biomethane (for hard-to-electrify end users) Climate-beneficial hydrogen (for hard-to-electrify end users)

Demand Response. Demand response programs target gas consumption during peak load to avoid acute shortages, by incentivizing customers to reduce usage during a specific time period. There are several types of programs, including messaging customers in real time to decrease gas usage during peak hours or during extreme weather events – relying on customer willingness to change behavior to achieve community benefit;¹⁶ modifying rates in real time to incentivize reduced consumption during peak hours – paying customers to alter their behavior;¹⁷ and a year-round combination of both of those strategies to change gas customer behavior during peak months.¹⁸

Energy Efficiency. These programs aim to reduce overall energy waste, lower customer bills in residential and commercial buildings year-round, and increase occupant comfort by eliminating leaks and ensuring that heating equipment is properly sized. Measures include weatherization, such as air sealing, window and door upgrades, ventilation improvements, and attic insulation; incentives to purchase efficient appliances; and home energy audits.¹⁹

Building and Industrial Electrification. In most climates, electric appliances can replace gas appliances used in residential and commercial buildings for space and water heating and cooking.²⁰ Air source heat pumps, ground source heat pumps, electric hot water heaters, and electric or induction stoves are widely commercially available. Similarly, some industrial processes can shift from gas combustion to using electric heat, although electricity is not able to meet all industrial process needs currently met by natural gas consumption.

Thermal Energy Networks. These networks forgo the need for gas delivery to homes and businesses by connecting multiple buildings in close proximity via a system of underground, water-filled pipes that share thermal energy. The thermal loop connects to ground-source heat pumps at each building for heating and cooling.²¹ This technology has been in use for years on college campuses and housing developments.²²

Climate-Beneficial Biomethane & Hydrogen. Alternative fuels have been identified as solutions for hard-to-electrify sectors that rely on combustion of gaseous fuels, such as steel,

glass, and cement production. Deployment of biomethane and hydrogen should focus on these high-value applications. For biomethane to provide genuine climate benefit, its production, transportation, and use must result in a net reduction in methane emissions. This is only achievable by capturing existing sources of waste methane, and thus supply is limited.²³ Hydrogen production is energy extensive, and mixing hydrogen into natural gas pipeline systems must be approached with caution to ensure safety and protect air quality. Both hydrogen and biomethane deployment pose significant leakage concerns, contributing to near-term climate warming.²⁴

Compressed and Liquid Natural Gas (CNG, LNG). Strategic deployment of satellite CNG and LNG facilities can satisfy shorter duration gas demand, such as peak hours and days during the winter season, and help to obviate the need for larger investments in more long-term gas infrastructure like transmission pipelines.

B The Value of Non-Pipe Alternatives for Utilities, Regulators, and Customers

NPAs can lower costs, prevent overinvestment in natural gas infrastructure, and reduce greenhouse gas emissions.²⁵ With rising gas prices, investor interest in sustainability, and ambitious state and federal climate goals, the prudence of investments in the gas distribution system and the useful life of such infrastructure may not be as assured as they were in the past. NPAs can help to facilitate a responsible energy transition by mitigating customers' financial exposure to possible natural gas price spikes, reducing the risk of stranded assets, and increasing the variety of investments in disadvantaged communities.

1. Managing Costs

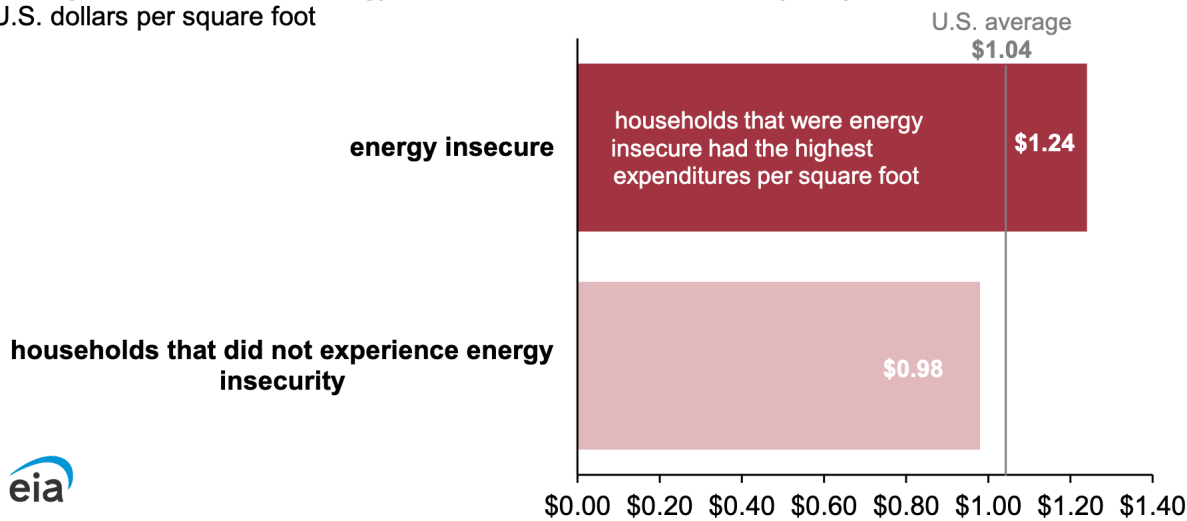
The cost of gas pipeline investments continues to rise. In Maryland, the state's three biggest gas utilities are projected to spend a combined \$6.3 billion on natural gas infrastructure development and replacement projects by 2043 as part of the Strategic Infrastructure Development and Enhancement program ("STRIDE"), which allows accelerated utility cost recovery.²⁶ For all capital projects, including non-STRIDE capital projects, Maryland's utilities are projected to spend \$34.5 billion by 2100.²⁷ Massachusetts ratepayers also face a large expense for the state's Gas System Enhancement Program ("GSEP"), a leak-prone pipe replacement program that allows accelerated cost-recovery for pipe replacement work. GSEP costs over \$500 million a year, and models indicate that the program could incur costs between \$13.5 and \$20 billion by 2050.²⁸

In most jurisdictions, the cost of connecting new customers to the gas system is typically shared across all customers through their rates. Baltimore Gas & Electric, Maryland's largest gas utility, spent \$78 million in 2022 alone to connect new customers and expand its distribution system.²⁹ Between 2017-2021, gas line extension subsidies cost New York ratepayers an additional \$1 billion.³⁰

Major investments that are passed on to customers also pose an energy justice issue. Low- and moderate-income ratepayers face higher energy burdens than the general population, and households facing energy insecurity generally pay more each month in energy bills.³¹

FIGURE 4.³²

Average U.S. household energy expenditures per square foot (2020)
U.S. dollars per square foot



As expansion and maintenance of gas pipeline infrastructure requires significant investments that are costly for ratepayers, NPAs can help facilitate more targeted solutions to meet energy demand. For example, if a utility identifies a need to meet upcoming demand during the winter peak, a capacity contract for year-round supply may not be the most cost-effective option. The utility could instead explore a solution that has a lower cost per dekatherm of load relief and is tailored to the size and duration of the actual need. Traditional pipeline buildout to meet changes in short duration demand could oversubscribe the utility’s distribution system and require more revenue to cover its all-in costs, which are the fixed annual costs combined with the commodity/maintenance costs. That total is then expressed as a cost per unit of demand met by the project. Below is a table that illustrates these scenarios.

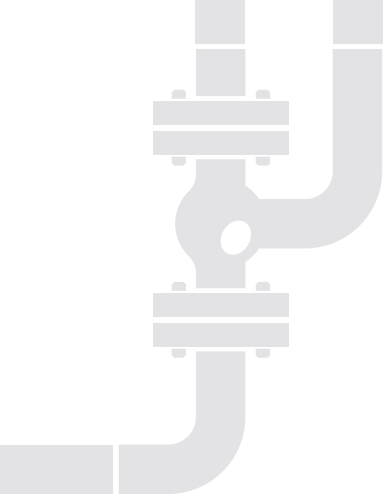
FIGURE 5.

Example Comparison of Load Relief Options³³

	Facilities’ Annual Fixed Costs	Annual O&M /Commodity Costs	Peak Hour Demand (Dth/Hr)	Annual Incremental Demand Met	All-in Cost (\$/Dth)
Ex. 1 NPA Scenario	\$5,000,000	\$1,800,000	1,000	150,000	\$45.33
Ex. 2 Pipeline Buildout	\$15,768,000	\$420,000	1,000	150,000	\$107.92

Ex. 1 Assumptions: Annual cost of CNG Facility is \$5 MM; CNG \$/Dth \$12;
Ex. 2 Assumptions: Annual cost of new build pipeline capacity at \$1.80/Dthd; \$/Dth \$2.80;
Common Assumptions: 1,000 Dth/Hr (24,000 Dthd); and 150 Hours/Yr Equivalent Full use.

Consideration and implementation of NPA solutions can help manage costs in several important ways. First, NPA projects can be less expensive than gas infrastructure buildout. Alternatives to large-scale infrastructure projects require less capital up front and are tailored to a specific load relief need, avoiding overinvestment. Supply-side NPAs such as



CNG and LNG can also reduce the risk of demand forecast errors—if demand is lower than projected, these solutions can be adjusted accordingly and at a much lower cost than traditional solutions.³⁴ Second, solicitation of NPAs through an open RFP process can facilitate competition and innovation among local partners and drive faster technological advances at more competitive prices. Rather than a utility predetermining how to meet demand and soliciting bids only for natural gas pipeline capacity, an RFP can invite proposals to meet energy need through a variety of pathways like energy efficiency or electrification. More transparent competition to meet energy demand can drive cost-effective solutions that benefit ratepayers.

