nationalgrid

Natural Gas Long-Term Capacity —Third Supplemental Report

for Brooklyn, Queens, Staten Island
and Long Island ("Downstate NY")
August 2021

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Executive Summary

This is National Grid's Third Supplemental Downstate New York Long-Term Capacity Report ("Third Supplemental Report"), the fourth report in a series, that began on February 24, 2020, when National Grid ("National Grid" or the "Company") released the Natural Gas Long-Term Capacity Report (the "Original Report") for its service territories in Brooklyn, Queens, Staten Island and Long Island ("Downstate NY" or "DNY") to address forecasted gaps between gas supply and customer demand over a fifteen-year horizon. In the Natural Gas Long-Term Capacity Second Supplemental Report ("Second Supplemental Report") released on June 30, 2021, National Grid presented updates on the progress it has made implementing its Distributed Infrastructure Solution, which combines targeted enhancements to existing infrastructure with groundbreaking demand-side management programs to lower peak demand for natural gas. The Distributed Infrastructure Solution will help New York achieve the emissions targets set by New York's landmark Climate Leadership and Community Protection Act ("CLCPA"). This Third Supplemental report summarizes and provides responses to stakeholder feedback on the Second Supplemental Report.

Based on extensive public and stakeholder feedback in 2020, the Company identified a viable solution that combines aggressive demand-side management with enhancements to existing infrastructure.

In last year's reports, the Company presented several options to close the projected Design Day Demand-Supply Gap. After extensive public engagement and feedback consisting of six public meetings and over 7,000 public statements, the Company recommended two solutions. Following rejection of the permit applications for the large infrastructure solution, National Grid focused on implementing the other of the two recommended solutions—the Distributed Infrastructure Solution.

Specifically, for the Distributed Infrastructure Solution, National Grid recommended combining: (1) incremental demand side management ("DSM") programs comprising an aggressive set of incremental Energy Efficiency ("EE") programs over and above the growth in demand reduction required by New Efficiency: New York ("NE:NY") as well as new gas Demand Response ("DR") programs; (2) the Liquefied Natural Gas ("LNG") Vaporization Option ("LNG Vaporization Project"), which adds two LNG vaporizers at National Grid's Greenpoint Facility; (3) the Iroquois Gas Transmission System ("IGTS") Enhancement by Compression option ("ExC Project"), which adds compression capability at existing locations to increase capacity on the Iroquois Gas Transmission System; and (4) incremental portable Compressed Natural Gas ("CNG") capacity.

The Distributed Infrastructure Solution remains the best available option to eliminate the Demand-Supply Gap and help NY achieve its clean energy goals.

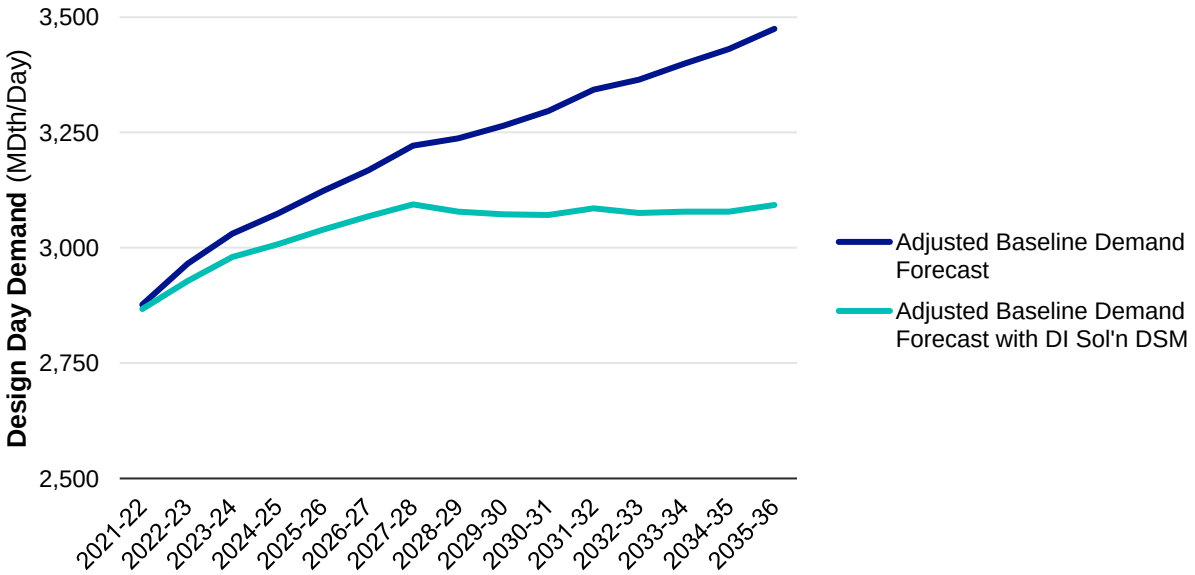
The Distributed Infrastructure Solution strikes a balance among scale, feasibility, affordability, and alignment with our clean energy goals including the CLCPA and Net Zero. While some potential options may satisfy one or several of these criteria, the Company could only consider options that satisfy all of them.

While not without risk, the Company determined the Distributed Infrastructure Solution is feasible, based on an assessment of a broad range of implementation considerations, including the current legal and regulatory framework in New York, permitting, construction, and operations. Other potential solutions presented relatively greater execution risks.

National Grid must ensure that customers can afford the energy they need. Every feasible alternative to the Distributed Infrastructure Solution was determined to be more costly for customers when taking into account direct costs as well as indirect costs related to emissions.

The Distributed Infrastructure Solution is the best available option to enable the transition from fossil fuels to clean energy and positions both the Company and our customers to meet the goals set forth in the CLCPA. The DSM programs are at the core of the Distributed Infrastructure Solution. Under the Distributed Infrastructure Solution, the Company is proposing, beginning in the mid-2020s, to use industry-leading DSM programs exclusively to hold gas demand flat as illustrated in Figure ES-1. Overall, the DSM programs comprise approximately 73% of the capacity included in the Distributed Infrastructure Solution to meet the forecasted Design Day Demand-Supply Gap. We continue to make progress with our DSM program design and are preparing a filing to request funding and approval of these programs to follow shortly after the publication of this report.

Figure ES-1: Forecasted Design Day Demand Under the Distributed Infrastructure Solution



The Distributed Infrastructure solution allows the Company to further New York State's CLCPA goals and offers the flexibility to meet a Net Zero demand scenario in the event customer demand for natural gas slows, stops, and reverses. It allows the Company to unwind certain elements of its gas capacity portfolio when they are no longer needed while continuing to grow the DSM programs included in the solution.

Our Distributed Infrastructure Solution has been shaped by listening to stakeholders throughout our extensive outreach.

We heard our stakeholders: they want clean, affordable, reliable energy.

Producing the Long-Term Capacity Report series has provided National Grid with an unprecedented opportunity to engage with and listen to our stakeholders, including customers of all types, businesses, civic and trade organizations, community groups, environmental organizations, our regulators, and elected officials. We developed a coordinated outreach strategy for the Second Supplemental Report that built on learnings from our outreach for the Original Report and the Supplemental Report. We held a virtual meeting for customers, created a dedicated website providing access to our reports and other resources to learn more about our solution, and delivered printed copies of the Second Supplemental Report to local libraries so that customers could engage with us through their preferred method. We solicited feedback through our microsite at ngridsolutions.com and by email to every one of our Downstate NY customers for whom we have email addresses. We also included messages on bills and spread the word about our reports on social media.

Prior to the release of the report, and in the lead-up to the public meeting, we made direct outreach to The Sane Energy Project, 350.org, NYC Environmental Justice Alliance, the Sierra Club, Alliance for Clean Energy, Environmental Advocates of NY, and Alliance for a Green Economy. Of these groups, the Alliance for Clean Energy is the only organization to respond to our outreach to date. We hope that others will come to the table to discuss reasonable solutions to advancing an orderly pathway to Net Zero.

Public Feedback on the Second Supplemental Report was relatively minimal.

There were 25 unique commenters that provided public feedback on our Second Supplemental Long-Term Capacity Report, including those who spoke at the Company's virtual meeting or submitted comments to the New York State Department of Public Service ("DPS") website. The dominant theme among these 25 commenters was opposition to new gas infrastructure.

This level of feedback is in contrast to the over 5,000 unique commenters to the original Long-Term Gas Capacity Report. We believe that increased stakeholder engagement between the original Long-Term Gas Capacity Report and the issuance of the Second Supplement Report allowed National Grid to keep its customers and key stakeholders informed and engaged in our business in the regular course.

A survey done in conjunction with the Second Supplemental Report shows an overwhelming percentage of respondents say "Keeping heating affordable for all" and "Maintaining the highest level of service reliability" were the top two factors that National Grid should pursue.

In order to garner feedback from a broader set of customers, National Grid created a brief online survey with nine questions. National Grid made the survey available to visitors to its microsite for the Second Supplemental Report, ngridsolutions.com, and included a link to the survey in an email sent to all National Grid customers in New York City and Long Island for whom we have email addresses. Overall, 53% of respondents did not show a preference for whether the Company should press forward with the Distributed Infrastructure Solution or not. However, 38% expressed that National Grid should move ahead while only 9% expressed that we should not proceed.

When asked to choose priorities for National Grid, “Keeping heating affordable for all” was cited by almost three-quarters of the respondents as among the Company’s highest priorities, the most of any choice. “Maintaining the highest level of service reliability for all” ranked second at 59%.

The status of the Distributed Infrastructure Solution components has not changed materially since our June report was released.

Relative to our Second Supplemental Report, there are a limited number of minor changes or updates to the status of the infrastructure components of our solutions.

By mutual agreement with New York’s Department of Environmental Conservation (“DEC”), the DEC has postponed their decision on the Company’s Greenpoint LNG Vaporizers 13/14 to November 2021.

The Federal Energy Regulatory Commission (“FERC”) is conducting a full Environmental Impact Statement (“EIS”) for the IGTS ExC project, and by statutory deadline, must be complete in December 2021.

Meanwhile, National Grid continues to make progress on its incremental CNG capacity to support peak operations.

National Grid is implementing a recommendation of DPS Staff to conduct an independent evaluation of our plan.

In March 2020, the New York Public Service Commission (“Commission”) initiated the *Proceeding to Improve Transparency of Natural Gas Planning and Investments in New York* (Case No. 20-G-0131). While that proceeding is still in progress, DPS Staff has recommended in its comments that local distribution companies undergo an independent expert review of capacity needs and option evaluations. In the spirit of Staff’s comments, National Grid engaged an independent consultant (PA Consulting Group), working at the direction of DPS Staff, to conduct a full review of our Long-Term Capacity Plan, including an assessment of our demand forecast and options considered to close the Demand-Supply Gap. We expect PA Consulting to file their assessment of our plan in early September 2021.

The Company’s recently approved rate settlement supports our commitment to advance New York’s clean energy policies.

As part of the settlement agreement in Case Nos. 19-G-0309 and 19-G-0310, National Grid has committed to educating customers on available heating alternatives and working with partners to advocate for geothermal and other non-gas options. The Company is making unprecedented pledges to meet energy needs through energy efficiency and demand response and other non-traditional solutions. National Grid will also invest in new technology and lower-carbon resources, including renewable natural gas projects and studies testing the use of hydrogen in the gas network. We’re also agreeing to undergo further independent assessment of the need for on-system capacity investments. These initiatives will not only support decarbonization goals but also help National Grid manage the supply challenges in downstate New York.

The Company is eager to fully implement the Distributed Infrastructure Solution.

Progress on the implementation of our Distributed Infrastructure Solution is well underway, but there is more work to be done. To fully realize our affordability and reliability goals and do our part to help the state achieve its CLCPA targets, the Company needs approval of our funding request for our DSM programs, and we look forward to stakeholder support in that process. National Grid's DSM programs including EE, DR, and Heat Electrification require robust customer adoption to be successful and to realize our clean energy future. We also look forward to working with various stakeholders, including our local electric distribution companies, Con Edison and PSEG-LI, to examine the need for integrated gas/electric planning as we move toward our heat electrification goals included in the Distributed Infrastructure Solution.

In order to achieve the infrastructure enhancements called for in the Distributed Infrastructure Solution, the Company requires critical permits for our LNG Vaporizer Project and incremental CNG capacity. We also continue to support IGTS in their efforts to secure approvals from the FERC, New York State, and Connecticut for the ExC project.

National Grid looks forward to continued stakeholder engagement.

The Company is committed to keeping a dialogue open with our customers. While we encourage customers to contact us through various channels, and we pledge to share information about our Distributed Infrastructure Solution with customers as it becomes available, the Company will continue formal stakeholder engagement through the statewide gas supply planning and moratorium management process. The Commission initiated the *Proceeding to Improve Transparency of Natural Gas Planning and Investments in New Yor*k (Case No. 20-G-0131) in March of 2020. The various gas utilities and stakeholder groups in NY, along with DPS Staff, have been filing comments and proposals for review by the Commission on topics such as gas constraints, gas planning, non-pipe solutions, gas moratoria standards, and demand-side resources. While there is much work to be done and decisions to be made in the proceeding, the Commission and New York's gas utilities will ensure stakeholders have a seat at the table as we make important decisions together about the future of our gas business and our customers' energy needs. National Grid looks forward to working with customers and other stakeholders to fully realize the clean energy transition.

1. Introduction

This is National Grid's Third Supplemental Downstate New York Long-Term Capacity Report ("Third Supplemental Report"), the fourth report in a series that began on February 24, 2020, when National Grid ("National Grid" or the "Company") released the Natural Gas Long-Term Capacity Report (the "Original Report") for its service territories in Brooklyn, Queens, Staten Island and Long Island ("Downstate NY") to address forecasted gaps between gas supply and customer demand over a fifteen-year horizon.

The Original Report provided a detailed analysis of the natural gas capacity constraints in the region and the available options for meeting long-term demand. In addition, National Grid held a series of six public meetings and received thousands of written comments on the Original Report and the options.

After reviewing the extensive feedback and public engagement on the Original Report and compiling additional detailed content, National Grid published the Natural Gas Long-Term Capacity Supplemental Report on May 8, 2020 (the "Supplemental Report"). In that report, the Company responded to the public's comments on the Original Report, including on the options presented to address the long-term capacity constraint, and recommended two solutions as the best among all the options presented—an interstate pipeline option or a portfolio of targeted distributed infrastructure and non-gas infrastructure options. Soon thereafter, the state permit applications for the large-scale pipeline project were denied, and National Grid has been executing the other recommended solution—identified in the Supplemental Report as "Option A: LNG Vaporization and Iroquois Gas Transmission System, L.P. ("Iroquois") enhancements to existing infrastructure, combined with incremental energy efficiency (EE) and demand response (DR)." National Grid is focused on implementing this "Option A" solution, which has been augmented since first introduced. This solution now involves an even more aggressive set of incremental demand-side management ("DSM") programs to help customers reduce their natural gas usage, the size of which is unprecedented in New York. The Company is also developing additional portable compressed natural gas ("CNG") capacity and has continued to progress development and seek permits for the proposed LNG vaporization enhancements at its existing Greenpoint facility. The Company is also supportive of the ExC project being pursued by IGTS. Altogether, these programs, projects and additional contracts are collectively referred to as the "Distributed Infrastructure Solution."

National Grid has also made significant corporate commitments that align with New York's ambitious climate change goals as laid out in the Climate Leadership and Community Protection Act ("CLCPA"). In October 2020, National Grid refined its plan to achieve New York's net zero greenhouse gas ("GHG") emissions by 2050 goal ("Net Zero") via its "Net Zero by 2050" plan and updated its Responsible Business Charter to include those ambitions.[1] Measured against these goals, National Grid believes its Distributed Infrastructure Solution substantially advances CLCPA goals, the Company's Net Zero plan, and a clean energy future.

This Third Supplemental report serves two primary purposes: to offer updates to and respond to stakeholder feedback on the Second Supplemental Report.

[1] https://www.nationalgridus.com/media/pdfs/our-company/netzeroby2050plan.pdf and https://www.nationalgridus.com/media/pdfs/our-company/usnationalgridresponsiblebusinesscharter2020us.pdf

The Company is committed to keeping a dialogue open with our customers. The Commission initiated the *Proceeding to Improve Transparency of Natural Gas Planning and Investments in New York* (Case No. 20-G-0131) in March 2020 after the Company had prepared and filed its Original Report. The various gas utilities and stakeholder groups in NY, along with DPS Staff, have been filing comments and proposals for review by the Commission on topics such as gas constraints, gas planning, non-pipe solutions, gas moratoria standards, and demand-side resources. While there is much work to be done and decisions to be made in the proceeding, the Commission and New York's gas utilities will ensure stakeholders have a seat at the table as we make important decisions together about the future of our gas business and our customers' energy needs. National Grid looks forward to working with customers and other stakeholders to fully realize the clean energy transition.

In addition to filing the Third Supplemental Report with the New York Public Service Commission, we will be publishing this report on our website and will deploy other options for sharing the report with stakeholders, including a reader friendly summary and web content.

2. National Grid's Commitment to Net Zero

National Grid is committed to being a responsible business in all that we do. We have identified where we can have the most impact on society in our Responsible Business Charter, including the environment and the communities we serve. Our goal to achieve Net Zero by 2050, not just in New York, but across our footprint, exemplifies our commitment in action. We aim to achieve net zero greenhouse gas emissions by 2050, including our own operations and emissions that result from the distribution of electricity and gas to our customers. We have developed a framework to achieve this by focusing our work on several key areas through 2050 and beyond including reducing demand through energy efficiency and demand response; decarbonizing the gas network with renewable natural gas and hydrogen; reducing methane emissions from our gas network while working with the industry to reduce emissions through the entire value chain; integrating innovative technologies to decarbonize heat; connecting green energy sources such as solar and wind to our electric network; and advancing clean transportation.

The Company is already at work on these efforts. We are collaborating with multiple parties to advance pilot programs, demonstration projects, large-scale investments in renewable energy resources, emissions reductions, energy efficiency and demand response programs, and clean transportation, while looking to expand a partnership with our customers to fully realize our clean energy goals. To help decarbonize our gas network, National Grid is partnering with the New York City Department of Environmental Protection ("DEP") to convert biogas into Renewable Natural Gas for residential and commercial use. The Company is also participating in a hydrogen blending study in conjunction with New York State Energy Research and Development Authority ("NYSERDA") and Stony Brook Institute. We implemented two demonstration projects on Long Island focused on ground-source heat pumps to provide renewable heating and cooling. We are in the process of converting to a 100% electric fleet by 2030 for our light-duty vehicles while also pursuing the replacement of our medium- and heavy-duty vehicles with zero-carbon alternatives. Relative to a 2016 baseline, National Grid is working to reduce Scope 3 GHG emissions for the electricity and gas we sell to our customers (making up 80% of our Scope 3 emissions) 20% by 2030. Relative to a 2019 baseline, the Company is taking action to reduce SF6 emissions from our operations 50% by 2030, reduce energy consumption in our offices 20% by 2030, and achieve zero carbon emissions from business air travel by reducing miles traveled by 50% and responsibly offsetting any remaining emissions. These are just a few examples of our commitment to achieving net zero GHG emissions.

Our distributed infrastructure solution is also well positioned to help us get to Net Zero. The majority of the solution consists of our innovative demand side management programs, which allow us to meet our customers' growing needs in the near term and contribute significantly towards "bending the curve" on natural gas consumption. The Company believes this situation could arise as soon as the mid-2020s. Should we begin to see customer requirements decline, the Company will look to reduce its dependence on the more carbon-intensive aspects of our Gas distribution network such as our CNG capacity and natural gas peaking contracts and increase reliance on energy efficiency, demand response, and heat electrification.

Our DSM programs are large, successful and already contributing meaningfully to New York's ambitious climate and energy goals. National Grid and our customers have met *and exceeded* our combined DNY regulatory gas energy efficiency savings goals in KEDNY and KEDLI for the past four years. We are well on our way to exceeding our targets in calendar year 2021: we are 77% of the way to our goal of 945 MDth of annual savings between KEDNY and KEDLI roughly

60% of the way through the year. In total, the amount of energy efficiency and heat electrification deployed by National Grid's proposed DSM programs over the next 15 years will save an estimated 60 million tons of CO2-equivalent over their lifetimes.[2]

[2] Based on the equivalent 20-year global warming potential of CO2, CH4, and N2O as detailed in Appendices F and G of the Second Supplemental Report.

3. Review of the Distributed Infrastructure Solution

3.1. Components of the Distributed Infrastructure Solution

National Grid plans to fill its Demand-Supply Gap with a collection of projects and programs under the umbrella term the "Distributed Infrastructure Solution." The Company introduced this approach in the Original Report published in February 2020 and listened to Stakeholder feedback to refine it for the May 2020 Supplemental Report. The Company continued to develop and add to the elements from the Supplemental Report to arrive at the Distributed Infrastructure Solution of the Second Supplemental Report published June 2021. The Company is not proposing any changes to the Distributed Infrastructure Solution as presented in the Second Supplemental Report at this time.

The Distributed Infrastructure Solution features two categories of solutions: novel DSM programs to reduce gas use and targeted enhancements to existing infrastructure to deliver the most value to customers. The DSM category includes expanded energy efficiency, demand response and heat electrification programs. The enhancements to existing infrastructure include the installation of incremental portable CNG capacity, the LNG Vaporization Project and the ExC project.

The DSM programs are at the core of the Distributed Infrastructure Solution and the Company will file for approval of these programs with the Commission shortly after the publication of this report. Under the Distributed Infrastructure Solution, the Company is proposing to begin implementing these programs in 2022, and after the mid-2020s, to use DSM programs exclusively to meet any increases in customer demand for gas growth. Essentially, the physical infrastructure elements of the Distributed Infrastructure Solution allow the Company a short runway, up to five years, to meet growing customer demand and scale up the essential DSM programs so that they can assume a dominant role in managing demand from 2026 onwards.

The enhanced infrastructure elements of the Distributed Infrastructure Solution largely build in targeted fashion on existing facilities to deliver cost-effectively for customers. The LNG Vaporization Project in Greenpoint leverages, but does not expand, National Grid's existing LNG storage facilities and would allow the Company to more quickly pull LNG out of storage and deliver it in gaseous form to customers when they need it most. The IGTS ExC project adds compression facilities to the existing gas transmission system. Finally, the Company will add additional portable CNG capacity at a strategic location on its network.

Stakeholders broadly expressed preferences in line with elements of the Distributed Infrastructure Solution including support for reliable, cost effective solutions that meet our state and region's environmental goals. Based on updated quantitative and qualitative evaluations of the Distributed Infrastructure Solution and the various contingency alternatives described in the Second Supplemental Report, we have re-confirmed that the Distributed Infrastructure Solution is the most cost-effective and lowest risk solution to our Demand-Supply Gap while enabling the clean energy transition.

Table 3-1: Distributed Infrastructure Solutions

Component	Incremental Gas Capacity / Demand Reduction Size *(MDth/day)*
Enhanced Infrastructure Projects	
LNG Vaporization Project	59
ExC Project	63
Incremental CNG Capacity	18
Total Enhanced Infrastructure Projects	140 (27%)
Demand Side Management Programs	
Incremental EE	Grows to 64
Incremental DR	Grows to 37
Heat Electrification and Non-Pipeline Alternative Market Solicitation	Grows to 284
Total Demand-Side Management Programs	Grows to 385 (73%)

3.2. Updates on Status of the Distributed Infrastructure Solution Components

3.2.1. DSM Solution

The DSM component of the solution is a partnership between customers and the Company to undertake efforts to reduce the reliance on natural gas in our DNY service territories. This partnership between National Grid and its customers is larger than the physical infrastructure components of the Distributed Infrastructure Solution: it provides 73% of the increase of the capacity of the Distributed Infrastructure Solution to resolve the demand-capacity gap we see under a business as usual demand scenario through 2035. DSM solutions are heavily dependent on customer actions, so National Grid needs our customers to make the DSM solution succeed. We are also relying on our regulators, our legislations, and contractors to enable these programs.

As detailed in the Second Supplemental Report, the DSM portfolio includes four major components: (1) Incremental energy efficiency; (2) incremental demand response; (3) Heating electrification programs; and (4) Annual non-pipes alternatives ("NPA") solicitations. We use "incremental" in this case to describe programs that deliver savings over and above the NE:NY targets. The approach and importance of DSM to the overall success of the Distributed Infrastructure Solution has not changed since the Second Supplemental Report.

As with other components of the Distributed Infrastructure Solution, we have made strong progress with weatherization, which is part of our incremental energy efficiency initiatives. The Company will be launching our new residential weatherization program, called Total Home Comfort (THC), in September 2021. THC will include two components; (1) MyHeat aerial thermal imagery to help customers understand how their individual homes would benefit from weatherization; and (2) incentives for weatherization measures. We have already set initial incentive levels, selected an implementation vendor through a competitive procurement process, prepared internal systems for program launch, and worked with our Data Science and Marketing teams to prepare the MyHeat mailers that will be distributed to customers. Remaining pre-launch activities include finalizing our marketing plan, finalizing our system to administer rebates, and developing a customer portal with our implementation vendor.

We will also be launching increased custom weatherization incentives for our existing commercial and industrial (C&I) and multi-family custom energy efficiency programs in September. We have finalized incentive levels, prepared our sales team with information on measures and target markets, and prepared internal systems for program launch. Remaining pre-launch activities include updating our marketing materials, providing additional training for sales teams, and identifying the customers who would benefit most from additional incentives.

We anticipate that our incremental weatherization programs will save an additional 10 MDth in 2021, laying the foundation for a rapid ramp up of savings next year.

Firm and Non-Firm Demand Response Program Updates

The Company is not proposing any changes to the firm Demand Response programs as presented in the Second Supplemental Report at this time. The Company's enrollment period for the 2021/22 firm commercial DR program opened on August 1st and will close on September 30th. The Company's DR reduction goals for the 2021/22 heating season represent a 55% increase above last year. To meet this goal, the Company has begun extensive outreach to potential participants, relying on sales representatives, third-party curtailment service providers, and developing a new DR-focused webpage.

Since the publication of the Second Supplemental Report, on August 12, 2021 the Commission approved National Grid's rate settlement in Case 19-G-0309 et al. The rate settlement secures previously uncertain funding for the Company's Firm DR programs for the next 3 winter seasons.

The rate settlement also establishes new rates for the Non-Firm rates class. Tier I service will have volumetric delivery rates set at 50 percent below the tail block volumetric rate of the applicable equivalent firm service class. Tier II service will have volumetric delivery rates set at 60 percent below the tail block volumetric rate[3] of the applicable firm service class. These discounts will be 2-3 times greater than those currently offered to Non-Firm DR customers. In general, there has been a trend of customers seeking to transfer from non-firm rates to firm rates. However, these deeper discounts, combined with a new provision that allows Non-Firm DR customers to participate in Energy Efficiency programs, may help the Company slow the migration of customers to firm service, thus reducing the rate of growth in peak natural gas demand.

First Annual DSM Filing

National Grid will be submitting our first annual DSM filing to the New York State Public Service Commission later this year to support the capacity planning process exemplified by this series of reports. The purpose of this filing is to request the authority to implement and recover costs for the incremental DSM programs we are planning through the 2022/23 heating season. This will include our incremental energy efficiency programs and demand response programs, as well as resources to plan for our incremental electrification of heat programs and NPA solicitations.

Energy Efficient Connections (EEC) Program for Heating Season 2022/2023 and Beyond

[3] Excluding deferral surcredits

The Energy Efficient Connections ("EEC") program creates a requirement that new gas customers, including those converting from other heating technologies, must adopt advanced energy efficiency measures prior to connection to the natural gas system. Included under the "Incremental EE" category in Table 3-1, EEC ultimately contributes approximately 29 MDth/day by 2035. The cutting-edge EEC would be the first program of its kind in New York and, if approved by the Commission, would be the first program to make incentives available to prospective gas customers.

Over the past few months, the Company's research and development of the EEC program has helped us refine when we plan to roll out the EEC to different customer classes. National Grid has now determined that the EEC program will start with the residential customer segment because our product development research indicates that residential energy savings and peak demand reduction would account for approximately 90% of EEC's total potential demand reduction contribution. We hope to launch EEC for residential customers as early as Spring 2022. EEC for new multifamily and C&I gas customers will follow and could be available as early as Spring 2023. In order to get permission to implement EEC, National Grid plans to file a tariff amendment to implement EEC for residential conversion customers later this year.

Accelerated Electrification Pilot Planning

Since the release of the Company's Second Supplemental Report, National Grid and Con Edison have continued to work together to scope out an incremental electrification pilot project that will inform the development of a larger collaborative accelerated electrification program. The companies have recently decided to establish a regular cadence of meetings to discuss the broad aspects of our coordination including how we will share information about our forecasts, program design, and how to synergize to offer deeper savings programs at less expense to customers. In addition, National Grid is working with the consulting firm DNV GL to conduct a market potential study that will also inform program design. The Company has now defined the scope of the market potential study, which will include a literature review incorporating existing studies for saturation, potential assessments, market characterization, market sizing, and market research insights, as well as electric system constraints. It will include peer benchmarking with other utilities. It will size the market for electrification of heat and consider market opportunities by customer segment, including primary research with market actors.

What can our customers do to help our DSM programs succeed?

Moving forward, the success of National Grid's DSM solution depends on our partnership with our customers. Customers can determine their eligibility for our energy efficiency programs by visiting our National Grid Marketplace web site at https://www.nationalgridus.com/services-rebates. Eligibility criteria for demand response programs are detailed at https://www.nationalgridus.com/NY-Business/Energy-Saving-Programs/Demand-Response for large business customers and https://www.nationalgridus.com/NY-Home/Energy-Saving-Programs/ConnectedSolutions for residential and small business customers.
As discussed above, National Grid's DSM filing requesting permission to recover the costs associated with the incremental DSM programs of the Distributed Infrastructure Solution through the 2022/23 heating season will be submitted soon. The Company expects that filing to be subject to public comment and looks forward to working with our stakeholders to secure regulatory approval in timely fashion to effectuate these crucial DSM programs as quickly as possible.