2. Mitigating Stranded Asset Risk

In the context of the gas system, “stranded asset” refers to natural gas infrastructure that no longer serves a useful purpose but is still within the lifespan originally projected by the utility and approved by the regulator. Thus, the utility is still recovering the cost of the asset through depreciation and recovering a return on the original cost of the asset—generating profit—through customer rates.³⁵ Traditionally, when a utility invests in pipeline infrastructure, it is making that investment on behalf of the ratepayers using standard assumptions about how long the asset will be useful to those customers. The utility then incorporates both the recovery of the cost and the return from that investment into monthly customer bills, typically over several decades, until the infrastructure fully depreciates. For example, if a utility starts incorporating a new asset into ratepayer bills in 2020 assuming a typical 2.5% depreciation rate, ratepayers will be paying off that investment—both paying the cost and providing the utility profit—until 2060.³⁶

The traditional approach to pipeline asset depreciation relies on the assumption that the gas system will operate and be expanded or replaced in perpetuity, and that costs can be distributed over a large customer base over that time. But there is an urgent need to reduce greenhouse gas emissions by reducing reliance on natural gas, which is increasingly reflected in government climate policies and utility sustainability goals. This shift is expected to result in declining natural gas throughput and end use consumption, shortening the useful life of pipeline assets. As states and cities pursue building electrification to meet climate goals, increasing numbers of customers can be expected to leave the gas system.³⁷

For example, analysis for the New York State Climate Action Council found that at least a 90% reduction in natural gas pipeline throughput by 2050 is required to achieve the greenhouse gas emission limits established by the New York Climate Leadership and Community Protection Act.³⁸ This analysis demonstrates the importance of seeking non-pipeline pathways to meet energy demand. In North Carolina, the Department of Environmental Quality’s Clean Energy Plan identified the need to critically investigate the lifetime costs of new pipeline infrastructure.³⁹

FIGURE 6.

Change in New York Natural Gas Pipeline Throughput by 2050, Scenarios that Meet NY State GHG Emissions Limit

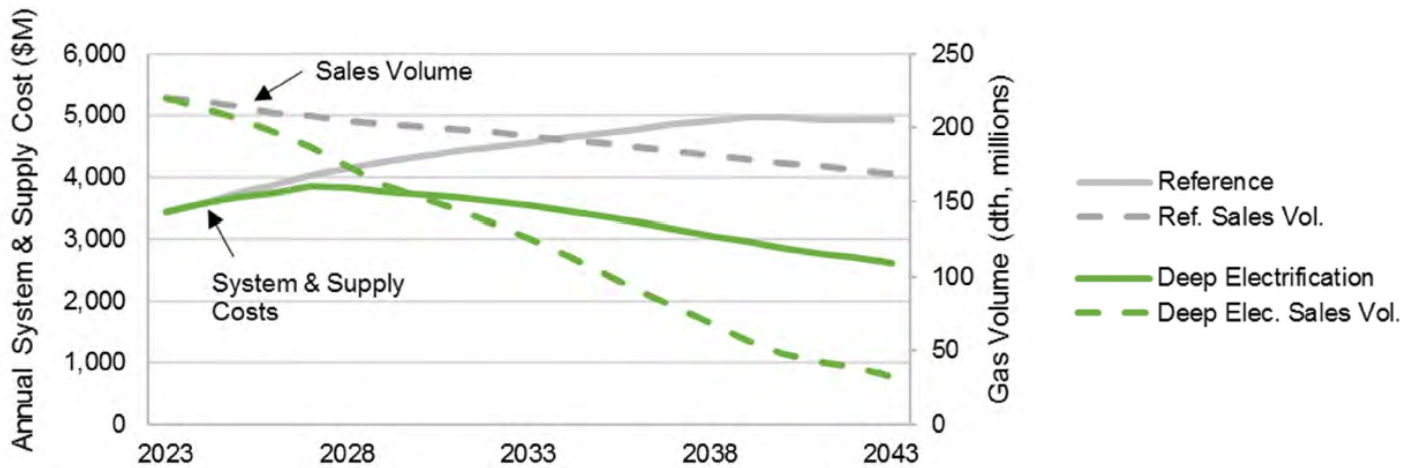
Scenario	Gas Throughput Change
Strategic Use of Low-Carbon Fuels	- 90%
Accelerated Transition Away from Combustion	- 94%
Beyond 85% Reductions	- 94%

Source: NY Scoping Plan Integration Analysis, Appx G, Annex 2 ⁴⁰

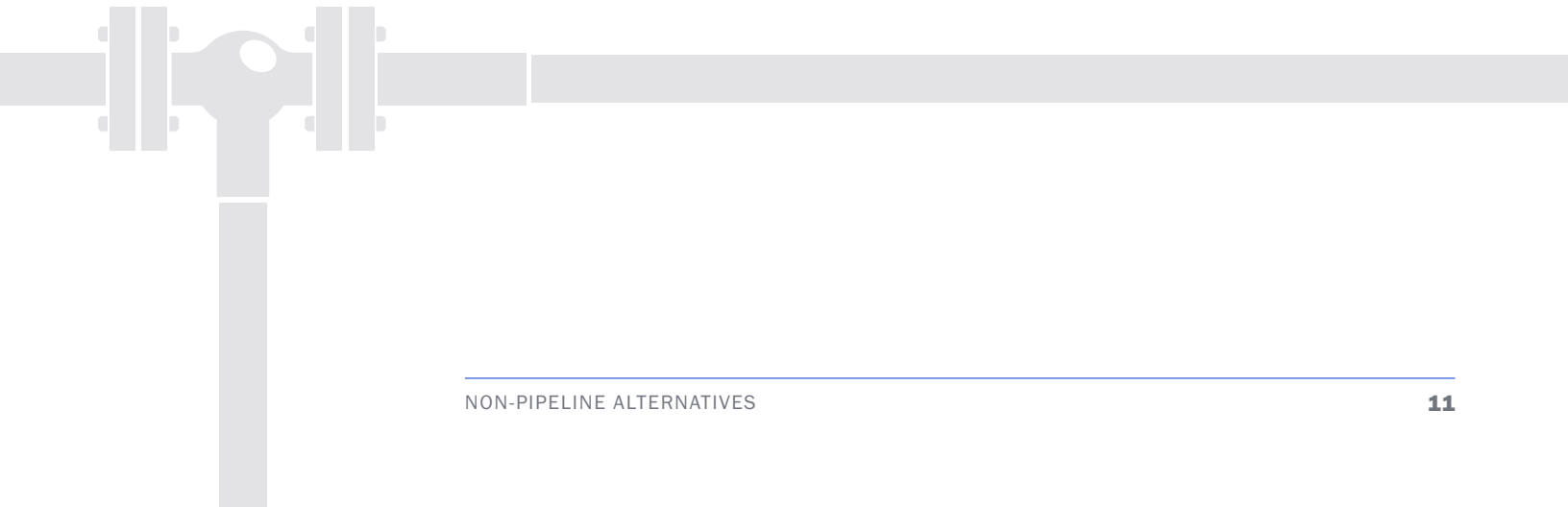
Gas utilities will face a shrinking customer and revenue base, burdening the remaining ratepayers with costs for assets that are no longer yielding them any benefit. This tension between system costs and fewer customers to share those costs is demonstrated in the Con Edison analysis below. Regulators, utilities, and society will need to address the question of who should pay for stranded assets on the fossil fuel energy system.

FIGURE 7.

Con Edison NY - Deep Electrification Pathway Gas System and Fuel Supply Costs and Sales Volumes Compared to the Reference Pathway⁴¹



The question of how the costs of facilitating a responsible energy transition should be distributed—whether it be carried by gas or electric (or both) ratepayers, utilities, or a different funding mechanism—lies outside the scope of this paper. Instead, this analysis aims to identify near-term steps that can be taken within the existing gas utility framework. NPAs will not eliminate the stranded asset risk that already accompanies existing undepreciated natural gas infrastructure. But by starting to implement NPAs now, utilities can avoid creating additional risk.





**Natural Gas
is ~95%
Methane**



**Natural Gas
Combustion
Releases CO₂**

3. Reducing Greenhouse Gas Emissions and Local Air Pollution

Natural gas is primarily composed of methane, and the extraction, transportation, and combustion of natural gas emits greenhouse gases that contribute to climate change.⁴² Natural gas combustion also releases nitrous oxides (NO_x), carbon monoxide (CO), and particulate matter (PM_{2.5}), pollutants that endanger public health and welfare, including by contributing to ozone formation.⁴³ Reducing reliance on natural gas combustion in homes and buildings is necessary to achieve economywide climate targets and reduce local air pollution.