3.2.2. Greenpoint LNG Vaporizers 13 & 14

The final permits and approvals to commence on-site construction of the LNG Vaporization Project are still pending approval. The project has received all required NYC Department of Buildings permits and applications have been submitted for Fire Department of the City of New York approvals for construction within New York City. Permitting also includes, but is not limited to, federal, state and local environmental permit requirements (e.g., New York City DEP and New York State DEC). National Grid began filing for these permits in 2020 and continues to file for outstanding permits in accordance with the specific permit requirements.

On June 21, 2021, DEC requested National Grid's mutual consent to extend the regulatory time frame for the DEC to make a final permit decision to November 4, 2021. This extension was requested by DEC to allow sufficient time to prepare a complete summary in response to the comments received during the public comment period. National Grid agreed to this extension, but also reiterated the time-critical nature of this project and requested DEC's continued efforts to complete this process as soon as possible in order to allow National Grid to meet customer needs in the coming years.

Additionally, DEC issued a second Request for Additional Information ("RFAI") to National Grid on July 15, 2021, requesting that the Company submit a CLCPA analysis, public participation plan, and State Environmental Quality Review Full Environmental Assessment Form. National Grid submitted this information on July 30, 2021, within the requested timeframe.

The Greenpoint Vaporization Project, which allows National Grid to better utilize our existing storage facility, remains crucial to the Distributed Infrastructure Solution and National Grid's ability to meet near-term growth in demand in the coming winters. Our system is ready to handle the additional gas that the Vaporization Project will provide – all of the gas from the proposed Vaporization Project would be fully deliverable today.

3.2.3. Iroquois Enhancement by Compression

As discussed in the Second Supplemental Report, on May 27, 2021, FERC announced that it will prepare a supplemental EIS for the ExC Project, scheduled for September 3, 2021, with a 90-day federal authorization decision of December 2, 2021, which is the date by which the EIS must be completed. This schedule means that a decision from FERC on the project's application permit will likely take place after December 2, 2021. FERC issued a draft EIS on June 11, 2021 which responded to comments that were received on the FERC's previously issued Environmental Assessment. The draft EIS found that the proposed modifications would not result in significant environmental impacts but made no conclusion regarding the significance of the change in GHG emissions. Iroquois filed additional comments in response to the draft EIS on August 9, 2021. The Company anticipates that New York and Connecticut will not act on the permit applications until after an order by FERC. Further, FERC is not required to act on a certificate application by any date certain. Unless all federal and state agencies issue permits for the project in Q1 2022 to allow for procurement and construction activities, it is unlikely that the project will meet its originally planned in-service date of November 1, 2023.

4. How We Listen

4.1. Stakeholder Engagement Strategy

One of the virtues of producing the Long-Term Capacity Report series has been the opportunity for National Grid to listen to feedback from our stakeholders including customers of all types, civic organizations and trade organizations, advocacy groups and elected officials. We developed a coordinated outreach strategy for the Second Supplemental Report that built on learnings from our engagement under various levels of COVID-19 threat levels on the Original Report and the Supplemental Report.

National Grid developed refined outreach strategies that varied by the parties with whom we were engaging. The Company held targeted meetings with elected officials and their staff, organized on a regional basis with our executive team and subject matter experts. National Grid met with and continue to plan to meet with organizations that represent large customers. Finally, the Company actively engaged with advocates critical of the Company's plans to invite them for further discussion. Prior to the release of the Second Supplemental Report, and in the lead-up to the public meeting, we made direct outreach to The Sane Energy Project, 350.org, NYC Environmental Justice Alliance, the Sierra Club, Alliance for Clean Energy, Environmental Advocates of NY, and Alliance for a Green Economy. The Alliance for Clean Energy is the only organization to respond to our outreach to date. We hope that the others will come to the table to discuss reasonable solutions to advancing an orderly pathway to Net Zero.

We also reached out to our customers directly in multiple ways to equip them to offer substantive feedback. We held a virtual public meeting on July 14 with our New York President Rudy Wynter, supported by relevant subject matter experts from across the Company. That meeting was comprised of three sections: (1) a presentation to summarize the material in the Second Supplemental Report; (2) clarifying questions from participants; and (3) public statements. The substance of these comments is summarized in Section 5. Because a meeting may not be convenient for all customers, the Company shared the Second Supplemental Report extensively online, and in paper form. National Grid created a robust online home for the Second Supplemental Report, the Summary Report and supporting documentation in English and Spanish at https://ngridsolutions.com/, where customers could also access a survey as an easy method to provide feedback. The Company also distributed paper copies of the Second Supplemental Report, in English and Spanish, to select public library branches in New York and Long Island. Finally, to solicit input from the widest possible range of stakeholders, the Company invited every one of its Downstate New York customers to take a survey about Long-Term capacity and their priorities for gas service by email. The responses to this survey are summarized in Section 5.2.

4.2. Independent Review by PA Consulting

In March 2020, the Commission initiated the *Proceeding to Improve Transparency of Natural Gas Planning and Investments in New York* (Case No. 20-G-0131). While that proceeding is still in progress, DPS Staff has recommended in its comments that local distribution companies undergo an independent expert review of capacity needs and option evaluations. In furtherance of that recommendation, National Grid and DPS Staff engaged PA Consulting Group ("PA

Consulting") to conduct an independent review, working at the direction of DPS Staff, of National Grid's Second Supplemental Report. PA Consulting is due to release their assessment on September 7, 2021. National Grid will be responsible for all of the costs of the review and will not be recovering these costs from our customers. We have received almost 100 questions or requests for additional data from PA Consulting and have facilitated approximately 20 meetings with our project management and subject matter expert teams. The contract and scope of work describing PA Consulting's work is available publicly on the DPS Document and Matter Management ("DMM") system under Case 19-G-0678.

4.3. Engagement with Monitor

National Grid is and continues to be committed to supporting the Monitor's review of our compliance with the obligations under National Grid's 2019 settlement ("Settlement")[4]. We have found the Monitorship to be a constructive process that has promoted appropriate focus on the Settlement deliverables and identified opportunities for potential improvements in various aspects of our performance. While we have not agreed with several of the findings in the Monitor's Quarterly Reports, the Monitor's constructive feedback on the content of our long-term capacity reports, the format of the public meetings, the design of customer assistance programs, and other Settlement components has contributed to improved work products and outcomes for customers. The Monitor's findings and recommendations have also validated the Company's in-flight efforts to enhance its capabilities in certain areas including risk management, resource planning and demand forecasting.

[4] Case 19-G-0678 – Proceeding on Motion of the Commission to Investigate Denials of Service Requests by National Grid USA, The Brooklyn Union Gas Company d/b/a National Grid NY and KeySpan Gas East Corporation d/b/a National Grid, Order Adopting and Approving Settlement (Issued and Effective November 26, 2019)

5. Summary of Feedback

5.1. Summary of Public Meeting and Public Comment

This section provides a summary of the modest feedback the Company received through public venues: written comments submitted to DMM in Case 19-G-0678 as of July 31, 2021[5] and oral comments made during a virtual public meeting held on July 14, 2021. The transcript for the public meeting is included in the Appendix to this report. As of August 19, 2021, three additional comments were submitted to DMM after the comment deadline for the Second Supplemental Report.[6]

The following definitions are operative throughout this section and in the tables:

"Commenters" – Refers to the unique individuals who provided public statements during the Q&A and/or open comment portions of public meetings and/or by submitting written statements to the NY DPS website.

"Public statements" – Refers to the total discrete statements made either through public meetings or submitted in writing to the NY DPS website (including reports and documents submitted to the Filed Documents tab). Since some individuals made more than one public statement via public meeting, written submission or both, the number of public statements made is greater than the number of individuals who provided comments.

As summarized in Table 5-1, five commenters submitted a written public statement to the DMM website and 21 commenters provided 29 statements during the public meeting held on July 14th; four participants spoke during both the Q&A and comment portions of the meeting. This level of public comment is two orders of magnitude lower than on the Original Report, which received over 5,000 public comments. While we take these comments seriously, we cannot assume that this limited group of commenters fully and fairly represents National Grid's 1.9 million downstate NY gas customers.

Table 5-1: Public Input Summary by Comment Type

Comment Type	Written Comments	Public Meeting Comments	Total
Commenters	5	21	**25***
Public Statements	5	29	**34**

** The total number of unique individuals/commenters, rather than additive, as 2 individuals provided statements via multiple forums (i.e., written public statement and participated at a public meeting).*

Among commenters who chose to submit on DMM or attend our public meeting, "support for no new gas infrastructure" was the dominant, but not exclusive position, as summarized in Table 5-2.

[5] "Written submissions" include statements made to Secretary to the New York State Public Service Commission via email, mail and phone. Statements made via these methods were transcribed and loaded into the Public Comments section of the NY DPS website for Matter Number 19-G-0678.
[6] These comments are not included in Tables 5-1 and 5-2, but the Company has incorporated the substance of these comments into the discussion of comments by topic.

Table 5-2: Summary of Positions of Commenters

Position	Unique Commenters Who Provided Feedback via Written Comment	Unique Commenters Who Provided Feedback via Public Meeting
Support Distributed Infrastructure Solution	0	1
Support no new gas infrastructure	5	17
No opinion expressed	0	3
Total	**5**	**21**

In addition to evaluating commenters' level of support or opposition, National Grid cataloged the topics and underlying rationale behind commenters' positions.

The section below provides additional detail on the comments submitted by topic.

Demand Side Management Components of the Distributed Infrastructure Solution

Three commenters broadly supported demand side management and encouraged the Company to develop larger heat electrification programs, including geothermal, more briskly.

Gas Infrastructure Components of the Distributed Infrastructure Solution

Three commenters expressed concern about a range of potential environmental impacts including GHG emissions from gas use broadly, components of the Distributed Infrastructure Solution, and more localized impacts including those related to volatile organic compounds ("VOCs") and nitrogen oxides ("NOx"). One commenter brought up previous remediation efforts at end of life.

Affordability

One public meeting comment asked the Company to prioritize the affordability of its solutions and worried that a solution relying only on non-gas infrastructure options will be too costly for many residents and small businesses on Long Island to bear and may not meet the demands of a growing population. Affordable energy is particularly important for new housing, and new affordable housing units and population adjustments in response to the COVID-19 pandemic.

Low-Carbon Fuels

One commenter provided a statement that called into question National Grid's optimism around hydrogen and its role in helping National Grid comply with New York climate goals. This commenter noted that the overwhelming majority of hydrogen being used today comes from the burning of natural gas. This commenter further noted that "green hydrogen", produced via renewable energy, faces a scalability challenge similar to that of a no-new gas infrastructure scenario.

General Opposition to Any New Gas Infrastructure

The majority (18) of the public comments contained general expressions of disapproval of any new gas infrastructure. These comments typically cited the following reasons: 1) opposition to fracking; 2) new gas infrastructure as inconsistent with the CLCPA and New York City climate targets, perpetuating the climate crisis; 3) any new gas infrastructure will adversely impact the

air and public health. Some attendees of National Grid's public meeting raised issues unrelated to the Second Supplemental Report including certain National Grid infrastructure projects and investments.

5.2. Summary of Survey Responses

In order to garner feedback from a broad swath of customers on the Second Supplemental Report, National Grid created a brief online survey consisting of nine questions. National Grid made the survey available to visitors to the microsite for the Second Supplemental Report, ngridsolutions.com, and included a link to the survey in an email sent to all National Grid customers in New York City and Long Island for whom we have email addresses.

The survey included questions about customers' support for the Distributed Infrastructure Solution as well as particular solution elements and general understanding of the issues. The survey also included a more expansive question regarding the factors customers thought National Grid should prioritize in which the choices were: (1) Keeping heating affordable for all; (2) Maintaining the highest level of service reliability for all; (3) Minimizing local environmental impacts; (4) Reducing dependence on fossil fuels; and (5) Minimizing economic disruption in the region. The survey captured respondent profile information (zip code, residential/business, whether they attended the virtual meeting or if they read the Second Supplemental Report in whole or in part).

National Grid sent emails to more than 904,000 customers in its New York City and Long Island service territories on July 19th, 2021 with a follow-up reminder on July 26th. The email survey remained open through August 1, 2021. The survey completion rate for email invitees was 0.22%; 3,568 respondents participated in the email survey with 1,985 completing it. Twenty-one respondents reached the survey from the microsite, 16 of whom completed it. Our analysis includes partial responses. Over 96% of survey responses came from residential customers. The 45 business customers who responded appeared relatively similar in profile to similarly situated residential customers.

Although the survey invitation was sent to all customers, it appears that survey respondents were much more engaged with this topic than the general customer population. Forty percent of survey respondents indicated that they had read the report (7% read the complete report and 33% read the summary), and 2% attended the virtual meeting. It is highly unlikely that 40% of the general customer population has a similar level of familiarity with the report; any conclusions drawn from this survey about customer sentiment cannot be assumed to apply to the general population of customers.

National Grid was particularly interested in the results pertaining to customer understanding of the Demand-Supply Gap. Overall, 44% of respondents indicated that they understood the Demand-Supply Gap and only 14% did not. In a key finding, 61% of customers who read either the Second Supplemental Report or the Summary Report described themselves as understanding the Demand-Supply Gap. Among those who read the Summary report, only 11% responded as not understanding the Demand-Supply Gap.

Customer reaction to the Distributed Infrastructure Solution was mixed between neutral and positive reactions, with those who showed greater familiarity with the subject matter expressing more support. In response to the question as to whether National Grid should "press forward" with the Distributed Infrastructure Solution, 38% said "yes," 53% were "not sure," and only 9%

responded “no.” Those who indicated they understood the Demand-Supply Gap were much more likely to be supportive of the Distributed Infrastructure Solution (53% vs. 15%). Customers who had not read the Second Supplemental Report, and thus less likely to understand the Demand-Supply Gap, were in turn more likely to respond “not sure” when asked whether they supported the Distributed Infrastructure Solution. As further evidence that customers who learned more were more supportive of the Distributed Infrastructure Solution, some 64% of respondents on the microsite favored the Solution.

At a more granular level, National Grid asked customers for their ranking of both Distributed Infrastructure Solution elements and their ranking for National Grid’s priorities. As illustrated in Table 5-3, where a lower average score is best, Incremental EE and Incremental DR, the largest elements of National Grid’s Distributed Infrastructure Solution were the highest ranked elements of the plan.

Table 5-3: Customer Ranking of Distributed Infrastructure Solution Elements by County

	Kings	Nassau	Queens	Richmond	Suffolk	Total
Incremental EE	2.38	2.51	2.44	2.34	2.51	2.44
Incremental DR	2.78	2.92	2.79	2.99	3.04	2.89
LNG Vaporization	3.45	2.89	3.06	2.90	2.84	3.07
ExC Project	3.38	2.94	3.33	3.11	2.78	3.11
Heat Electrification	3.01	3.73	3.38	3.66	3.83	3.49
Base size	416	357	242	140	293	1470

While responses were generally similar across most of the Downstate geography, responses from Kings County differed slightly from other counties. For example, in all other counties, only 7% of respondents said the Company should not press forward with the Distributed Infrastructure Solution while 16% of Kings County respondent s said “No” to the same question. When National Grid asked about customers’ priorities for the Company, Kings County residents prioritized “reducing dependence on fossil fuels” and “minimizing local environmental impacts” at the expense of an emphasis on service quality as captured in Table 5-4.

Table 5-4: Important Factors by County

	Kings	Nassau	Queens	Richmond	Suffolk	Overall
Keeping heating affordable for all	70%	76%	73%	75%	79%	74%
Maintaining the highest level of service reliability for all	48%	65%	57%	62%	67%	59%
Minimizing local environmental impacts	54%	43%	41%	40%	43%	46%
Reducing dependence on fossil fuels	55%	41%	38%	38%	41%	44%
Minimizing economic disruption in the region	31%	42%	36%	35%	39%	37%
Other, please specify	9%	5%	5%	8%	6%	7%
Base size	528	482	320	174	386	1890

Notably, as illustrated in Table 5-4, “Keeping heating affordable for all” was cited by almost three-quarters of the respondents, as among the Company’s highest priorities, the most of any choice.

5.3. Topic Area Summaries

Consistency with Net Zero

A common theme among comments made at the Company’s public meeting was criticism of the Distributed Infrastructure Solution as not being compliant with the CLCPA or Net Zero. While the top two priorities of survey respondents were affordability and reliability, the next-most important factor for customers was minimizing local environmental impacts.

Calls for Demand Side Management

Most comments made at our Public Forum and posted to DMM concerned general opposition to natural gas infrastructure. National Grid has seen a preference for Incremental EE and Incremental DR in our customer survey result as well.

Impact of Timing

Several commenters have insisted the Company is not moving fast enough to deploy its DSM programs. The most vocal group of stakeholders sharing feedback at the Company’s public meeting are generally opposed to any natural gas infrastructure and have challenged the Company to meet all new customer demand with DSM solutions.

6. Responses to Feedback

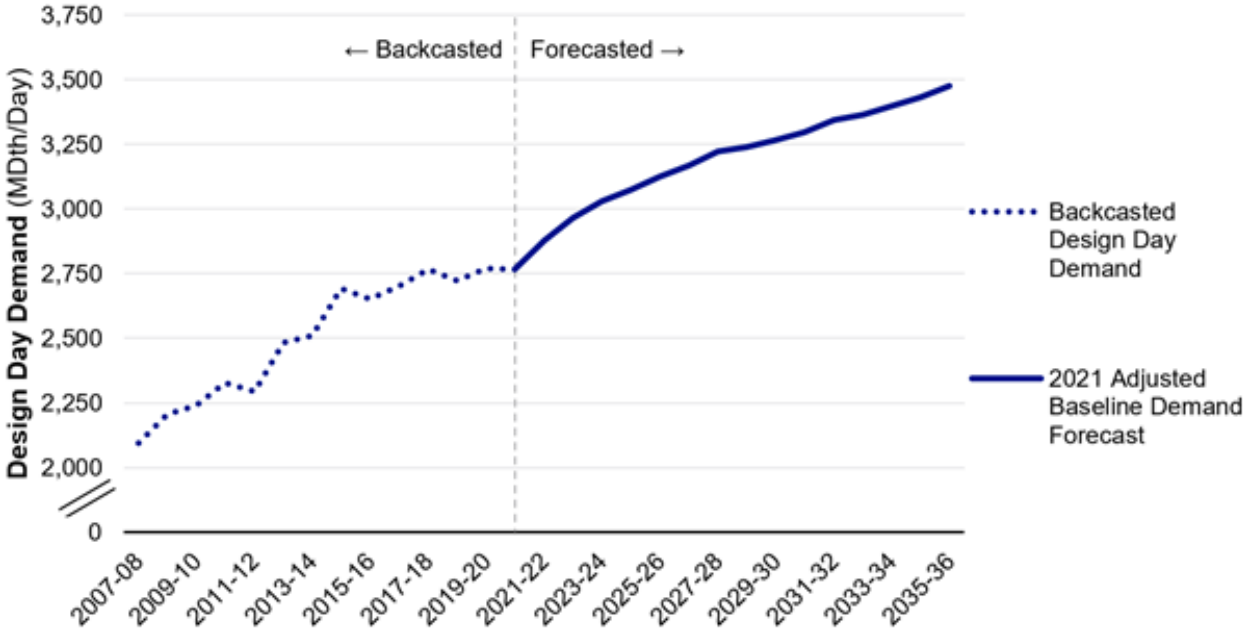
6.1. Accuracy of Demand Forecast

Some commenters asserted that gas demand was falling or would soon fall as a rationale to oppose the Distributed Infrastructure Solution. The facts, however, do not support this claim. Growth in the Downstate region has led to increased demand for heating and natural gas. The number of gas customers has increased every year since 2008, including during the Great Recession and COVID-19 Recession (to date). The fundamentals indicate that load will continue to grow for the foreseeable future until there are radical changes in policy or programs. Any new policies in support of the CLCPA will take time to implement and ramp-up and will not impact the forecast in the near term. National Grid uses its forecast to plan its physical infrastructure, procurement strategy, and operations plans. It is imperative that the forecast be accurate and based on the best-available data so that the Company can rely upon it to provide safe, reliable service to customers. While future policies may change the trajectories of demand growth, the Company’s current demand forecast is based on current policies, regulations, economic fundamentals, and customers’ continued desire for natural gas.

The Company detailed specific forecasting results at length in the Second Supplemental Report but will revisit a few key points here. The Company expects that the number of gas customers and peak winter gas use will continue rising based on current, independent forecasts of Downstate New York economic growth; retail energy prices; the adoption of the New Efficiency: New York (NE:NY) energy efficiency and heat electrification targets; and continued expansion of energy efficiency, electrification and demand response after NE:NY. The forecast assumes no

major policy changes that would stop load growth in the near term, such as gas bans or moratoria. Gas demand is forecast to grow more rapidly over the next two years as the economy continues to recover from the COVID-19 recession. From 2024 on, gas demand is expected to continue growing but at a slower rate, based on projections of slower economic and demographic growth and increasing amounts of energy efficiency savings and heat electrification. Overall, peak ("Design Day") gas use is forecast to grow at an average annual rate of 1.5% from 2021 to 2035, with growth averaging less than 1.0% per year in the second half of the forecast, which is significantly lower than the historical rate of 2.2% from the winter of 2007/2008 to winter 2020/2021 as captured in Figure 6-1.

Figure 6-1: Historical Period (Backcasted) and Forecasted DNY Design Day Demand



Rising gas demand is being driven by increases in the number of gas customers, with average net growth of 11,682 per year in DNY. Gas customer growth is driven by economic growth, the gas price advantage over heating oil and electricity, and customers' recognition that natural gas is a cleaner alternative than heating oil and more affordable than electric heating options. Because gas heating costs are less than these other fuels, many customers choose natural gas for new construction. However, a much larger proportion of gas customer growth, 80%, comes from oil-to-gas conversions in existing buildings, which is robust even in economic downturns, including the COVID-19 recession. When oil heating equipment needs to be replaced, many customers choose to convert to natural gas to save money. This includes both customers who previously had no gas service and gas customers who previously heated with oil and only used gas for other purposes, such as cooking or industrial processes. With an average life of 20 years, about 5% of oil heating equipment needs to be replaced each year. About 600,000 households (21%) in Downstate New York still heat with oil and are thus a source of customer growth in the Company's forecasts.

Gas customer growth is also driven by consistent economic growth. New York City is the financial capital of the world and prior to the COVID-19 recession, Downstate New York gross domestic product (GDP) had not declined in over 20 years, including during the Great Recession. Moody's Analytics Forecasting Services predicts that Downstate New York Gross Domestic Product, employment, the number of households and the number of single and

multifamily housing units will all grow significantly over the next two years as the economy recovers from the COVID-19 recession. Moody's predicts that these economic and demographic indicators will continue growing from 2024 to 2035 but at a slower rate. The demand for Downstate New York housing remains strong, as evidenced by the double-digit home price gains experienced last year and so far in 2021. This is another effect of the COVID-19 pandemic; it has increased the demand for housing almost everywhere, Downstate New York included. This drives home prices higher, spurring new construction and increases in the number of housing units. In sum, slower employment and demographic growth over the long-term and increasing energy efficiency are forecast to slow the growth in gas use, but economic growth, and the cost advantage and cleanliness of gas relative to other heating options drive continued growth in our forecasts. The Company's aggressive DSM programs in the Distributed Infrastructure Solution meet this increased demand for heating by limiting the growth in peak gas use.

6.2. CLCPA Compliance and Environmental Impacts of the Distributed Infrastructure Solution

Several comments related to an idea that new gas infrastructure is inconsistent with the CLCPA and New York City climate targets. The enhancements to existing gas infrastructure are required in the near term to provide safe, reliable, affordable energy to National Grid's customers and are not incompatible with Net Zero. The landmark study "Pathways to Carbon-Neutral NYC"[7] has identified three significant pathways to Net Zero including a Low-Carbon Fuels Pathway. The Company has the opportunity to increase reliance on Low-Carbon Fuels including Renewable Natural Gas ("RNG") from biogenic sources, synthetic RNG, and hydrogen produced from renewable electricity to supply these infrastructure enhancement projects. Furthermore, our gas infrastructure enhancements will bridge the Demand-Supply Gap until the Company begins to see demand for gas slow, stop, and reverse. As that time approaches, the Company will assess opportunities to decommission and/or de-contract elements of the gas capacity portfolio to continue to meet customer demand safely, reliably, and affordably and make progress towards Net Zero.

The Distributed Infrastructure Solution not only helps achieve Net Zero and CLCPA goals through limiting peak gas demand and adding flexibility to the supply stack, it is a least cost option including the cost of damages from emissions against the feasible alternatives. National Grid assessed the total cost of each option including direct financial outlays and the value of the emissions associated with each option. In accordance with the guidance from Section 75-0113 of CLCPA, National Grid used the NYS DEC's recently established value of carbon to monetize the impact of net greenhouse gas emissions associated with each solution to each contingency scenario. The complete results of this analysis are presented in Appendix F of the Second Supplemental Report. Alternative infrastructure solutions such as the Clove Lakes Transmission Loop Project and LNG Barge are projected to exceed the cost of the Distributed Infrastructure Solution by $155M - $725M, and a pure No Infrastructure Solution is projected to be $1.37B higher than the Distributed Infrastructure Solution. In all cases, after including the benefit of avoided greenhouse gas emissions, alternative solutions cost more to society than the Distributed Infrastructure Solution.

[7] Available at: https://www1.nyc.gov/assets/sustainability/downloads/pdf/publications/Carbon-Neutral-NYC.pdf

In addition to the social cost of greenhouse gas emissions, the net societal benefit of avoided emissions is also dependent on the effective emissions rates. National Grid followed guidance provided in the CLCPA to focus on the global warming impact of all greenhouse gases, including capturing the impact of fugitive methane emissions associated with natural gas distribution losses. Focusing on a 20-year carbon dioxide equivalency in terms of global warming potential as is defined in the CLCPA, National Grid estimated emissions rates from natural gas ranging from 154 lb. CO2e/MMBtu for pipeline gas to 177 lb. CO2e/MMBtu to trucked CNG, as discussed in Appendix F.4 of the Second Supplemental Report.

After publication of the 2nd Supplemental Report, New York's Climate Action Council has presented draft emissions factors for natural gas of 182-215 lb. CO2e/MMBtu.[8] Such values are in the range of 30% higher than those National Grid employed in its modeling for the Second Supplemental Report. However, employing these higher values does not change the overall conclusion that the Distributed Infrastructure strikes the least cost balance among feasible options. We can examine an extreme case where both the Greenpoint Vaporizer and ExC are rejected, and a no infrastructure solution is pursued in their place. Under this scenario, using the CAC's updated accounting, at the upper bound of 215 lb. CO2e/MMBtu, the saved emissions increase from 5.5 million tons of CO2e to 7.7 million tons of CO2e. Using DEC's updated guidance on the cost of emissions at $125/ton of CO2e, this equates to a societal benefit of nearly $1 billion (undiscounted). However, the net present cost to implement that solution is $1.2 billion more than the cost to implement the Distributed Infrastructure Solution, meaning that this solution still does not equitably minimize costs and maximize total benefits to the state in alignment with the CLCPA.

Some comments suggested that our LNG Vaporization Project harms air quality and presents health risks to nearby residents. The new vaporizers do not increase annual output from the facility or frequency of plant operation. The new vaporizer units will allow the facility to vaporize its current annual capacity at a faster rate to meet demand. The permitting action associated with this project involves converting the existing Title V major source permit to an Air State Facility ("ASF") permit. The ASF permit will include new permit conditions to cap emissions of nitrogen oxides (NOx) to less than 25 tons per year, which is roughly half of the existing permit limit. As a result of the proposed project, direct GHG emissions from the Greenpoint Energy Center's vaporizers are anticipated to be lower compared to current operations due to the increased heat transfer efficiency of the new vaporizers, which are approximately 15% more efficient than the existing, older vaporizers. Upstream emissions associated with the production and transport of fuels to the project site will not increase since the proposed project will not change the facility's LNG storage capacity. As presented in the ASF permit application, the total annual emissions in carbon dioxide equivalents (CO2e) are estimated to be 17,403 tons per year for the entire facility.