The United States has adopted a target to reduce net economywide GHG emissions 50-52% by 2030 below 2005 levels, and has identified actions to achieve this target that include reducing fossil fuel combustion in buildings via “ongoing government support for energy efficiency and efficient electric heating and cooking in buildings via funding for retrofit programs, wider use of heat pumps and induction stoves.”⁴⁴ In addition to federal commitments, state and local governments across the country are adopting ambitious climate goals to reduce overall GHG emissions. Over thirty states have released climate action plans or announced the development of such initiatives,⁴⁵ and over five hundred U.S. cities have committed to reducing emissions in alignment with U.S. international agreements.⁴⁶

Achieving these objectives will require a significant departure from business-as-usual approaches to state energy systems, including dramatic reductions in natural gas reliance. The New Jersey Energy Master Plan concludes that under scenarios achieving state climate goals, demand for pipeline gas will significantly decrease “as 90% of buildings are transitioned from gas appliances to electric,” and overall gas demand will decrease 75% by 2050.⁴⁷ The New York State Climate Action Council Scoping Plan finds that “achievement of the emission limits will entail a substantial reduction of fossil natural gas use and strategic downsizing and decarbonization of the gas system.”⁴⁸ The Plan states a need for “New York’s economy [to become] more efficient and electrified,” with significant reductions in end-use gas “ranging from 84-94% by 2050.”⁴⁹ Other states have also identified the need to elevate electrification and reduce natural gas expansion in the buildings sector in order to meet climate goals—including Montana,⁵⁰ Michigan,⁵¹ and California.⁵²

C. Demonstrated Success in Electric Markets: Non-Wires Alternatives

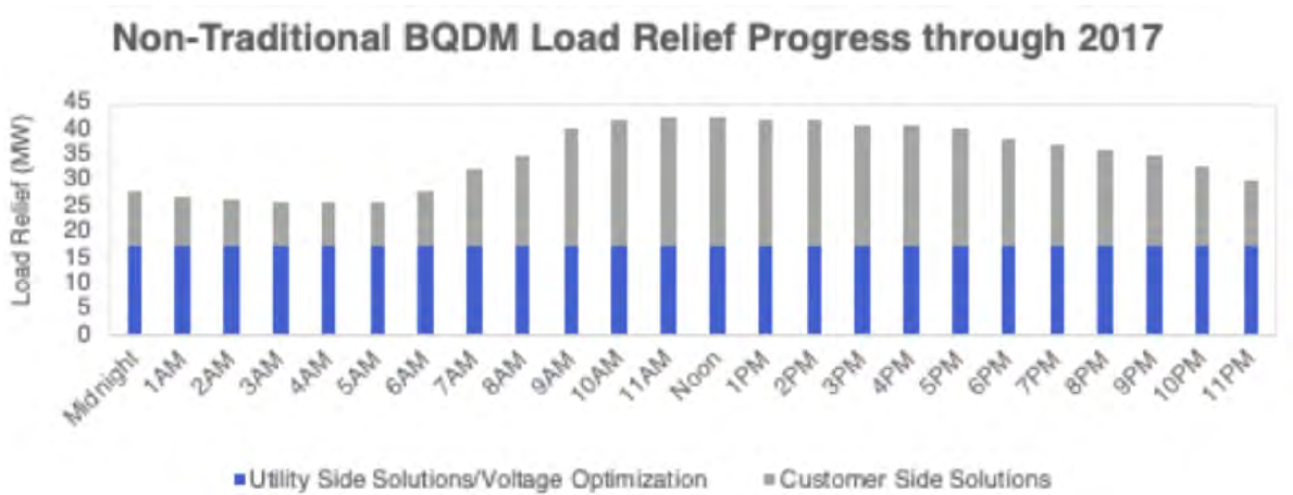
Non-wires alternatives (“NWAs”) are creative solutions to meet electric grid demands that avoid building out traditional infrastructure. Traditional methods of meeting increased demand on the electric grid include commencing multi-mile construction buildouts, installing more diesel-powered generators, building new substations, and adding supply redundancies to the grid to account for peak demand times. NWAs are alternative solutions that mitigate the need for traditional projects. NWAs include microgrids, distributed energy resources (“DERs”), energy efficiency programs, and increased energy storage capacity.⁵³ Because NWAs have been used by utilities for decades,⁵⁴ it is helpful to consider what has worked well for the electric system that could also be beneficial for the gas system.⁵⁵

NWAs have a proven track record for reducing costs and increasing grid reliability.⁵⁶ For example, a 2014 project in New York known as the Brooklyn-Queens Demand Management (BQDM) Program met revised demand and obviated the need for a \$1.2 billion facility upgrade to meet load growth.⁵⁷ Electric utility Consolidated Edison Company of New York invested \$200 million in NWAs—a combination of energy efficiency, DERs, and demand response programs. The program was a success. The resulting microgrid meets local

demand, generates about \$1 million in annual revenue by selling power to the grid during peak periods, and the system generates localized hourly data, which can improve forecasts and inform future projects.⁵⁸

FIGURE 8.⁵⁹

Load Relief Progress Achieved by the Con Edison BQDM Program



Successful NWA implementations like the BQDM project offer powerful examples of the efficacy that alternative methods of meeting energy demand can lend to markets and communities.

While regulators and utilities in New York and California have become leaders in the development of NWA implementation, other states are coming on board. The Connecticut Public Utilities Regulatory Authority has initiated a proceeding to adopt an NWA evaluation process for its electric utilities, recognizing that competitive NWA “processes can reduce distribution system costs and maximize the value provided to ratepayers.”⁶⁰ Other states that require utilities to consider NWAs include Colorado,⁶¹ Delaware,⁶² Hawaii,⁶³ and Maine.⁶⁴

D. Leading States and Utilities Are Implementing NPAs

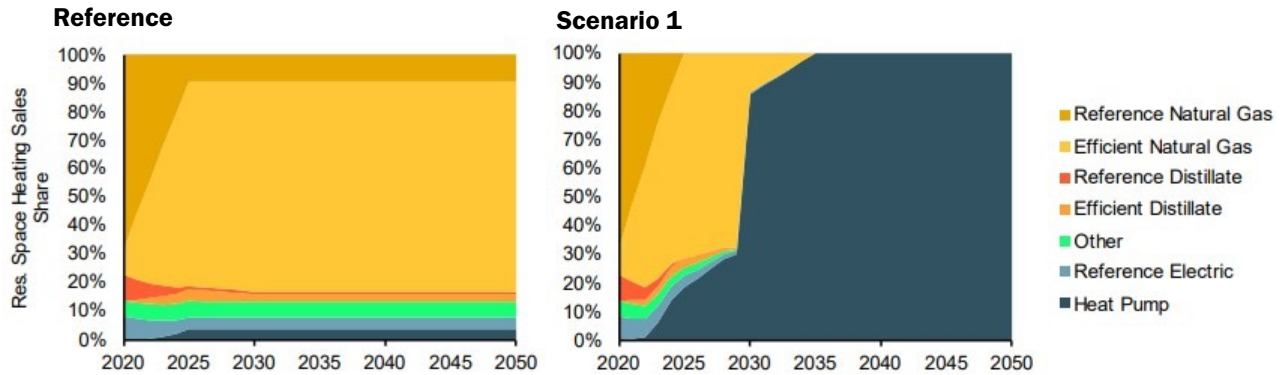
Utilities and regulators around the country are implementing NPA processes that can be replicated in other jurisdictions. Recent action by the Colorado Public Utilities Commission (“Colorado PUC”) serves as an example for regulators looking to develop analytical NPA criteria. The Colorado PUC affirmed the important role NPAs can play in managing system cost and capacity. The regulator broadened the required analysis of alternatives by utilities to include demand response programs, and recognized that the “current framework of looking at only gas infrastructure investment only retrospectively does not enable the Commission to fully analyze projects before they are completed.”⁶⁵ In December 2022, the Colorado PUC updated its requirements for new utilities’ capital project planning to reflect this emphasis on NPA consideration. For all “new business projects”⁶⁶ and “capacity expansion projects,”⁶⁷ the utility must consider NPAs and the “criteria used to rank or eliminate such alternatives.”⁶⁸

NPA Example: Demand-Side Mitigation via Heat Pump Adoption

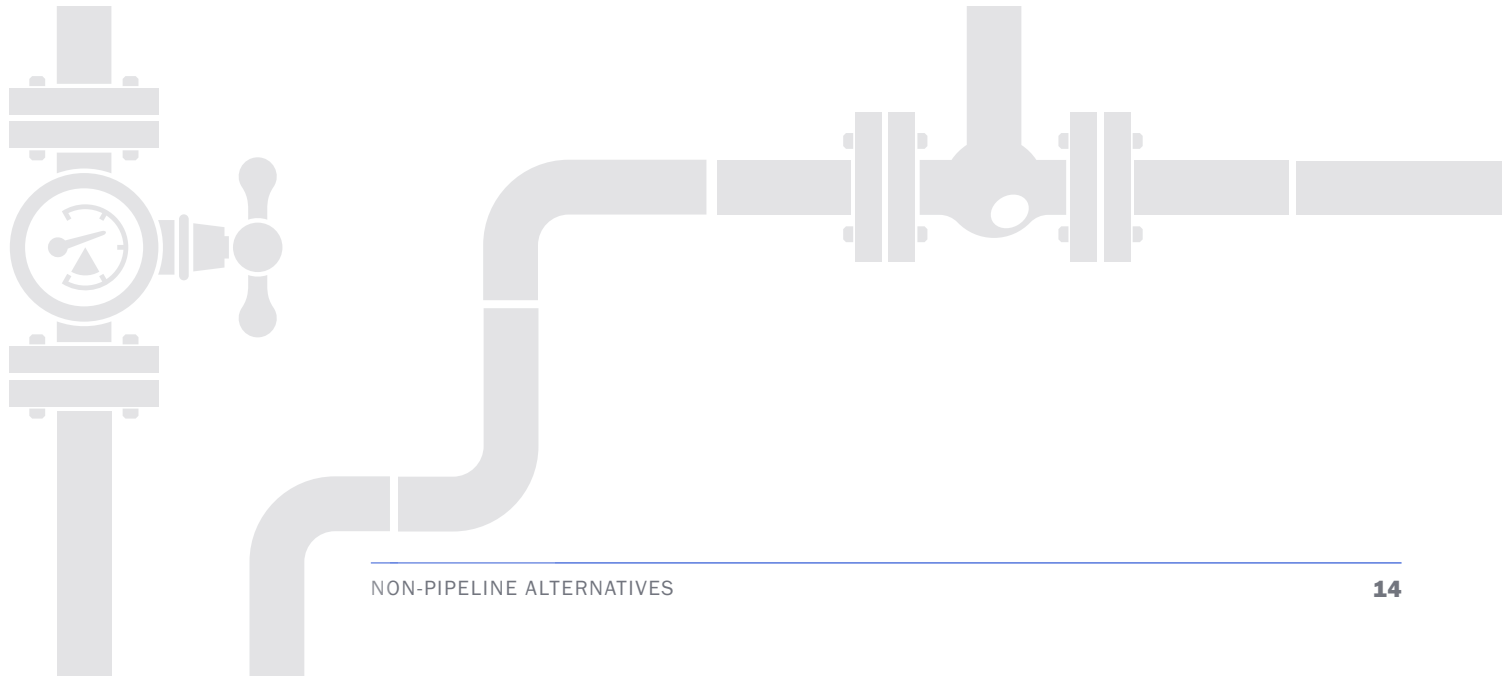
Achieving climate goals will require significant reductions in natural gas combustion in the buildings sector, such as by incentivizing adoption of heat pump technology. For example, New York State’s Climate Scoping Plan calls for a significant increase in heat pump installation to achieve the 2050 greenhouse gas emissions limit.