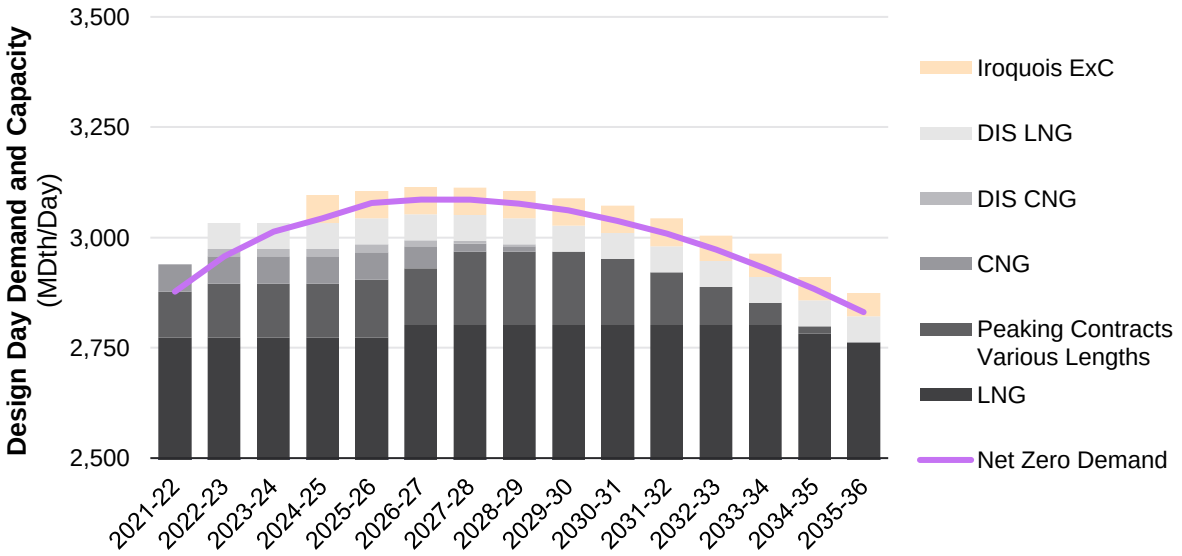
6.3. Benefits of DSM Programs

Our Distributed Infrastructure Solution effectively stops all gas growth in the mid-2020's via the DSM programs proposed as part of the Distributed Infrastructure Solution. While we believe we need certain enhancements to existing infrastructure in the near-term, we will be able to optimize our gas capacity portfolio when we see gas growth slow, stop, and reverse. We have tested our Solution against a Net Zero scenario developed in partnership with the NYC Mayor's Office of Sustainability and Con Edison in the landmark study "Pathways to Carbon-Neutral

[8] Available at: https://climate.ny.gov/-/media/CLCPA/Files/2021-07-22-CAC-Meeting-Presentation.pdf

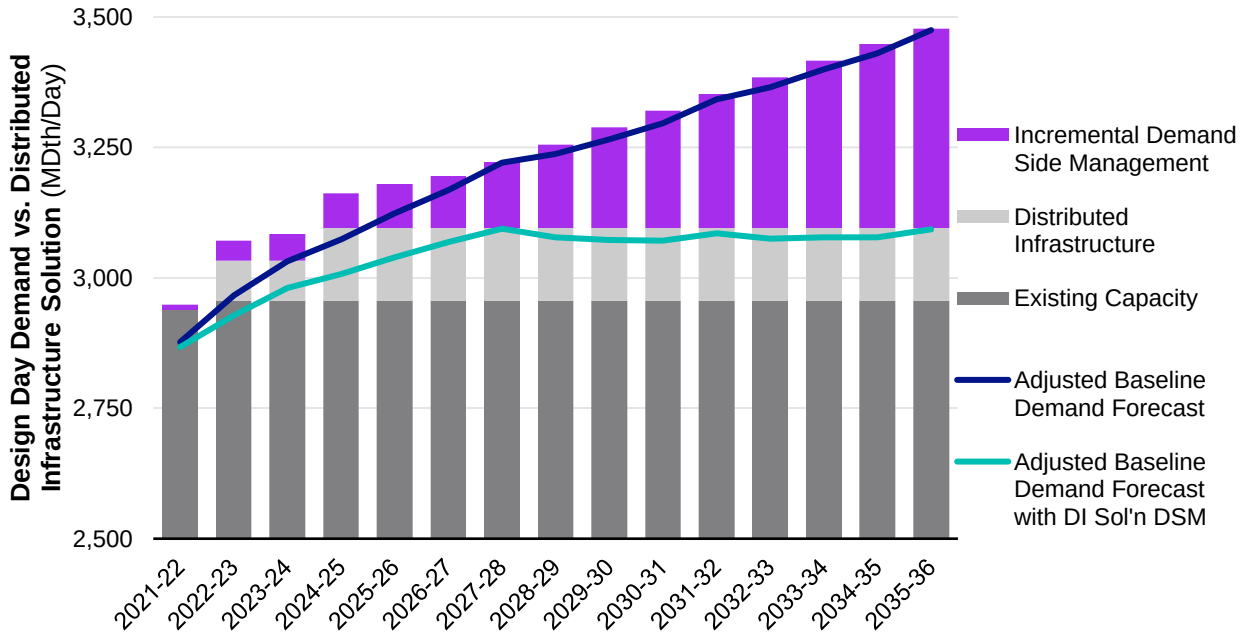
NYC". While this is but one way to achieve Net Zero, we believe our Distributed Infrastructure Solution is flexible such that it can adapt to a host of different scenarios. Figure 6-2 below shows our approach to optimizing the gas capacity portfolio under a Net Zero scenario:

Figure 6-2: Illustrative Case to Adjust the Supply Stack with the Targeted Distributed Infrastructure Solution for a Net Zero Scenario



The Company has heard our stakeholders and has made DSM programs the centerpiece of our Distributed Infrastructure Solution, but these programs take time to scale to the levels at which we need them. For this reason, the Distributed Infrastructure Solution relies on gas infrastructure enhancements to allow these programs time to meet their aggressive targets. We are deploying these programs immediately and they grow over time such that they flatten customer demand for natural gas in the mid-2020s. The difference between the two demand curves in Figure 6-3 illustrates the significant impact our proposed DSM programs have on closing the Demand-Supply Gap.

Figure 6-3: Distributed Infrastructure Solution Comparison to Demand-Supply Gap



During the July 14, 2021 Public Meeting on the 2nd Supplement, one commenter requested that we reiterate the benefits of our DSM solution.

Energy Efficiency. As we continue to rely upon energy efficiency as a key component to our DSM solution, understanding its real value is increasingly important. A multiple benefits approach to understanding the value of energy efficiency expands the perspective of energy efficiency beyond the traditional measures of reduced energy demand and lower customer bills by identifying and measuring its impacts across many different areas. Investment in energy efficiency can provide many benefits to many stakeholders.

There has been a great deal of policy work done on this topic and the International Energy Agency (IEA) published a report entitled ***Multiple Benefits of Energy Efficiency***[9] in March 2019. The well-documented benefits of energy efficiency discussed in the report include:

- **Energy savings:** Energy efficiency improvements reduce the amount of energy use required to provide a service.
- **Customer bill savings:** Energy efficiency can enable higher disposable income by lowering energy bills and other costs to benefit households and businesses. Less energy consumed leads to lower energy bills, which means that households spend less of their disposable income on energy and businesses have more resources to spend on other investments.
- **Emission savings:** Energy efficiency delivers environmental benefits. It notably reduces GHG emissions, both direct emissions from fossil fuel combustion or consumption, and indirect emissions reductions from electricity generation.
- **Air quality:** Air pollution is one of the world's single biggest environmental risks to human health, with one in nine deaths linked to poor indoor or outdoor air quality. Energy efficiency can reduce both indoor and outdoor concentrations of air pollutants. In

[9] Available at: https://www.iea.org/reports/multiple-benefits-of-energy-efficiency

doing so, energy efficiency drives a range of economic, environmental and health benefits associated with local air quality.

- **Health and wellbeing:** Energy efficiency measures can support good physical and mental health primarily by creating healthy indoor living environments with healthy air temperatures, humidity levels, noise levels, and improved air quality.
- **Energy access and equity:** The Energy Efficiency for All (EEFA) Partnership[10] acknowledges that reducing energy and water use in affordable multifamily housing improves the quality of life for residents, preserves affordable housing across the country, reduces the energy burden (the percentage of household income that pays for energy) on those who feel it the hardest, cuts carbon pollution, and creates clean energy jobs.
- **Economic benefits:** Cost-effective energy efficiency improvements can have positive macroeconomic impacts, boosting economic activity and often leading to increased employment. Energy efficiency reduces the amount of energy needed to deliver services, such as mobility, lighting, heating and cooling. Lowering the cost of energy services frees up resources for households, businesses and governments.
- **Asset values:** Energy efficiency can increase asset values for homeowners, businesses and utilities. Building owners can see increased property value from energy efficiency measures that lower energy consumption and reduce operating costs. Furthermore, studies have shown highly rated energy efficiency properties sell at a premium.
- **Productivity:** Efficiency leads to productivity gains by lowering maintenance costs and increasing production yields per unit of input. In addition, improvements in operation and process reliability, which can result from efficiency gains, lead to reductions in equipment downtime, shutdowns or system failures. Optimizing processes to enhance efficiency can also reduce staff time required to enhance operations and scheduling while reducing the risk of human errors.
- **Public budgets:** Energy efficiency measures can deliver financial benefits to public budgets through both increased income and decreased expenses. Local governments can directly reduce operational costs by implementing energy efficiency measures, which lead to energy savings and less spend on energy bills. Furthermore, Governments can achieve increased income through sales tax on more valuable energy efficient products and services, as well as increased real estate tax on more valuable energy efficient buildings. Governments also receive indirect financial savings through reduced social welfare expenses spent on energy subsidies.
- **Energy prices:** Energy efficiency can enable lower energy prices by reducing the need to add expensive new power generation or transmission capacity and by reducing pressure on energy resources. Decreased demand for energy services across several markets can prompt a reduction in energy prices.
- **Energy security:** Energy efficiency can bolster regional energy security. By reducing overall energy demand, efficiency can reduce reliance on fuel supply. In addition, in a severe weather event or a natural disaster, energy efficiency can play an important role in emergency response. Energy efficiency can create demand side resiliency, enabling customers to shelter in place longer in the event of a system outage.

The Company has conducted a Benefit Cost Analysis of our incremental DSM Programs and it yielded a positive benefit-cost ratio. The details of this analysis will be included in the Company's Annual DSM filing later this year.

[10] Available at: https://www.energyefficiencyforall.org/

6.4. Implications of Non-Gas Infrastructure Solutions

One piece of feedback the Company heard from stakeholders is that we are not going far enough or fast enough with our DSM programs. However, the Company's Distributed Infrastructure Solution relies on groundbreaking levels of DSM to offset virtually all new demand beginning in 2026, with the majority of avoided gas use coming from electrification of heat as shown in Table 3-1.

As discussed in Section 3.2.1, the Company is undertaking research and pilots to determine the best methods to cost-effectively scale electrification of heat programs in its territories. Impediments to a more rapid scale up than the one in the Distributed Infrastructure Solution include increased costs for customers, the number of available contractors to perform conversions, the availability of materials, and the willingness of customers to embrace electrification.

For electrification of heat to deliver the clean energy transition we need, the source of the energy itself must be clean. Furthermore, the region's Electric Distribution Companies and the New York Independent System Operator must be able to move the energy from its source to customers. An overly aggressive heat electrification plan could result in increased reliance on fossil fuels for generation of electricity as well as a constrained electric grid that could lead to unreliable service for customers. National Grid is collaborating with a variety of parties including Con Edison and NYSERDA to develop an efficient, reliable, rapid deployment of heat electrification that is supplied by clean energy.

National Grid has been thorough in exploring the opportunities and limitations of our other DSM programs as well. In the context of existing technologies, business models, programs, and laws, we are confident that we are not underestimating the demand reduction possible from incremental EE and DR programs. We have performed thorough assessments of our incremental EE and DR plans to understand potential energy savings, costs to implement, and customer adoption rates, which are summarized in Table 6-1.

Table 6-1: DSM Program Assessments

Initiative	Description
Peer Utility Benchmarking	Investigated and documented DSM best practices described in interviews with peer utilities and established National Grid's position relative to these peers. Key takeaways are that the best-performing gas EE programs spend considerably more per therm than National Grid, program bundling and utility partnering are best practices, and several successful EE measures are common across leading utilities.
DNY Gas Measure & Market Evaluation 2019-2028	Established the limits of the market for current energy efficiency programs and weatherization. This study assessed the DNY EE potential based on a variety of market assumptions and cost-effectiveness levels.
Weatherization Market Surveys	Developed understanding of customer perceived value propositions regarding weatherization programs through customer research. The residential survey found substantial interest in weatherization, especially for performance-type programs, and identified lowering energy bills and increased comfort as the most compelling benefits.
MyHeat Customer Survey	MyHeat is a behavioral tool using aerial thermal imaging data to improve and personalize customer outreach / targeting. This customer survey determined that Customers appreciate receiving the MyHeat data would be more likely to enroll in our weatherization program after receiving MyHeat data.

DR Customer Experience plan	Documents customer experience protocols and tools to help retain DR customers. The proposed DR Customer Experience plan includes several recommendations to improve communications and customer satisfaction with DR customers.
DR Validation	National Grid verified savings estimates for the pilot Bring Your Own Thermostat Gas DR programs through an independent research consultant.

While National Grid has already performed detailed assessments as described in Table 6-1, we will continue to pursue studies, surveys, and evaluations to help drive improvements across planned DSM solutions while actively developing and evaluating new programs, technologies and business models. For example, the Company is currently scoping a Gas and Electrification Market Assessment to begin later this year with results expected in 2022. This assessment will further explore opportunities in the gas and electrification markets to quantify market size, identify key leverage points, and outline approaches for acquiring DSM activities. This market assessment will include market sizing, market actor characterization and prioritization, defining customer adoption and barriers, targeted measure savings, published electric system constraints and primary research activities. The Company is also working with an external consultant on a DR Targeting tool to explore opportunities for DR program growth that utilizes statistical analysis to identify and target potential customers for future participation in DR programs.

7. Conclusions and Next Steps

Progress on the implementation of our Distributed Infrastructure Solution is well underway, but there is more work to be done. To fully realize our affordability and reliability goals and do our part to help the state achieve its CLCPA targets, the Company needs approval of our funding request for our DSM programs, and we look forward to stakeholder support in that process. National Grid's DSM programs including EE, DR, and Heat Electrification require robust customer adoption to be successful and to realize our clean energy future. We also look forward to working with various stakeholders, including our local electric distribution companies, Con Edison and PSEG-LI, to examine the need for integrated gas/electric planning as we move toward our heat electrification goals included in the Distributed Infrastructure Solution.

In order to achieve the infrastructure enhancements called for in the Distributed Infrastructure Solution, the Company requires critical permits for our LNG Vaporizer Project and incremental CNG capacity. We also continue to support IGTS in their efforts to secure approvals from the FERC, New York State, and Connecticut for the ExC project.

The Company remains committed to keeping a dialogue open with our customers. While we encourage customers to contact us through various channels, and we pledge to share information about our Distributed Infrastructure Solution with customers as it becomes available, the Company will continue formal stakeholder engagement through the statewide gas supply planning and moratorium management process. While there is much work to be done and decisions to be made in the proceeding, the Commission and New York's gas utilities will ensure stakeholders have a seat at the table as we make important decisions together about the future of our gas business and our customers' energy needs. National Grid looks forward to working with customers and other stakeholders to fully realize the clean energy transition.

8. Acronyms and Abbreviations

ASF – Air State Facility
C&I – Commercial & Industrial
CH4 – Methane
CLCPA – Climate Leadership and Community Protection Act
CNG – Compressed Natural Gas
CO2 – Carbon Dioxide
CO2e – Carbon Dioxide Equivalent
DEC – New York State Department of Environmental Protection
DEP –Department of Environmental Protection
DIS – Distributed Infrastructure Solution
DMM – Document and Matter Management
DNY – Downstate New York
DPS – Department of Public Service
DR – Demand Response
DSM – Demand-Side Management
EE – Energy Efficiency
EEC – Energy Efficient Connections
EEFA – Energy Efficiency for All Partnership
EIS – Environmental Impact Statement
ExC – Enhancement by Compression
FERC – Federal Energy Regulatory Commission
GHG – Greenhouse Gas
IEA – International Energy Agency
IGTS – Iroquois Gas Transmission System, L.P.
KEDLI – KeySpan Energy Delivery Long Island
KEDNY – KeySpan Energy Delivery New York
LNG – Liquefied Natural Gas
MDth – Ten-thousand Dekatherms
N20 – Nitrous Oxide
NE:NY – New Efficiency: New York
NOx – Nitrogen oxides
NPA – Non-Pipes Alternatives
NYSERDA – New York State Energy Research and Development Authority
PSEG-LI – Public Service Electric and Gas – Long Island
RFAI – Request for Additional Information
RNG – Renewable Natural Gas
SF6 - Sulfur Hexafluoride
THC – Total Home Comfort
VOC – Volatile Organic Compounds

9. Appendix: Transcript for Public Meeting on July 14, 2021

NATIONAL GRID USA

Moderator: WILLIAM KHOUNSOMBATH
July 14, 2021

Coordinator: Welcome and thank you for standing by. Today's call is being recorded. If you have any objections, you may disconnect at this time. All participants are in a listen-only mode until the question and comments section of today's conference. At that time, you may press star 1 on your phone to ask a question or make a comment.