FIGURE 9.⁶⁹

New Sales Share of Residential Space Heating Systems Under Business as Usual (Reference) and Decarbonization (Scenario 1) Scenarios, New York State



Utilities can facilitate heat pump adoption as an NPA program. Vermont Gas Systems (“VGS”) sells, leases, installs, and services heat pumps within its service territory.⁷⁰ Customers can choose to either lease or purchase the equipment and receive a rebate for the cost of the purchase. The framework of the program allows the utility to reach “both pipeline and non-pipeline” residences and businesses—growing its customer base without installing new pipeline infrastructure. This initiative sits within VGS’s portfolio of “Behind-the-Meter” services—a collection of efficient home appliance installation and maintenance programs that the company has described as “a profitable part of VGS’s overall business.”⁷¹ Responsibly managing gas demand through NPA implementation does not have to occur at the expense of shareholder value.



The Colorado PUC mandates that for each NPA evaluation, utilities consider:

1. “one or more applicable clean heat resources consistent with the utility’s most recently approved clean heat plan, ... demand side management plan, ... or beneficial electrification plan”;
2. “a cost-benefit analysis including the costs of direct investment and the social costs of carbon and methane for emissions due to or avoided by” the NPA; and
3. an employment impact analysis, including “opportunities to transition any affected gas distribution jobs to the alternative.”⁷²

The Colorado PUC also mandated that the utilities disclose the technologies evaluated and proposed during the NPA analysis, each of those approaches’ timelines and feasibility assessments, and the “utility’s strategy to implement the technologies or approach evaluated.”⁷³

The New York Public Service Commission (“NYPSC”) initiated a proceeding on gas planning procedures in March 2020, when it found 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 further found that “the public interest demands that gas utilities ... promote effective planning and best consideration of alternatives, thus benefiting costs, emissions, and economic development.”⁷⁴ In 2022, the NYPSC adopted long-term planning standards, stating that “the use of NPAs instead of building new infrastructure is preferable in light of CLCPA targets”; “[p]otential NPAs should recognize the specific and often unique problems those solutions are intended to address”; and utilities “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.”⁷⁵ Specifically, the Commission directed each utility to develop and file for approval a detailed set of NPA suitability and screening criteria, establishing the timeline and cost thresholds for when and how utilities will consider NPAs.⁷⁶ The utilities have since filed their criteria and stakeholders have submitted comments.⁷⁷ Commission action is pending. With statewide standards requiring consideration of NPAs and incorporation of NPAs into utility long-term planning, New York State represents a strong example of expanding the solution set to satisfy energy demand. However, adoption of clear NPA criteria and thorough implementation of these standards is also key, and the NYPSC must do this to ensure a successful NPA program, as discussed further, as discussed further below.

The California Public Utilities Commission (“CPUC”) recently took action to require NPA evaluation and implementation. In December 2022, the CPUC adopted robust reporting requirements for natural gas utilities in their long-term planning proceedings. 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.”⁷⁸ The utilities also must consider NPAs for projects expected to start within five years and exceed \$50 million in cost in the next ten years,⁷⁹ and “address at a high level”⁸⁰ questions regarding the 1) cost constraints of the customer base, 2) environmental and emissions impact, and 3) health impact.⁸¹ The CPUC states that this information “will help avoid unnecessary costs to ratepayers and will assist [the CPUC] in evaluating and addressing potential environmental harms to local communities surrounding proposed infrastructure.”⁸²

In a 2022 order, the New Jersey Board of Public Utilities (“NJ BPU”) directed gas utilities in the state to consider NPAs “as part of their ongoing efforts to ensure sufficient gas capacity,” and stated that such “consideration shall include evaluating NPAs, both currently

In California, utilities must consider NPAs and address:

1. **cost constraints of the customer base,**
2. **environmental and emissions impact, and**
3. **health impact**



and as technology develops, to determine if the NPAs are cost effective and appropriate for their respective distribution systems.”⁸³ While the NJ BPU has not established comprehensive standards for NPA implementation, the 2022 order and underlying analysis indicates a strong foundation for future policy development. In an analysis commissioned by the NJ BPU, London Economics International explained that “[n]on-pipeline solutions (or non-pipeline alternatives) are alternative means of reliably meeting natural gas demand that offset, defer, or avoid the need for investments in incremental pipeline capacity,” and stated that NPAs could be implemented to meet future firm supply shortfalls.⁸⁴ The consultant presented a matrix of NPA options compared with NJ BPU objectives, and generally found demand-side NPAs to be more consistent with New Jersey policy objectives than supply-side NPAs.

FIGURE 10.⁸⁵

Non-Pipeline Alternatives Matrix for New Jersey BPU, by London Economics International

Criteria	Non-pipe mitigation option							
	Energy efficiency	Voluntary DR program	Direct load control DR	Building electrification	RNG	Green hydrogen	LNG/CNG trucking	Advanced leak detection
Improve reliability/resilience	Yes	Yes	Yes	Somewhat*	Yes	Yes	Yes	Yes
Under the Board's control	Yes	Yes	Yes	Yes	No	No	No	Somewhat
Build upon current capabilities	Yes	Yes	Yes	Somewhat	No	No	No	Somewhat
Consistent with state climate targets	Yes	Somewhat**	Somewhat **	Yes	Yes	Yes	No	Somewhat
Cost effective	TBD							
Enable social equity	Yes	n/a	n/a	Yes	n/a	n/a	n/a	n/a
Technically feasible	Yes	Yes	Yes	Yes	Somewhat	No	Somewhat	Somewhat
Suitable lead time	Yes	Yes	Yes	No	Somewhat	No	Somewhat	Yes
Overall score	7	5.5	5.5	5	3	2	2	4

* Electrification arguably decreases the resiliency of the electric and gas system as a whole, because it increases the proportion of heating needs in the state met by one energy source (i.e., electricity), reducing the diversity in supplies for heating needs. On the other hand, it frees up gas that would be used for space heating to be used in electricity generation, so it could be argued that it increases resiliency.

** Voluntary DR and direct load control programs are scored as being “somewhat” consistent with state climate targets, because the outcome depends on the replacement fuel being used to meet heating needs. For instance, if customers turn down the thermostat on their gas furnaces, but then meet their heating needs through an oil-fired or wood-burning furnace instead, this would not reduce carbon emissions and hence not be consistent with state climate goals.

Note: Overall scores are based on the number of criteria met with a “Yes” (1 point) or “Somewhat” (0.5 point), or “No” (0 points). Higher scores indicate a higher or better rank relative to other shortfall mitigation options.

In the absence of statewide programs, utilities can demonstrate leadership and innovation by instituting their own NPA programs to explore alternative pathways to meet demand. In 2017, New York gas and electric utility Consolidated Edison Company of New York (“Con Edison”) filed a petition with the NYPSC for approval of its Natural Gas Smart Solutions Program (“Smart Solutions”).⁸⁶ The company proposed several initiatives as part of Smart Solutions, including 1) enhancing its existing energy efficiency programs, 2) a demand response program that aims to decrease customers’ gas consumption on peak heating days, 3) a gas innovation program to test new renewable technologies for their effectiveness and scalability, and 4) a diligent and thorough RFP process⁸⁷—all with the intension of “build[ing] a portfolio of projects that will diversify project execution risks and maximize benefits to customers.”⁸⁸ The NYPSC approved the Smart Solutions programs with some modifications, and the programs have since received the support of municipalities⁸⁹ and environmental groups⁹⁰ in Con Edison’s service territory.

STRUCTURING NPA FRAMEWORKS

An NPA program will be most effective when it is implemented as part of a comprehensive long-term planning process, ensuring transparency and accountability regarding demand projections and anticipated supply needs.⁹¹ Utilities should identify potential demand/supply gaps as early as possible and normalize consideration of NPAs for meeting those needs—with a narrow, clearly defined exception for emergencies⁹²

A. Recommendations to Decisionmakers on Establishing NPA Procedures

Public Utility Commissions should adopt clear and consistent frameworks for NPA consideration that can facilitate successful implementation by utilities and accountability to the public. Evaluating NPAs against traditional solutions as a universal practice will normalize openness to alternative options and invite more responses from external technology and solutions providers. Regulators should set clear standards for utilities to solicit bids through an open RFP process tailored to the anticipated demand. Considering additional demand and/or supply options will ensure that the utility has the widest array of options from which to select the most cost-effective and beneficial solution. Utilities should be required to report regularly and transparently on selections.

Public Utility Commissions should require gas utilities to implement NPA procedures that:

- 1. Identify demand needs as early as possible** and quantify with specificity the demand that needs to be met.
- 2. Consider NPAs**, including solicitation for third-party proposals, for all supply, capacity, and capital projects.
 - Projects ranging from short duration demands to extensive facility replacements can all benefit from NPAs.
 - Regulators and utilities should not establish cost or time thresholds that limit when NPAs are considered. See case studies below for further discussion.
- 3. Seek all possible solutions** to meet demand or address infrastructure needs, via an open and transparent RFP process.
 - While utilities should be able to develop and implement NPA solutions on their own, the process of soliciting proposals from external providers should help utilities gain familiarity with the range of options available while ensuring that cost-effective solutions are selected to meet demand.
- 4. Evaluate costs and benefits of bids**, including the climate and health benefits of avoiding a traditional gas infrastructure project.
- 5. Keep a robust record** of the basis for the utility's decision about the chosen solution.
- 6. Ensure an open, equitable process**, with information about the demand, options considered, and basis for the chosen solution made publicly available; consider impacts to disadvantaged communities when considering projects; and allow for public participation during the NPA selection process if feasible.
 - See case studies below for specific reporting recommendations.
- 7. Make cost recovery contingent** on proper solicitation and evaluation of NPAs. If an NPA is ultimately not suitable to meet the identified need, then the utility may proceed with a traditional gas supply solution.

B. Issuing RFPs to Fulfill NPA Projects

Building on some existing NPA approaches, utilities should seek to identify NPA solutions by issuing a Request for Proposals ("RFP"). RFPs seek a broad array of innovative solutions that could either provide natural gas supply or demand relief. The utilities should issue RFPs for demand relief projects in a public and transparent fashion, shared broadly to gain the widest participation. To optimize the competitive benefits of the RFP process, the RFP should be clear that potential bidders may propose alternative pathways to satisfy the energy need, including basic quantity, reliability, receipt, delivery, and pricing terms. The utilities should evaluate all of the bids based on the size of the demand relief, all cost metrics, greenhouse gas emissions, and impacts on communities and the environment. After awarding a contract for an NPA project, utilities should maintain detailed documentation, both to record the process and to inform and improve on NPA solicitations in the future. A detailed recommendation for an RFP process is provided in Appendix A. The RFP process can also help to protect against inappropriate self-dealing between affiliated entities, and the process attached includes safeguards to prevent preferential treatment for affiliates.



MAXIMIZING NPA OPPORTUNITIES: NEW YORK CASE STUDIES

Initial implementation of NPA programs in New York State offers important insights, and some lessons learned, that regulators and utilities can consider in developing effective NPA procedures.

In its long-term gas planning process, the NY Public Service Commission directed gas utilities to individually file proposals for NPA screening and suitability criteria. The NYPSC order prescribes a two-step process: 1) determine if a project is eligible for NPA consideration, and 2) if eligible, determine the feasibility of NPA implementation.⁹³ The NYPSC defined NPA ineligibility as “projects that address immediate threats to public safety or system reliability,” or “where construction is expected to commence in less than 12 months.”⁹⁴ In their proposed criteria, New York utilities stated that projects focused on load growth would be eligible for NPA consideration, while projects associated with “immediate system needs related to safety, reliability, and service obligation” would be ineligible for NPA consideration.⁹⁵ Most utilities also defined projects where construction would commence in less than 24 months as ineligible for NPA consideration.⁹⁶ Public interest stakeholders have raised concerns with the narrow criteria proposed by the New York utilities, and recommended that the Commission require broader consideration of NPAs.⁹⁷

Although the NYPSC has not yet ruled on the utilities’ proposed criteria, two New York gas utilities—National Grid Downstate and National Fuel Gas Distribution—have shared relevant information and put the criteria into practice in limited circumstances. Analyses of these proceedings demonstrate the value of data transparency, NPA consideration for all pipeline capacity projects, and the need for a detailed record of utility decisions about NPAs.

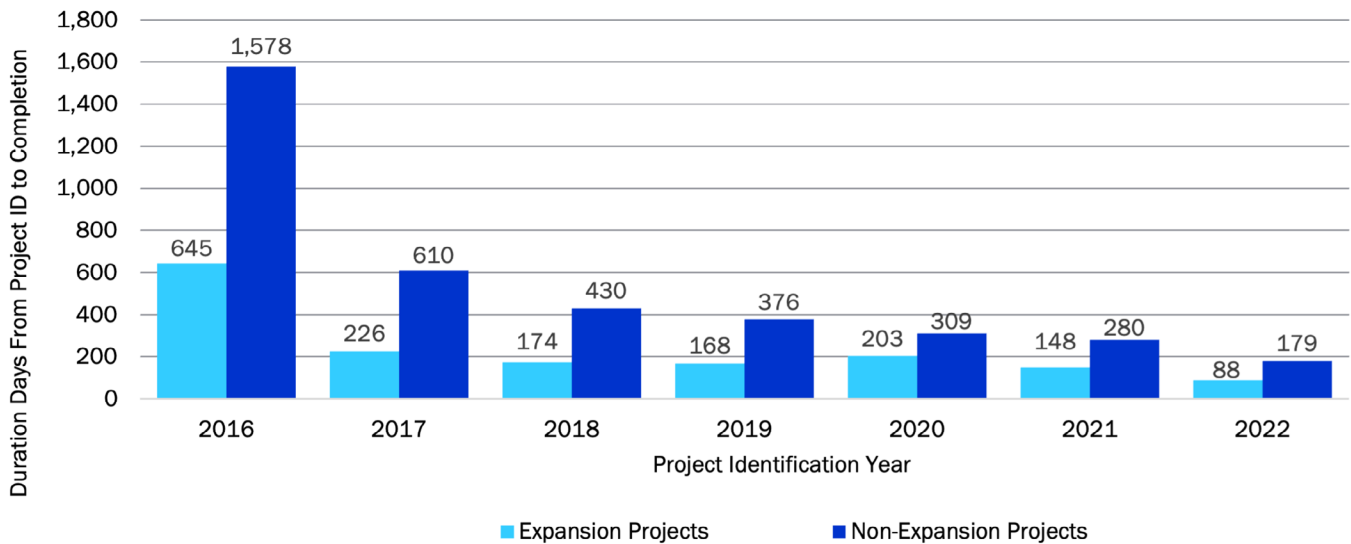
A. Past Capital Projects Demonstrate the Need for Broad NPA Consideration

National Fuel Gas Distribution Corporation (“National Fuel” or “NFGD”), a gas-only utility serving northwestern New York, recently underwent the long-term planning process before the NYPSC. National Fuel—and most other NY utilities—has proposed that any project scheduled to commence within two years should be ineligible for NPA consideration.⁹⁸ But in 2022, National Fuel completed expansion-related capital projects in 88 days and non-expansion capital projects in 179 days, on average. Those time ranges encompass the date the project was identified to the date of completion.

FIGURE 11.

NFGD Capital Projects Completed 2018–2022:

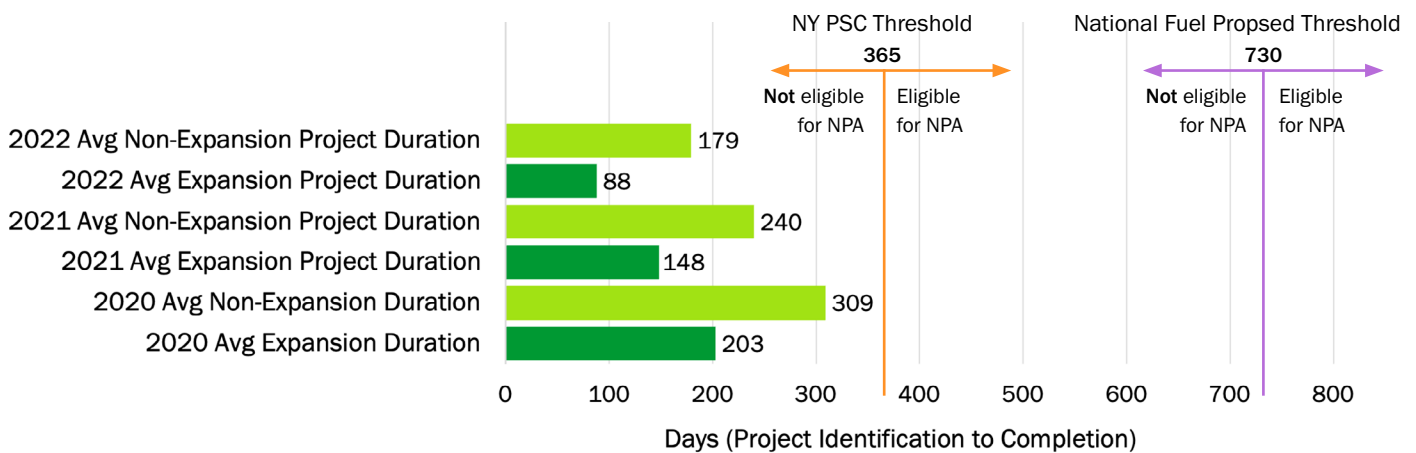
Average Duration Days for Expansion and Non-Expansion Projects



This analysis of historic capital project data demonstrates that the utility’s own proposed criteria is inappropriately narrow, and underscores the importance of broad consideration of NPAs for all capital projects. The analysis also shows that National Fuel typically completes expansion projects almost twice as quickly as non-expansion projects. National Fuel has historically identified and completed its gas system expansion projects rapidly—well within two years, and usually in a matter of months.⁹⁹ Under the company’s proposed criteria, virtually all expansion projects would not be considered for NPAs.¹⁰⁰

FIGURE 12.