I would now like to turn the call over to your host, Bill Khounsombath. You may begin.

Bill Khounsombath: Thank you, (Joanne). Welcome, everyone. My name is Bill Khounsombath. I'm National Grid's Corporate Communications Department. And thank you for joining the public information session for National Grid's, long-term capacity second supplemental report for downstate New York.

Tonight, you will hear from Rudy Wynter, President of National Grid's New York Business, and Steve Caldwell will take you through the context and background of the report. We will have both a question and answer session and the ability for attendees to submit public comments.

All participants right now will be in a listen-only mode unless speaking during the Q&A or comment portion of the meeting. We anticipate significant interest in participants seeking to comment. In an effort to accommodate as many individuals as possible, participants wishing to ask a question will be limited to one question only. During the public comment section, speakers will be held to a strict limit of two minutes and will be given a firm reminder at the 1:45 mark, to wrap up.

Additional opportunities for feedback are included on a micro site for the long term plan, located on the internet at NGridSolutions.com. We look forward to hearing from you. And now please welcome our New York President, Rudy Wynter. Rudy?

Rudy Wynter: Thank you, Bill. And good evening, everyone. Thank you very much for joining us this evening. As Bill said, my name is Rudy Wynter and I am the President of the New York Business for National Grid. And I'm also a proud member of this community. And it's important to me that National Grid is actively participating in the public process and delivering on our promises.

At National Grid we are committing to - committed to achieving a net-zero future while ensuring a safer, more reliable and cleaner energy future for us

all. First and foremost, we're determined to ensure that none of our customers are left behind as we transition to that future.

To help define the short and long term energy needs of our customers we've issued a second long term capacity supplemental report that provides an update on our net zero planning, future energy demand forecasting, our efforts to deploy incremental demand reduction programs, and our progress on targeted infrastructure solutions that will safely and reliably meet our customers' energy needs.

We listened. Two years ago when we proposed a pipeline solution to meet gas demand for our customers, it was opposed. We rethought potential solutions and instituted the non-pipe alternatives of a distributed infrastructure solution. National Grid believes that its distributed infrastructure solution is consistent with the Climate Leadership and Communities Protection Act goals, the company's net-zero plan, and a clean energy future.

While it's our sincere privilege to provide energy to our approximately 2 million customers, we are determined to work together to develop the right energy solutions to ensure our customers' short term energy needs are met while we transition to the net zero energy future that we all want.

That said, energy transition is a process, a pathway that must be orderly and thoughtful, and include a number of solutions. National Grid had made significant corporate commitments to align with New York's ambitious climate energy goals, as well as our own.

In October of 2020 National Grid refined our plan to achieve New York's net-zero greenhouse gas emissions goal via our plan, which is available on our Web site. And we updated our Responsible Business Charter to include those ambitions. The gas we deliver today can be de-carbonized in the same way we de-carbonize electricity that we deliver for our customers. The potential is real.

The technology is evolving and we look forward to supportive policy and regulation on a pathway to net-zero. During the transition, existing infrastructure must be protected as we innovate, both to be able to service existing customers safely during the transition, but also to build the infrastructure of the future to carry renewables as well as hydrogen. New York can be at the forefront of innovation and lead the country.

We can attract and retain business. We can spur economic development and workforce development. And we can achieve net-zero together. In our earlier reports in 2020, we explain our customers' energy needs; identified a range of options to meet them; and sought extensive public and stakeholder input. That effort resulted in a portfolio of demand-side as well as targeted infrastructure solutions that we're now implementing.

Despite all the progress, National Grid has made on its distributed infrastructure solution, permitting delays have created risks to infrastructure projects in service states. The demand-side management programs also can

face implementation challenges. These challenges can create a real risk of National Grid being able to meet future existing customer demand, requiring an updated assessment of potential impact and consideration of alternatives if components of the distributed infrastructure solution fall short.

Given the ongoing challenges of meeting customer gas demand in downstate New York, the purpose of this second supplemental report is to do a few things. First, frame the downstate New York gas capacity needs and National Grid's distributed infrastructure solution in the context of New York sales EPA net-zero commitments, the company's net-zero plan, and the long term demand forecast.

It's also to provide an update of the company's long term demand forecast for downstate New York and the status of its existing capacity and operational constraints. We'll also provide an update on National Grid's progress in implementing the distributed infrastructure solution to solve potential demand-supply gaps.

And lastly, present an updated set of options in the event that the distributed infrastructure solution is significantly delayed or not fully implemented. Evaluate the cost and implementation feasibility of those options and explain the future risks to customers' connections and potential service disruptions to existing customers.

As with the original report, we invite you to provide your feedback on the recommendations. In addition to filing the second supplemental report with the New York Public Service Commission, we've published this report on our Web site and will deploy other options for sharing the report with stakeholders, including a reader-friendly summary and Web content.

As part of our commitment to work together, we want to hear from you on how best to meet the region's projected energy needs while leaving no customer behind. So thank you for joining us today to participate in this virtual information meeting, and learn more about the report's findings and share your thoughts.

We're seeking written feedback from all public stakeholders as well. With that, let me turn it over to (Stephen) Caldwell. Steve?

Steve Caldwell: Thanks very much, Rudy. Good evening, everyone. As mentioned, my name is Steve Caldwell. I'm our Vice President of Future of Heat here at National Grid. And I led the team that developed our second supplemental report at issue this evening. Thanks to everyone for taking the time to join this public meeting and giving us the opportunity to walk you through a summary of our latest gas capacity report; take your questions and your your public statements.

The foundation for National Grid's long term plans is our obligation to provide safe, reliable and affordable energy to almost 2 million homes and businesses in New York City and Long Island, while also advancing the clean energy transition. National Grid has been taking steps to advance key

technologies and programs to drive this transition to cleaner energy, including supporting renewable natural gas, hydrogen, and heat electrification through our regulated utility business and making investments in wind and solar projects across the US, through our National Grid Ventures' competitive business.

Rudy mentioned in his opening remarks, that National Grid is committed as a company, on a global level, to achieving net zero greenhouse gas emissions for our own operations, as well as enabling the states where we serve customers to achieve their economy-wide net zero goals, including under the Climate Leadership and Community Protection Act in New York.

Rudy also just mentioned National Grid's own net-zero plan, which is detailed in this report and available on our Web site. We also collaborated recently, on a landmark study with New York City and Con Ed, to explore different pathways for New York City to achieve its net-zero goal. The study was released in April of this year and informed the gas capacity report in question tonight.

We have an obligation to meet our customers' peak energy demand and to plan for the demand of both current and future customers. Customers' peak energy demand occurs on the coldest days when homes and businesses require the most energy or space heating and other uses.

And specifically, National Grid is a planning standard called the design day, which is the coldest day for which we plan. We also look at the design hour, which is the hour of maximum demand during that hypothetical day. We need to ensure we can secure and deliver enough energy to meet our customers' needs under these severe cold weather conditions, and we plan accordingly.

This is well-established gas utility industry practice amongst ourselves and our peers, and our design day standard is squarely within the industry norms in terms of the likelihood of occurrence of severe winter weather and associated peak gas demand. Importantly, when we plan for design day, we do so with zero contingency.

That means that in the event of actual peak demand is higher than projected design day demand, say because of more severe weather with the uncertainty inherent in the demand forecast itself, or in the event that there is an unexpected disruption to gas supply, our own infrastructure, or there are demands that resources are not available when we need them, and our option of last resort is customer curtailment.

We don't ever want to be in this position. However, if we do find ourselves in a position where we have insufficient gas capacity to meet customer demand, this leads to lower pressure conditions in the gas distribution network. That can cause heating and other end-use equipment to stop working for customers and create safety risks.

But having enough supply to match the demand, the only way to ensure the safety of customers and communities under such conditions, is to curtail that is to shut off large customers, and even potentially curtail service to entire sections of the gas network, which might affect many households and businesses with the restoration of service potentially taking a week or longer.

We might - we're all familiar with on the - a similar situation on the electric side where there's insufficient supply to meet demand and that can lead to rolling electric blackouts. Often those lead to restoration of service within a matter of hours. This is in stark contrast to what happens with gas service interruptions where during the most severe winter weather, customers could be without heat and that option of last resort for several days.

In this report we are refreshing our gas demand forecast based on the latest available data, comparing that gas demand forecast to the present outlook for gas supply capacity, and then showing what our projected demand/supply gap is. We then explain the progress we've made on the distributed infrastructure solution and explore the remaining risks, such as permitting risks that Rudy mentioned; the full and timely implementation of this long term solution; and what fallback options we have.

Lastly, we offer conclusions in terms of our recommended next steps to address the gas demand/supply gap and the risks and implications of delays to or outright rejections, of the components of the distributed infrastructure solution. But to put this report that we're talking about tonight in some more context, the report we released on June 30th is the series - sorry. The report released on June 30th is the third in a series.

Last year, we released two long term gas capacity reports starting in February of 2020, that explained in detail our demand forecast, our available gas capacity, our projected demand/supply gap, and the options to address that gap. After the first report we solicited and received extensive public and stakeholder input from a series of public meetings, and thousands of written comments.

With that input, recommended a long term solution to address the projected demand/supply gap. That's what we call the distributed infrastructure solution we'll be talking a lot about tonight. And we've been implementing that solution since last year. This latest report comes as an update to our prior reports, and includes another round of associated public and stakeholder engagement, including this meeting this evening.

Let's jump into the substance of the report now by looking at the projected demand/supply gap. We look at demand out 15 years and compare our long term gas demand forecast to our available gas supply capacity, to determine if and when we see demand/supply gap emerging and how large it is in each year. And that's what we see on this chart here.

Every year we refresh our long term gas demand forecast. This year the underlying economics and gas demand drivers have generally shifted the gas

demand forecast up about one percentage point across all years versus what our demand forecast was a year ago.
Our demand - our gas demand forecast is based on independent economic projections of things like population growth, local GDP growth and other factors. And it reflects the gas demand savings from the aggressive gas energy efficiency programs that National Grid administers for our customers, and the new heat electrification programs that Con Ed and PSEG Long Island, operates under New Efficiency New York.

Even after accounting for New York step change in gas energy efficiency and these new heat electrification programs, we still do project robust gas demand growth, albeit at a slower rate than what we've seen in recent history. In terms of our projected need, absent any further implementation of the distributed infrastructure solution beyond what we have in place now, we project that demand/supply gap emerges for the winter of 2022, '23 and grows from there. And that's the gap you see between the the orange bars representing our gas supply capacity and the blue trend line representing our long term design to gas demand forecast.

Arrived at the - our 2020 reports in the public and stakeholder engagement process, the distributed infrastructure solution is our approach to meet this projected demand/supply gap. The distributed infrastructure solution is a targeted plan that relies on enhancements to existing infrastructure paired with aggressive demand-side management initiatives.

The first of a kind of holistic solution for National Grid, we are attacking the problem from both the supply and the demand sides, in order to safely and reliably deliver energy to our customers. Distributed infrastructure solution is a portfolio of discrete components that work together and we've got them outlined here in this slide. And I'll move through them from left to right just so everyone's on the same page as to what exactly we mean when we talk about the distributed infrastructure solution.

Again, starting at the far left in terms of the pillars of the distributed infrastructure solution on this slide here, we are securing the maximum amount of available interstate gas transmission capacity to meet our customers' needs. Making sure that we can get the most gas delivered over the existing gas transmission infrastructure. We're making many enhancements to infrastructure.

Moving to the right, we're further expanding our reliance on portable CNG operations or compressed natural gas, to what we think is the reasonable limit imposed by operational complexity, sighting constraints and the ability of the market to support portable CNG. The operation we're standing up now would put us at the forefront of CNG operations in terms of the largest in North America.

Moving to the next solution, the Greenpoint LNG Vaporizers Project expands our ability to vaporize LNG or liquefied natural gas, at our existing Greenpoint LNG storage facility in Brooklyn. The next of the distributed infrastructure projects is what we call the EXE project. With this one we're subscribing for

capacity, along with Con Ed, on the Iroquois gas transmission system, where they're expanding through additional compression, the amount of gas they can deliver to us and Con Ed when our customers need it most.

And lastly, on the far right, we're relying on new gas energy efficiency, gas demand response, and eventually heat electrification programs, to fill out the distributed infrastructure solution. Under the distributed infrastructure solution, our plan is to make targeted enhancements to existing gas infrastructures to increase our capacity to meet customer peak demand growth in the next few years.

This is what you see in this chart with those light blue bars in the middle. The dark gray bars are existing capacity today and what you'll see is through the targeted enhancements to existing infrastructure will increase the amount of gas capacity that we have.

In parallel we'll stand up new demand-side management programs now, and scale them up such that it will effectively offset all projected gas demand growth after the mid 2020s. That's what you see in the chart in terms of the purple bars. So on net we can accommodate gas demand growth in the next few years through the light gray bars. And then thereafter, as we've gotten the incremental demand side management programs, as they've had time to scale up and grow, they would offset all future projected gas demand growth.

Now, of course, with the CLCPA and other New York policies on net zero, we might expect gas demand growth to not only level off as it would after accounting for our planned incremental demand-side management programs under the distributed infrastructure solution, we might expect it to actually slow, stop and reverse over time.

As such, in our report, we model just such a demand scenario. For this, we leverage this - the recent collaboration I mentioned a moment ago with the City of New York and Consolidated Edison, that generated the study entitled The Pathways to Carbon Neutral New York City.

And under this net-zero scenario, design day gas demand peaks in the mid to late 2020s and declines thereafter. What this means is that we would still face a projected demand-supply gap in the next few years that would necessitate investments in these enhancements to existing gas infrastructure. But thereafter, what we did was we looked at how would you rightsize the company's gas supply portfolio if you did see in the longer term a downward trend in design to gas demand.

And what we found in the report is that we had the flexibility to match an assumed future design day gas demand decline by unwinding the flexible elements of our gas capacity portfolio, starting most likely, with unwinding our portable CNG facilities and then optimizing our gas transmission capacity contracts as they come up for renewal, so the customers weren't paying or wouldn't be paying for gas capacity that isn't needed, in the event that gas demand does in the long term, go down.

This stress testing exercise against this net-zero gas demand scenario, finds that the distributed infrastructure solution is a no regrets approach under an aggressive net zero pathway. With this latest report we also looked at what the best fallback options would be if the current distributed infrastructure solution cannot be fully implemented on schedule.

In last year's reports we cast a wide net across both large and distributed infrastructure, as well as non-infrastructure options, and evaluated them all in detail. This year's report doesn't present any new options that make the cut as reasonable fallbacks and we're still looking at the menu of options that we considered in last year's reports.

The report does prioritize the next best fallback options after the current portfolio of solutions, we'll work on to implement under the distributed infrastructure solutions. These next best fallback options include those listed on the slide here starting from the top. I'll describe those. The first on the list is the Clove Lakes Transmission Loop Project, which would allow us to move more gas into Brooklyn, Queens and Long Island, where our customers need it.