NYPSC and National Fuel Proposed Thresholds Would Exclude Recent National Fuel Capital Projects from Non-Pipe Alternative Eligibility



National Fuel reported 4,818 distinct “Projects” as capital projects identified and/or commenced as early as 2016 and completed during 2018-2022. Analysis for EDF grouped together what appeared to be subcomponents of large projects, around 2,700 distinct capital projects were identified and considered.¹⁰¹

NPAs should always be considered when a utility is undertaking a facility expansion or replacement project, unless the project is of immediate need in the event of an emergency or urgent safety concern. National Fuel’s capital project records demonstrate why narrow time windows for NPA consideration will inappropriately push utilities to turn to traditional infrastructure solutions rather than exploring alternatives. Many of National Fuel’s rapid capital projects could be relatively small in scale, like installing a new service line to connect a new customer to the system. That does not mean, however, that those projects should be excluded from NPA consideration. For example, National Grid Downstate NY conducts a referral program “to educate customers of their heat electrification options at the time a customer calls to request gas service,”¹⁰² whereby the company informs potential customers seeking gas service about electrification alternatives.

Lessons Learned from National Fuel Capital Project History

Finding from 2018-2022 Project Completion Data	NYPSC NPA Policies	Conclusion
<ul style="list-style-type: none"> National Fuel has historically identified and completed its gas system expansion projects rapidly. National Fuel typically completes expansion projects almost twice as quickly as non-expansion projects. 	<ul style="list-style-type: none"> National Fuel proposes that projects scheduled to commence within two years would be ineligible for NPA consideration. The NYPSC ordered that projects scheduled to commence within one year would be ineligible for NPA consideration. 	<ul style="list-style-type: none"> Exclusion of near-term capacity projects from NPA consideration, as National Fuel proposed, would exempt many gas expansion projects from NPA consideration. The timeline of projects should not be a basis for exemption from NPA consideration.

B. Transparency Improves Accountability and Outcomes

The analysis above was conducted using data on National Fuel Gas Distribution Company’s past capital projects—project type, cost, location, and timeline. This demonstrates the value of transparent long-term planning proceedings where the public and stakeholders are able to access demand and supply information and weigh into discussions about the future of the gas system.¹⁰³ However, a comparable analysis of planned future capital projects could not be completed because the company was unable to provide detailed information about those projects. This information gap demonstrates another opportunity: utilities should strive to identify and keep a detailed record of infrastructure and supply needs as far as possible in advance, and quantify those needs in a clear manner (i.e., amount of existing peak hour or peak day demand as well as projected incremental demand identified) such that NPAs (or if needed, traditional solutions) can be identified. Regulators should require utilities to report the following data when creating NPA procedures:¹⁰⁴



With improved tracking, utilities can improve their granularity of planning and increase public trust



1. Capital Projects Undertaken in the Previous 5 Years:	2. Planned Capital Projects for the Next 5 Years:
List of projects and type—expansion of the gas system, maintenance of existing infrastructure, leak-prone pipe replacement, other and specified	List of projects and type—expansion of the gas system, maintenance of existing infrastructure, leak-prone pipe replacement, other and specified
Cost of each project, including the following cost categories: cost of total pipe and cost per foot of pipe, labor hours and aggregate labor cost, supervisory and engineering costs, permitting, training, other and specified	Estimated cost of each project
Time frame of project—dates of identification of project need, commencement of project, completion of project	Estimated time frame of project—date of identification of project need, estimated commencement month, estimated completion month
Geographic project location	Geographic project location
Geographic scale of project impact	Geographic scale of project impact

Utilities can improve their granularity of planning and increase public trust by tracking this information and sharing it through planning processes, including by providing clear parameters of need in RFPs.

C. States Should Avoid Evaluation Procedures that Exclude Projects from NPA Eligibility

As a general rule, utilities should evaluate any proposed gas capacity projects in comparison to NPAs, and regulators should be skeptical of utility proposals for cost recovery that do not include thorough considerations of alternatives. If, however, a regulator or utility elects to establish an NPA program whereby the range of needs addressed above is not in scope; and only certain types of projects and needs are evaluated against NPAs, stakeholders should exercise vigilance in ensuring that NPAs not be limited to exceedingly narrow circumstances without justification.

In an April 2023 application to increase its rate and charges, National Grid Downstate NY filed an evaluation of NPA eligibility for each of its proposed capital projects,¹⁰⁵ pursuant to a 2021 settlement agreement.¹⁰⁶ National Grid evaluated 183 capital projects to determine whether they might be eligible for a non-pipeline alternative, deemed nine to be eligible for NPAs, and ultimately proposed five supply-side NPAs—four biomethane injection sites and a hydrogen blending pilot project. The company did not propose any demand-side NPAs.

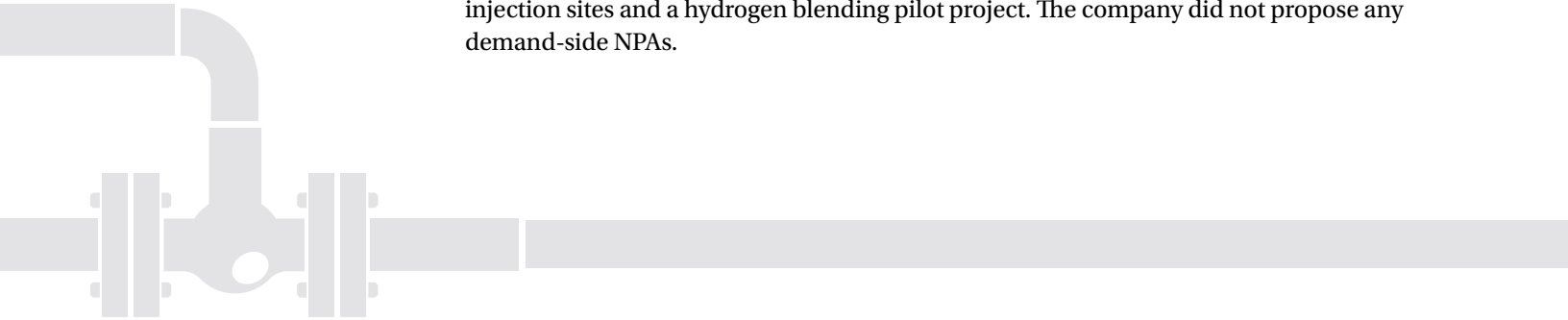


FIGURE 13¹⁰⁷

National Grid Downstate 2023 Rate Case – NPA Consideration and Implementation

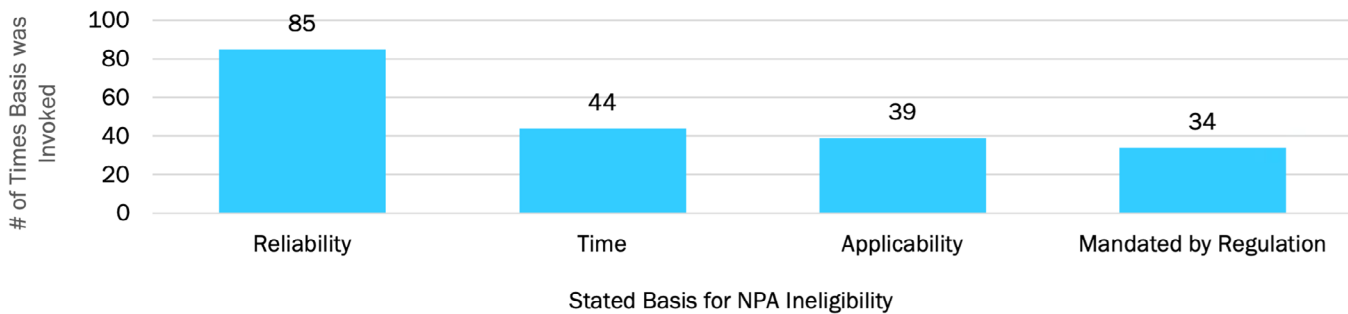
	Number of Projects	Percentage of Total Projects
Evaluated for NPA Eligibility	183	—
Deemed Ineligible for NPA Implementation	174	95%
Deemed Eligible for NPA Implementation	9	> 5%
Actual Non-Pipeline Alternatives	5	> 3%

National Grid’s NPA evaluations demonstrate that the company’s criteria are inappropriately narrow and exclude many projects from NPA consideration on unchecked grounds. Of the 174 capital projects that National Grid deemed ineligible for NPA consideration, the explanations can be organized into four categories: 1) NPAs are not applicable to this project; 2) the project involves system reliability; 3) the project is mandated by regulation; and 4) the project is set to commence within two years. Some project evaluations listed multiple reasons to rationalize NPA ineligibility.

FIGURE 14

Justifications for Excluding Projects from Non-Pipeline Alternative Pathways

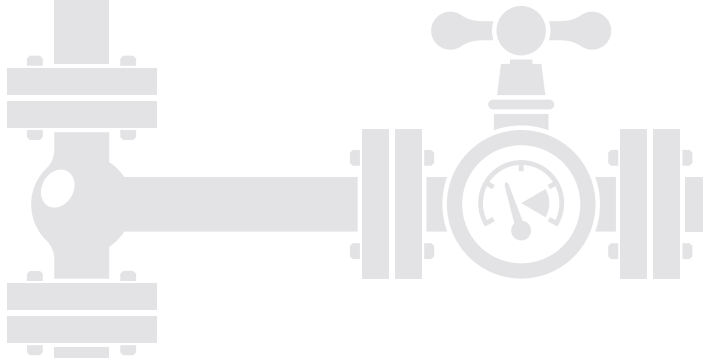
National Grid Downstate NY 2023 Rate Case Filing



The most common explanation for why a project was deemed ineligible for NPA consideration was “system reliability.”¹⁰⁸ National Grid used this explanation 85 times to dismiss projects from NPA consideration. While an emergency situation may call for rapid implementation of a traditional supply option with evaluating alternatives, it is improbable that this many instances of “system reliability” are all so urgent. To prevent evasion of NPA consideration, vague terms such as “reliability” must be clearly and appropriately defined. Utilities should not use reliability as a loophole to circumvent NPA consideration or implementation.¹⁰⁹

CONCLUSION

Non-Pipeline Alternatives are a valuable tool to facilitating a responsible energy transition. At a time of rapid change in energy markets and policies, regulators and utilities should use every opportunity available to manage costs for ratepayers, avoid inappropriate investments, and reduce greenhouse gas emissions. Utilities can demonstrate leadership and innovation by adopting NPA processes that involve comprehensive and transparent reporting and a robust RFP process that fosters competition and innovation. Regulators can set utilities on the right path by establishing clear and durable frameworks for evaluation and implementation of NPAs.



APPENDIX A: NPA SOLICITATION FRAMEWORK

EDF proposes¹¹⁰ an NPA solicitation framework with which a retail gas utility would issue a Request for Proposals (“RFP”), seeking a broad array of innovative solutions that could either provide natural gas supply or demand relief. This competitive-type process would incentivize Capacity Service Providers to develop solutions that are narrowly tailored (in terms of size and cost) to the ultimate need while minimizing costs, GHG emissions, and adverse impacts on communities and the environment.

A Capacity Service Provider is an entity that provides, for a price, one or more Capacity Service(s). Capacity Service is defined as one or more asset(s), service(s), product(s) or any combination of same that enables the ultimate need (as defined below) to be met. Examples of Capacity Service Providers would include: (1) a pipeline that provides firm transportation service to the Retail Gas Utility or end market served by the Retail Gas Utility; (2) an entity that sells CNG, RNG and/or LNG delivered into the Retail Gas Utility and/or into a pipeline able to effectuate firm incremental delivery to the Retail Gas Utility or end market served by the Retail Gas Utility; (3) an entity that provides a firm, bundled capacity and commodity service to the Retail Gas Utility or end market served by the Retail Gas Utility; (4) demand response providers whose demand response reduces demand of specified end use customers during hours of peak demand – typically early morning and evening periods on peak demand days; and (5) Energy Efficiency providers whose energy efficiency measures reduce demand of specified end use customers during hours of peak demand – typically early morning and evening periods on peak demand days.

- 1. [Retail Gas Utility] will use a competitive bidding process** in which requests for proposals (RFPs) are submitted by [Retail Gas Utility] to Capacity Service Providers to provide either natural gas-supply or natural gas-demand relief. For any exceptions to the competitive bid and award process, [Retail Gas Utility] will have a documented process for the approval and award process, including (a) justification requirements, (b) authorization process, (c) contemporaneous documentation requirements (for internal Company information and external communications), and (d) effective monitoring and controls. [Retail Gas Utility] will maintain internal controls such that no information regarding the content or subject of communications by and between non-affiliate potential bidders and [Retail Gas Utility] personnel with access to such information shall be communicated or made accessible to personnel of [Retail Gas Utility] affiliate(s).
- 2. The RFP process shall be open to all Capacity Service Providers** who wish to bid and shall be publicly posted on the [Retail Gas Utility’s] website and filed with the Commission. The intent is to gain the broadest practical participation by eligible

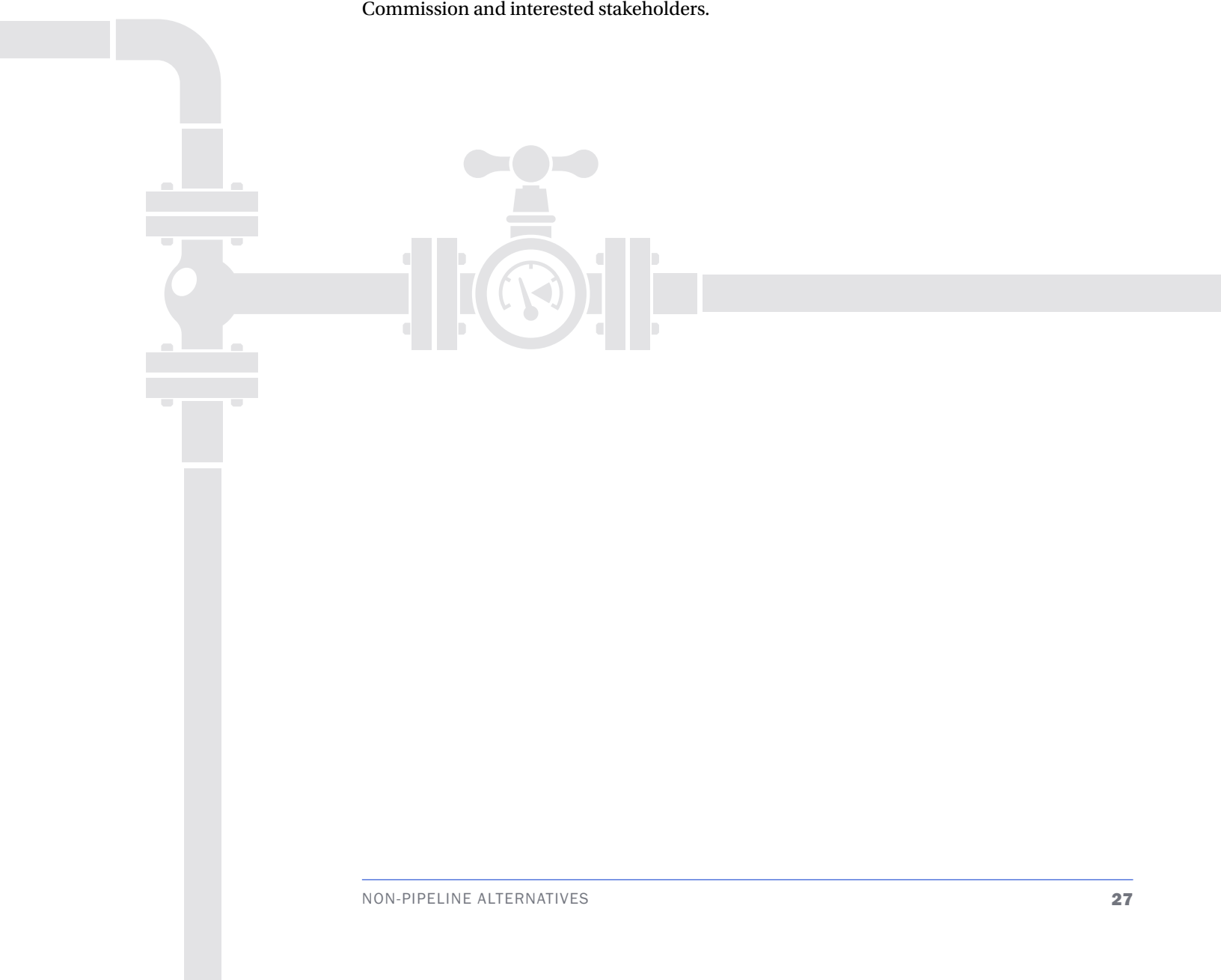
Capacity Service Providers in submitting competitive bids. Once such a process is reasonably developed, appropriately implemented and effectively monitored and controlled, the results of that process are intended to establish the most innovative solutions to provide natural gas-supply or natural gas-demand relief, considering the all-in cost metrics, GHG emissions, as well as impacts on communities and the environment. [Retail Gas Utility] shall require that proposals quantify the GHG emissions associated with their offer, using an agreed-upon methodology such as the Gas Company Climate Planning Tool presented in Part III of this comment. [Retail Gas Utility] shall provide the Commission with a report, including an explanation of any credit, performance or other criteria that [Retail Gas Utility] takes into consideration in developing the RFP. This report should include a comparison of all bids received based on the New York DEC Value of Carbon and Methane Guidance, as well as any BCA adopted by the Commission.