This project consists of eight miles of new gas transmission main in Staten Island. It would remove a constraint on our system that limits our ability to receive gas from the existing interstate gas transmission system that delivers gas into Staten Island today.

The next option down is an LNG barge or perhaps multiple barges. This is a relatively novel option that is gaining more attention across a variety of potential applications around the country, given some changes in the availability of these purpose-built LNG barges.

These barges are self-contained LNG storage and vaporization operations that would locate offshore of New York City or Long Island, during the winters and interconnect to our system to deliver gas into a point in the network where we could deliver to our customers. If you look at the next two rows on the chart we also look at incremental gas demand response and keep electrification over and above what is already baked into the distributed infrastructure solution, as well as our demand forecast.

Gas demand response includes a variety of programs that essentially pay customers to reduce their gas demand during peak periods, often by switching to a backup fuel, which in most cases is typically heating oil. Electrification programs would provide incentives to customers to fully electrify at least their space heating equipment with electric heat pumps, air source heat pumps, or ground source heat pumps.

Now this could focus on deflecting would be oil to gas conversions to go from oil heating to electric air source heat pumps instead. You could spur new construction to adopt electric heat pumps. Or you can even electrify existing gas customers to destroy gas demand. All of these fallback options come with substantial challenges and risks in terms of feasibility due to permitting, the time to scale them up, and other factors.

In the report, we looked at six contingency scenarios where we analyzed what the next best fallback solutions would be in the face of different setbacks, combinations of setbacks to the distributed infrastructure solution in terms of substantial delays or outright rejections. In particular, the Greenpoint LNG Vaporizers Project with EXE Project on the Iroquois gas transmission system.

We also looked at underperformance of our incremental demand-side management programs against the goals they have under the distributed infrastructure solution. The most immediate risk that the report found is around an extended delay or outright denial of permit approval for the Greenpoint LNG Vaporization Project. That would create a demand/supply gap starting in the winter of 2023 to last 2024, even assuming that every other component of the distributed infrastructure solution is implemented fully and on schedule.

The timing and size of that demand/supply gap in the report doesn't tell the full story. Overlaying additional setbacks, such as an inability to expand the CNG capacity as we plan to, with delays in meeting incremental demand-side management gas demand reduction targets, would exacerbate this gap.

There could also be locational gas capacity constraints that aren't captured in this aggregate service territory-wide level analysis. In particular, to focus for a moment on the risk inherent in a delay or outward denial to the Greenpoint LNG Vaporization Project.

Under the distributed infrastructure solution, the incremental demand-side management components are intended to have time to scale up and further prove themselves, such as building out a reliable track record of demand reduction from a relatively nascent gas demand response programs, before they're essential to really rely on for reliability in a given winter.

In contrast, if we saw a delay or an outright denial of the LNG Vaporization Project those incremental demand-side management programs would be immediately thrust into the role of ensuring reliability years ahead of schedule, under the distributed infrastructure solution.

What we find is that in each of these contingency scenarios, the next best fallback option entails higher costs for our customers and also significant risk that we can't implement the fallback solution quickly enough to meet projected customer demand growth.

Where we have demand-side components to be next best approaches, those demand-side solutions would need to scale at unprecedented rates and would be more costly than the distributed infrastructure solution we're pursuing now. Where we have infrastructure fallback options, the (Clove Lake) Project or the LNG barge, what we find is that they would be more costly as well. They have lead times that extend beyond when we'd first see a demand/supply gap emerge. And they would likely be less feasible from a permitting perspective than the solutions we're pursuing today.

So if we jump now to - what I'll do next is just wrap up some of the key conclusions from the report before we go to the Q&A. National Grid has an obligation to plan to meet our customers' energy needs safely, reliably, and affordably. Gas utilities in New York, including National Grid, balance supply and demand with zero contingency in the face of potential supply disruptions and uncertainty in demand.

Addressing projected demand/supply gaps requires long term planning because it takes several years to implement an infrastructure project with the design and scale of the new demand-side management program. This report is fundamentally about providing safe, reliable, and affordable energy to our customers, while also addressing the long term need to achieve New York's net-zero goals.

The second supplemental report confirms our need for the distributed infrastructure solution; confirmed that it is the best available option to balance supply and demand; and confirmed that it is robust even under assumed aggressive net-zero policies that would slow, stop, and reverse gas demand growth in the mid to late 2020s.

None of the fallback options examined in the report are without even greater challenges than our current distributed infrastructure solution in terms of timing, regulatory, and permitting approval, and the ability to deliver them. Having to rely on such fallback options would create a risk that we could not meet projected customer demand, which would introduce the likelihood of having to put limitations on new customer connections. Or as a last resort, reliance on customer curtailment under peak demand conditions.

The most immediate risk to addressing the demand/supply gap is around an extended delay or outright denial of permit approval for the Greenpoint LNG Vaporization Project. That would create a demand/supply gap starting the winter of 2023/2024, even assuming that every other component of the distributed infrastructure solution is implemented fully and on schedule.

We're also preparing to file this summer, for regulatory approval of our incremental demand-side programs, especially those focused on aggressive new building weatherization offerings for customers. It's essential that we get approval and funding for the demand-side management programs so that we start to rapidly scale them up as part of the distributed infrastructure solution. As mentioned before, the long run the demand-side management programs actually constitute the bulk of the distributed infrastructure solutions.

Turning now to an overview of our stakeholder engagement approach. We're engaged now, in soliciting public and stakeholder feedback on our report and its conclusions via a variety of channels. We've taken several measures to make sure this report is known and accessible to the public and our stakeholders. The full report and some reports, are available online on our Web site.

We've sent hard copies to local public libraries. We've emailed our customers and included on bill messages, to alert them to the opportunity to provide feedback on our report. We're looking forward, of course, to tonight's Q&A and public statement session.

Members of the public and other stakeholders can also take a survey on our Web site; the one shown here, NGridSolutions.com. We also encourage everyone to submit written comments via the New York Public Service Commission Web site. Information on how exactly to do that is again, available on that dedicated Web site.

And then in mid to late August we'll issue another report subsequent to the one we issued on the 30th of June. And in that one we'll summarize and synthesize what we've heard from members of the public. In addition to this, to the public and stakeholder feedback on our latest report, energy experts from PA Consulting, will also be conducting an independent assessment of the content and conclusions contained in our second supplemental report.

PA Consulting's independent evaluation of our report will be issued by September 7th, to the New York Public Service Commission. And with that, I'll hand the mic back over to - for the next segment of our agenda this evening. And thank you, everyone, for your time and attention.

Bryan Grimaldi: Thank you, (Stephen). Good evening, everyone. I'm Bryan Grimaldi. I'm the Vice President of Corporate Affairs for New York, for National Grid. I'd like to thank all of our participants tonight, for listening to the presentation. We'll now move to the Q&A portion of the program. And if you've signed up to ask a question, you'll be called upon in the order in which your request was received.

Just a reminder, in an effort to accommodate the many individuals as we possibly can, participants wishing to ask a question will be limited to only one question. However, we would encourage you to the extent you would like to engage more, to go to NGridSolutions.com and submit your comments there, or to the PSE directly on their Web site.

During the Q&A all participants will be in listen-only mode and only the speaker asking the question will have the live mic. Our respective subject matter experts will then respond to a question to the best of our ability. With us this evening, we have Rob Moore, to talk about Supply Stack; we have Shira Horowitz to talk about the demand forecast; Chris Connolly on Greenpoint vaporization and MRI; Samara Jaffe on XE and the LNG Barge Project; Owen Tyrell, to talk about incremental gas ESM; we have Anntonette Alberti, to talk about gas energy efficiency and heat electrification; (Pete Medstor) to talk about the Clove Lakes Project; (Don Shabaz) for the New York City Pathway Study, RNG and Hydrogen; Rich Delaney on the Customer Curtailment Plan; and (Matt Sworn) on any moratorium management that we might need to discuss.

Now I'll turn it over to the operator to admit the first caller. (Jordan), please let someone in.

Coordinator: Thank you. If you'd like to ask a question, please press star 1, unmute your phone, and clearly state your name for question introduction. If you'd like to retract your question, please press star 2. Again to ask a question, please press star 1 and unmute your phone, and clearly state your name for question introduction. One moment. Our first question comes from (Christopher Miller). Your line is open.

(Christopher Miller): Hi. Can you hear me?

Bryan Grimaldi: Yes. We can.

(Christopher Miller): Okay, great. Thanks for taking my question. My question deals with the large infrastructure options that National Grid has addressed. In its reports, you know, over the last year or so, and specifically with the Northeast Supply Enhancement Pipeline Project, which is also known as NESE, and my question is simply is that option still on the table?

It seems to be noticeably absent from any of the options that are addressed, you know, in any detail in the report that was just issued or in the discussion tonight.

Bryan Grimaldi: NESE is not contemplated as part of the report.

(Christopher Miller): Does that mean that it's not on the table?

Bryan Grimaldi: Chris Connolly, do you want to take that?

Chris Connolly: Sure Bryan. Thank you. And thanks for the question. So with the permit rejection of NESE back over a year ago, we are not currently pursuing the NESE project. So we've chosen now as part of what we've outlined for the non-infrastructure options and solutions going forward, NESE is not part of that solution.

(Christopher Miller): Okay. Is it part of the contingency solutions? I'm really just curious about, you know, the possibility of it, you know, being implemented.

Chris Connolly: No. No. So NESE is not part of any of our planning for firm project or for contingency.

(Christopher Miller): Okay. Thank you.

Bryan Grimaldi: Thank you for your question. Next caller please.

Coordinator: Our next question comes from (Kim Project). (Kim), your line is open.

(Kim Project): Hi there. I'm just wondering, will our comments be recorded tonight and uploaded to the 19GO678 DPS docket for the long term solution? The docket that was created because you lied to New York about capacity issues to profit from the Williams NESE pipeline.

Bryan Grimaldi: I'm sorry. Is your question is the video being recorded?

(Kim Project): Are you...

Bryan Grimaldi: Yes, it is.

(Kim Project): Are - not is it being recorded. Is it going to be uploaded into the 19GO678 filing? Are you making a filing of our comments, of our public comments, so it's on the record? Because this is...

Bryan Grimaldi: Yes. All of your comments will be on the record. Thank you for your question.

(Kim Project): In the 19GO678 DPS docket?

((Crosstalk))

Man: ...docket. That is the docket, yes.

Bryan Grimaldi: Yes. Thank you.

Coordinator: Our next question comes from (Susan Albrecht). (Susan), your line is open.

(Susan Albrecht): Thank you very much. I have a couple of comments before I ask my question. First of all, I'm a long term resident of Greenpoint and very concerned about all of the environmental impacts of this, that have - our (unintelligible) has been exposed to, especially the prospective impacts of the LNG plant.

And I'm concerned also about the way that you portray the cost to the customers. I certainly understand the inherent risks of, you know, being short on fuel, as well as the concerns of, you know, the overall climate. My biggest concern, of course, is the climate. And my question for you is, when will - what is the date that National Grid projects to be net-zero, since that's one of your objectives.

Bryan Grimaldi: Steve, do you want to take that?

Steve Caldwell: Sure. So as Rudy mentioned and I think I talked about too in the presentation, National Grid has a corporate commitment to achieve net-zero by 2050, which is aligned with the science based targets that are essentially being adopted by, you know, governments and corporations, other entities around the world. And so we've made that commitment at the global corporate level for our own operations, if you're familiar with the different scope of emissions, right, sales and scope one and two emissions.

And we've also made a commitment to support the greenhouse gas reduction policy goals of the states in which we operate. And so with New York under the CLCPA setting a net-zero goal for mid-century, for 2050, that's the target that we'd be operating toward. And we've been exploring the different ways to get to that.

So we've got the Carbon Neutral New York City study, which was a path-breaking study that we did collaboratively with the City of New York and with Consolidated Edison, that laid out different pathways to get to net-zero by 2050. We also have a commitment under the pending rate case settlement for our downstate New York gas utilities, to conduct a detailed CLCPA implementation study specific to our gas utility business in New York City and Long Island, that would lay out what the approach would be to further the CLCPA reduction - greenhouse gas reduction targets.

(Kim Project): Okay. I realize I only had one question, but I'm sorry that those are just studies and we really need action. And I know that all of this takes a long, long time. So, you know, putting into place these different measures that are just going to harm our environment and harm our community is really not sufficient.

Bryan Grimaldi: Thank you for your question. Next caller, please.

Coordinator: Our next question comes from (Corwin Duncan). Your line is open.

(Corwin Duncan): Hi. Thank you so much. My question is quite simple. It's why are further fossil fuel infrastructure projects being considered when that is what the community wants, it is not what the environment needs, and there are any conceivable alternatives? Why is that in any way, being an option that is on the table, instead of pursuing anything besides further infrastructure around fossil fuels and natural gas?

Bryan Grimaldi: So thank you for your question. Your net-zero is something that is fully embraced by National Grid. It's essential for our planet clean energy projects. Now we're aligned with the city's and the state's clean energy goals and we're doing our part to ensure that we're mitigating our emissions and those of our customers, as shown by our own net-zero plan.

For our part now, net-zero emissions are built on various principles, including targeting the highest emitting fuels in sectors, optimizing the utilization of existing networks, and maintaining affordability through the use of strategic electric and natural gas. However, to get to that future, we'll need to target natural gas infrastructure investments now and upgrade the system so we continue to provide safe, reliable, clean and affordable service to our nearly 2 million customers downstate.

((Crosstalk))

(Corwin Duncan): ...away from natural gas, do we need to increase natural gas?

Bryan Grimaldi: I'm answering your question, sir.

(Corwin Duncan): But you're not. You're not answering my question though.

Bryan Grimaldi: As promising as those goals are, from a technical and engineering perspective, we're not there yet. We'll get there and we're making strides, but

they're not there in sufficient scale to be able to meet the energy of the customers that are on the gas system for the indeterminate future. Thank you for your question. Next caller, please.

Coordinator: Our next caller is (Marty Goodman). Your line is open.

(Marty Goodman): Yes. I don't know what happened to the commentary period. I have a lot to say. You said two minutes would be allowed. Do I have that two minutes?

Bryan Grimaldi: No, sir. This is the question and answer portion. You get to ask your question and we'll answer it. After question and answer is done, we'll go to an open forum where you'll have two minutes to make a statement.

(Marty Goodman): Okay.

Bryan Grimaldi: Did you have a question that you wanted to ask?

(Marty Goodman): Yes. I'm wondering if green washing actually works anymore. Methane is methane. Fracking is fracking. And what about fracking has changed? I haven't heard about it. The environment needs to be protected. Hell no to fracked gas is what I say. What do you say?

Bryan Grimaldi: Thank you for your comment. Next question, please.

Coordinator: Our next question comes from...

(Louise Ishi): (Louise Ishi), North Brooklyn Pipeline Coalition. Hi. Thank you for answering questions. My question is around the compressed natural gas that's in this plan. It's clear that you've already started moving forward with that. And you said this plan aligns with the CLCPA. So I'm curious in your assessments and in DEC permitting, did you do - did you look at the full lifecycle emissions and any impacts on communities that you will be trucking gas through?

Bryan Grimaldi: Chris Connolly, do you want to take that?