- 3. No affiliate of [Retail Gas Utility] shall be awarded a capacity service contract where such contract would result from an exception to the competitive bid and award process.** In the event a capacity service contract is awarded to an affiliate of [Retail Gas Utility] as a result of the RFP or other competitive bidding process, the affiliate shall be held to the same performance requirements as non-affiliated Capacity Service Providers.
- 4. In the event a capacity service contract is awarded,** [Retail Gas Utility] shall maintain the following contemporaneous documentation: (a) any diversity, credit, or reliability-related capacity limitations placed on the maximum capacity [Retail Gas Utility] will purchase from an individual Capacity Service Provider (if applicable); (b) an explanation of the diversity, credit and/or reliability-related reasons for imposing such limitations (if applicable); (c) a description of the process used to evaluate bids, and negotiate final prices and terms; (d) a complete summary of all bids received and all prices accepted, together with copies of all underlying documents, contracts and communications; (f) a summary and explanation of Capacity Service Providers disqualified for credit, performance or other criteria, and (g) a copy of the policy or procedure employed by [Retail Gas Utility] for awarding contracts in instances where an affiliate and an unaffiliated Capacity Service Provider have offered identical pricing terms. For phone calls or texts, [Retail Gas Utility] shall maintain contemporaneous logs documenting the discussions and decisions.
- 5. In the event a capacity service contract is awarded to an affiliate** of [Retail Gas Utility], the [Retail Gas Utility] shall maintain contemporaneous documentation showing that the affiliate's bid price was equal to or lower than the bids received from non-affiliates.
- 6. In the event a capacity service contract is proposed to be awarded to an affiliate** of [Retail Gas Utility] for a capacity path between a supply receipt area and a delivery area along or through which no other bids were received, [Retail Gas Utility] shall re-issue an RFP to the broadest practical set of eligible Capacity Service Providers in order to obtain competitive capacity service bids for the capacity service contract proposed to be awarded to an affiliate of [Retail Gas Utility].
- 7. In the event a capacity service contract is awarded to an affiliate** of [Retail Gas Utility] for a capacity path between a supply receipt area and a delivery area along or through which [Retail Gas Utility] also received bids for and/or awarded capacity service contract(s) to non-affiliated Capacity Service Providers, the [Retail Gas Utility] shall maintain contemporaneous documentation showing that the price established

under the contract awarded the affiliate was within or lower than the range of prices established under contracts awarded to entities other than the affiliate.

- 8. If the affiliate's bid price or contract price does not meet the criteria in paragraphs 5, 6 or 7, [Retail Gas Utility] may not award the capacity service contract to the affiliate, unless the [Retail Gas Utility] can demonstrate and contemporaneously document that a more favorable bid was rejected for legitimate reasons relating to the rejected bidder or bidders' creditworthiness, performance history (or lack thereof), or other consideration bearing on the fitness and reliability of the bidder to provide the requested service.**
- 9. In the interests of optimizing the competitive benefits of the RFP process, the RFP will explicitly inform potential bidders that [Retail Gas Utility] permits Capacity Service Providers to propose alternative ways of satisfying the ultimate need, including but not limited to basic quantity, reliability, receipt, delivery and pricing terms of the RFP in addition to those specifically contemplated by the RFP. The RFP may also utilize ranges for such quantity, reliability, receipt, delivery, pricing and/or other terms.**

As a result of this robust and competitive process, the retail gas utility would have several options to choose from and its selection process would be transparent and apparent to the Commission and interested stakeholders.



ENDNOTES

- 1 See, e.g., N.Y. PSL § 30 (“[T]he continued provision of all or any part of such gas, electric and steam service to all residential customers . . . is necessary for the preservation of the health and general welfare and is in the public interest.”); Mass. Gen. Laws ch. 164, § 92 (“Right of User to Gas or Electricity”); see also *id.* § 92A (similar but for bulk gas supply); Gundlach et al., *The Obligation to Serve in Massachusetts*, Institute for Policy Integrity (Feb. 2023), https://policyintegrity.org/files/publications/Obligation_to_Serve_in_MA_Policy_Brief_v2.pdf.
- 2 16 TAC § 24.76(i) (“Costs recovered through a [system improvement charge (“SIC”)] are subject to reconciliation in the utility’s next comprehensive rate case. Any amounts recovered through the SIC that are found to have been unreasonable, unnecessary, or imprudent, plus the corresponding return and taxes, must be refunded with carrying costs.”); 4 Colo. Code Regs 723-4-4607(c) (“Prudence review standard. For purposes of [gas cost adjustment] recovery, the standard of review to be used in assessing the utility’s action (or lack of action) in a specified gas purchase year is: whether the action (or lack of action) of a utility was reasonable in light of the information known, or which should have been known, at the time of the action (or lack of action).”); FERC, Docket Nos. CP15-558-000 & CP15-558-001, *PennEast Pipeline Company, LLC*, Request for Rehearing and Motion for Stay on Behalf of New Jersey Conservation Foundation and Stony Brook-Millstone Watershed Association, at 43-44 (Feb. 12, 2018), https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20180213-5082&optimized=false (“In New Jersey, regulators do not require pre-approval of precedent agreements by [local distribution companies (“LDCs”)]. There is no regulatory role until after a pipeline is built and LDCs seek cost recovery for transportation contracts from the NJ Board of Public Utilities. Such an outcome would result in a long-term glut in capacity that state regulators have no ability to remedy, and constitutes a significant regulatory gap.”).
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- 5 See, e.g., Karl Dunkle Werner & Stephen Jarvis, *Rate of Return Regulation Revisited*, ENERGY INSTITUTE AT HAAS, WP 329R (Sept. 2022), <https://haas.berkeley.edu/wp-content/uploads/WP329.pdf>.
- 6 See U.S. EPA, *State Energy & Environment Guide to Action: Electricity Resource Planning & Procurement*, at 9 (2022), https://www.epa.gov/system/files/documents/2022-08/Electricity%20Resource%20Planning%20and%20Procurement_508.pdf; see also Ethan Howland, *Record 13% of Eastern Interconnect capacity failed in Winter Storm Elliott*: FERC, NERC, UTILITY DIVE (Sept. 22, 2023), <https://www.utilitydive.com/news/winter-storm-elliott-ferc-nerc-report-power-plant-outages/694451/> (describing the lack of federal reliability standards for the natural gas system).
- 7 NYPSC, Case 23-G-0437, *In the Matter of a Review of the Long-Term Gas System Plan of NYSEG and RG&E*, NYSEG RG&E Initial Gas Long-Term Plan at 30 (Oct. 2, 2023), <https://documents.dps.ny.gov/public/MatterManagement/MatterFilingItem.aspx?FilingSeq=313961&MatterSeq=71419>.
- 8 See, e.g., DC PSC, FC 1129-2015-G-1, *In the Matter of the Public Service Commission’s Investigation into Default Gas Service Provided by Washington Gas Light Company through the Purchase Gas Charge in the District of Columbia*, Order No. 17826, at 2 (Mar. 12, 2015), <https://edocket.dcpsc.org/public/search/details/fc1129/1> (“Consistent with industry practices, this Commission allows the pass-through of [purchase gas charge] costs to District of Columbia default service ratepayers, on a dollar-for-dollar basis, in accordance with tariffs the Company files with the Commission.”); *United Cities Gas Co. v. Illinois Commerce Com’n*, 643 N.E.2d 719, 721 (Ill. 1994) (citing Ill.Rev.Stat.1989, ch. 111 2/3, par. 9-220). Note that the timing and nature of determining commodity costs may vary across jurisdictions – there could be a lag, and utilities may be authorized to levelize bill impacts across multi-year rate plans. See *Changes in natural gas spot prices may not quickly translate to consumer prices*, U.S. EIA (Mar. 9, 2015), <https://www.eia.gov/todayinenergy/detail.php?id=20272>.
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- 12 One prominent example is utility Spire Missouri’s precedent agreement with the affiliated Spire STL pipeline, which was the only evidence of market need relied on by FERC to approve the interstate pipeline project. The U.S. Court of Appeals for the D.C. Circuit vacated FERC’s original approval of the pipeline. See *EDF v. FERC*, 2 F.4th 953 (D.C. Cir. 2021); EDF, Press Release, *D.C. Circuit Court Strikes Down Unlawful FERC Approval of a Natural Gas Pipeline* (June 22, 2021), <https://www.edf.org/media/dc-circuit-court-strikes-down-unlawful-ferc-approval-natural-gas-pipeline>.

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- 15 See Sapphire Gas Solutions, *What is a Virtual Pipeline System?* (July 2, 2021), <https://www.sapphiregassolutions.com/blog/compressed-natural-gas/what-is-a-virtual-pipeline-system/>.
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- 27 *Id.*
- 28 Dorie Seavey, *GSEP at the Six-Year Mark: A Review of the Massachusetts Gas System Enhancement Program*, GAS LEAKS ALLIES, at 29, 46-47 (Oct. 2021), <https://static1.squarespace.com/static/634abba43f1e2f4dfd5e07dc/t/63559391bd5978258fc5c52c/1666552722328/GSEPatTheSix-YearMark%5B1%5D.pdf>.
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- 34 LONDON ECONOMICS INT'L, *Final Report: Analysis of Natural Gas Capacity to Serve New Jersey Firm Customers*, at 69 (Nov. 5, 2021), <https://www.nj.gov/bpu/pdf/boardorders/2021/20211215/9B%20LEI%20Final%20Gas%20Capacity%20Report%2011%2005%202021%20Public%20Redacted.pdf> (“[I]f limited to intermittent peak usage, these emissions [from CNG and LNG transportation] can be minimized while also addressing potential supply shortfalls.”).
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