Chris Connolly: Yes. Absolutely. So thanks for the question. In regard to our portable CNG assets, we have followed all of the requisite permitting requirements to construct and operate those facilities. We do have four facilities that are currently in service, ready for winter operations on Long Island, to support the needs of our customers, over the winter.

And again, we've supported the process thoroughly with (CTC) and all the local agencies and state agencies, to support construction and operation of those new assets that we have.

(Louise Ishi): So but what I asked though, is in compliance with the CLCPA, did you do a full lifecycle emissions? Because I'm pretty sure everything I saw only looked at the, like the leakage from that and not the burning of the gas for upstream.

Chris Connolly: So as part of the development and construction of these assets, these have been in service now for a couple of winter heating seasons with the most

recent coming on this past year. And we have had no requirement to conduct studies aligned with CLCPA to this date.

Bryan Grimaldi: Thank you for your question. Next caller, please.

Coordinator: Our next question comes from (Barbara Hatal). Your line is open.

(Barbara Hatal): Hi. I was just wondering about the erect - I'm just - I'm from North Brooklyn and I'm also concerned about Indians, you know, being shortchanged so much in our world today. Are you aware that these two erected pipeline (extensions) would harm local organic farms and businesses and (unintelligible) Nation? And have you reached out to the (unintelligible) Nation?

Bryan Grimaldi: I'm sorry. I'm unfamiliar with the subject matter. We'll have to take your name and get back to you on that.

Coordinator: Our next question comes from (Jed). (Jed), your line is open.

(Jed): Hi. I was curious - I saw in your reports that you're converting some existing gas lines to electric and I don't understand why you would go to electric instead of renewable resources like solar or wind power turbines.

Man: (Unintelligible), you want to give that one?

Man: Oh, sure. Go ahead.

Man: Okay, then. So I'm not - there just might be - that might be a question based in some confusion. So when we talk in the report, if I understand the reference correctly, to converting customers to electric heating, what we're talking about is conversion to electric heat pump technology which is a relatively recent technology that allows in cold climates, for very efficient under some circumstances, of heating. So not like electric resistance heating.

And that would be powered by grid energy. So as New York State's CLCPA policies drive down the carbon intensity and ultimately hopefully to, you know, to zero carbon off the power grid, then essentially you'd be using wind, solar, other carbon-free energy sources to run your ground source or air source electric heat pump.

So when we talk about transitioning to electric heating that is essentially a way of using clean electric resources like wind and solar, to provide space heating.

Bryan Grimaldi: Okay. Thank you for your question. Next caller, please.

Coordinator: Our next question comes from (Nicholas Sherman). Your line is open.

(Nicholas Sherman): Hello, yes. Thank you for the opportunity. My question is about the Clove Lakes transmission loop. Clove Lakes on Staten Island is protected,

near city park land. It's historic. It's been park land for quite some time. And I believe there are freshwater wetlands there regulated by DEC. Could you speak more about the route of the transmission pipeline you're proposing and how that would affect the park land there? And are you looking to try to take an area of the park land? Thank you.

Bryan Grimaldi: (Pete Medstor)? Can you take that?

(Pete Medstor): I'd be happy to. Thank you for your question. So the route of the Clove Lakes transmission loop has not been determined at this point, but it would not be veering off of public right of ways as things stand today. So we would be following existing roadways and existing developed areas. And we would look to limit any environmental impact of the pipe as it would be installed.

Bryan Grimaldi: Thank you for your question. Next caller, please.

Coordinator: Our next question comes from...

(Judith Canevra): (Judith Canevra), (Payne) Energy Project. Hi. Yes. I'm questioning the choice of the route of the MRI, what we call the North Brooklyn Pipeline, and its lack of adherence to the principles of the Climate Leadership and Community Protection Act which requires that pollution be measured and reduced. That high risk communities are identified and the air quality is being monitored for exposure to contaminants and criteria pollutants.

And that the state must prioritize projects that reduce the greenhouse gas emissions and eliminate these criteria pollutants, such as PM 2.5. And I don't see any evidence that the construction that took place in these disadvantaged communities of Brooklyn, were monitored in any way that is accessible to the public. I don't see any way that the public was notified or consulted about the construction that was being imposed on them.

So I'm asking the question, how do you resolve the lack of adherence to the provision in the CLCPA regarding disadvantaged communities?

Bryan Grimaldi: (Pete Medstor), do you want to address that?

(Pete Medstor): So the MRI project was constructed in accordance with all of the rules and regulations that were in place at the time that the project was conceptualized and permitted. So everything that was installed was in keeping with what was in place at that time.

As far as emissions from the project go, the project is a brand new length of high pressure steel gas main. And it is - has, was tested for leakage and it does not have any leakage activity on it. And so therefore, it is not contributing to any pollution with any of the - within any of the communities that it is going through at this time. Thank you for your question.

Coordinator: Our next question comes from...

(Billie Roberti): (Billie Roberti), Mothers Out Front.

Coordinator: Your line is open.

(Billie Roberti): Hi. I attended a wonderful webinar earlier today and heard about Massachusetts utility, Eversource, talk excitedly about a pilot district geothermal project on the horizon. They get it. They see a way for their gas utility to stay viable in this changing world. There is a video of it that you all should watch.

If you show the same enthusiasm for these kinds of projects we could join you in asking the PSC to allow National Grid to enter the thermal energy market. Given that you did a geothermal demonstration project in Riverhead to great success, which has been reported in newspapers, why are you not aggressively pursuing a pilot district geothermal project like this?

This would reduce gas demand, advance the Climate Leadership and Community Protection Act goals, and show you are serious about helping reduce greenhouse gas emissions and perhaps ameliorate the kind of emergency we're in. So why are you not aggressively pursuing such a project?

Bryan Grimaldi: Steve, go ahead.

Steve Caldwell: Thanks. That's a great question. So we're very familiar with Eversource's demonstration project in Massachusetts, because one of our New York City and Long Island gas utility affiliates is Boston Gas that National Grid also owns. And so our Boston Gas company actually has a companion project to Eversource's, right, to test other aspects of geothermal. And that pilot proposal is pending now, before the utility regulator in Massachusetts, and we're hopeful - we're excited that we can join Eversource hopefully, in demonstrating that in Massachusetts.

But here in New York too, as the caller mentioned, we were a leader on ground source heat pump deployments. We've got our Riverhead Long Island pilot project that's been in the ground and operating for a couple of years and had been successful. And we've also been pushing expansions of geothermal in our rate cases and other venues.

We are making headway in a couple of different ways. So we have in the pending rate case before the New York Public Service Commission. We have provisions that would have the company do a minimum number of what is so-called non-pipes alternatives, solicitations each year. And those could be for different purposes.

One of the anticipated purposes is to identify some of our leak-prone pipe replacement where we have older mains that are scheduled to be replaced. And we'd like to try and find some of those where we might be able to instead of spending money, to replace them.

We could essentially cap them and take all the customers served by the - a segment of the network now, and convert them to likely electric heating. And

one of the great opportunities potentially to explore to do that, would be to create these geothermal networks.

We could move customers en masse in a targeted part of the network, to geothermal heating. And then retire the gas mains that had been serving them. And that's, you know, also we would see a role generally potentially as part of the heat electrification that needs to be pursued in the longer term under the distributed infrastructure solution. We could see a role for geothermal network there too.

So we are, like Eversource, exploring that and see some potential for it to...

Bryan Grimaldi: Okay. Thank you for your question. Next caller please.

Coordinator: Our next question comes from...

(Anna Somo): (Anna Somo), No North Brooklyn Pipeline Coalition.

Coordinator: Your line is open.

(Anna Somo): Hi. Good afternoon. Thank you for taking questions. My question is in regards to the LNG barges, which I understand is a proposed backup plan if the pipelines are not able to be built. Can you please tell us where these LNG barges are planning to be located? Thank you.

Bryan Grimaldi: Sure. Thank you for your question. Samara, can you take that?

Samara Jaffe: Yes, Bryan. I'm happy to. So at this point it is kind of a high level concept that we're exploring. I think that Steve pointed out earlier, it's a technology that we know throughout the - throughout North America, it will (tend) to be repurposed to meet (LBC) needs as well as other needs.

So at this point, it is something that we are just exploring to see if the market could support it. And from there we will start looking at what point of our system it would make sense to bring it in at.

Bryan Grimaldi: Good. Thank you, Samara. Next question, please.

Coordinator: Our next question comes from...

(Marva Spindleman): (Marva Spindleman).

Coordinator: Your line is open.

(Marva Spindleman): Hi. Since all of these projects would break our (assignment) law, have you offered a request for proposal for the energy efficiency and electrification options?

Bryan Grimaldi: (Unintelligible), do you want to take that?

Woman: Sure. So we are going to be launching our weatherization programs this fall that will be available for residential customers. And there will be a custom program available for commercial and industrial customer and multi-family customers, beginning this year. And then our proposal is that next year we include new prescriptive programs for our multi-family and small business sectors.

So we will be offering for the residential portion of this weatherization program incentives for homeowners to engage in weatherization. And we're also incentivizing the energy efficiency implementation community with performance incentives, so that as they bring on new weatherization programs that bring us demand reduction, they will also be incentivized. So yes, we're working with the markets in order to bring those weatherization programs to life.

In terms of the incremental electrification program, we're in the process of working collaboratively with Con Ed and PSEG Long Island to find a way that we can work together with their existing programs, to scale up an incremental program that can deliver more demand reductions through heat electrification.

Bryan Grimaldi: Great. Thank you for your question. Next caller, please.

Coordinator: If you'd like to ask a question, please press star 1, unmute your phone and clearly state your name for question introduction. One moment.

Bryan Grimaldi: If we have no other questions, we'll take a five minute break and we will come back and engage in the open floor for public comment. No more questions?

Coordinator: I do have a couple more questions. One moment. Our next question comes from...

Man: Name not recorded.

Coordinator: Your line is open. Caller?

(Andy Carlson): (Andy Carlson), (Southwick) Gas.

Coordinator: Your line is open.

(Andy Carlson): Hi guys. I have a question for you regarding your pathways program that you mentioned. Can you expand on what the specific criteria is for the pathway that you guys are exploring? Is it a high bio gas option, high - a high electrification option? Hydrogen? Just any information on that would be awesome.

Bryan Grimaldi: Sure. (Don Shabaz), can you address that? (Don), are you with us?

Steve Caldwell: Bryan, if (Don)'s not - he's having some trouble, I can take that one.

Bryan Grimaldi: Go ahead, Steve.

(Don Shabaz): Hey Bryan, this is (Don). I just came back. Was there a question? I thought we took a five minute break. I apologize. I walked away.

Bryan Grimaldi: (Don), we had three more callers in the queue, so we're going to take those three callers and then we're going to go to the break.

((Crosstalk))

Steve Caldwell: (Don), can you just explain a bit about the pathways we explored in the New York City study; what they were?

(Don Shabaz): Sure. We looked at sort of an analytical body of work to get to at least 80% emission reductions. When we started at the time, more than two years ago, New York City had an emission reduction target of 80%. Beyond that we have moved to net zero. But we looked at sort of three technology pathways that would at least reduce emissions by 2050, by 80%.

And we looked at using various levers - different technologies. One pathway was the electrification, relying mainly on the electrification of heat in all the other sectors. The second was the low carbon fuels pathways, to use also electrification and also low carbon fuels. And the third pathway was a diversified pathway that was a combination of the two.

Bryan Grimaldi: Thank you, (Don). Next caller, please.

Coordinator: Our next question comes from...

Man: Name not recorded.

Coordinator: Your line is open. Caller, your line is open.

Bryan Grimaldi: Operator, if there's no one there, can we go to the next question?

Coordinator: (Kim Frachek), your line is open.

(Kim Frachek): Hi. I just wanted to ask why you turned off the video and sound during the process of this event; why you turned off the video and sound when you had cameras on before the meeting started, and you clearly had sound with each other? This creates a lack of accessibility when we need two devices to participate in this event.

And it creates sort of a lack of trust with the community. So I'm just wondering like, why you are choosing to (keep) video off. And also just wondering if you know about our gas bill strike?

Bryan Grimaldi: Our cameras are on. You must be having technical problems. Next caller, please.

Coordinator: I have no additional questions at this time.

Bryan Grimaldi: Okay. We'll take our five minute break and we'll come back for the public forum. Welcome back, everyone. We'll now move to the public comment portion of the program. And if you've signed up to make a statement you'll be called on in the order in which your request was received. To be able to accommodate all those who requested participation, during the public comment section speakers will be held to a strict two minute limit and will be given a warning at the 1:45 mark to please wrap up.

At the 2:00 mark we'll move to the next speaker in line. So please keep your comments succinct and be mindful of the time limit. Additionally, individuals will only be permitted one turn to have the floor. Additional opportunities for feedback are included on the micro site for the long term plan, located at NGridSolutions.com. I'll now turn the floor over to the operator to admit the first caller.

Coordinator: Thank you. If you'd like to leave a public comment, please press star 1, unmute your phone, and clearly state your name to request comment introduction. One moment. Our first public comment comes from (Nicholas Sherman). (Nicholas), your line is open. (Nicholas), your line is open.

(Nicholas Sherman): Hello. Yes. Hi. My name is (Nicholas Sherman). I'm a lifelong New Yorker who lived on Long Island for over 20 years, and currently live in Queens, New York. I am currently a Con Ed customer, but am commenting today as someone who has friends and loved ones who are National Grid customers.

And as someone who previously lived within National Grid service zone within a few miles of the Iroquois Pipeline, the Northport power plant area, and the Greenpoint Energy Center. I'm a volunteer of Clean Energy Project and a citizen advocate for climate action. I also have asthma which is worsened by bad air quality working by fossil fuels.

Tonight I'd like to express my significant concerns about your company's Natural Gas Long Term Capacity Second Supplemental Report. National Grid's proposal to add two new LNG vaporizers at Greenpoint Energy Center, will increase emissions of air pollutants including particulate matter, VOCs and nitrogen oxides.

I live only a few miles from this facility. The air quality in the region does not currently comply with federal standards in this project, in the CNG trucks, LNG barges, and Clove Lakes loop which you also proposed, would worsen air quality. This project also violates the greenhouse gas emissions renewable energy and equity mandates of the CLCPA; in a designated potential environmental justice area, no less.

These acts go against your spokesperson's claims that National Grid is looking at being a responsible community partner and trying to meet the net-zero greenhouse gas emission goals of the CLCPA. Personally...

Bryan Grimaldi: Fifteen seconds to wrap, please. Thank you.

(Nicholas Sherman): Okay. I think your proposals are morally wrong and deeply disturbing. Thanks for the op...

Bryan Grimaldi: Thank you for your comment. Next caller.

Coordinator: Our next public comment comes from (Margo Spindleman) (Margo), your line is open.

(Margo Spindleman): You know, I had a comment to read, but this is such - clearly such a farce that my comment is that I object to this entire sham and that I've joined the gas bill strike and won't pay for any fracked gas infrastructure.

Bryan Grimaldi: Thank you for your comment. Next caller, please.

Coordinator: Our next public comment comes from...

(Mary Finnerman): (Mary Finnerman), sales company. I'm done.

Coordinator: Your line...

(Mary Finnerman): Hi. I'm (Mary Finnerman). That came across very loud and weird, but I live up by the Iroquois pipeline, not far where that would be. And one of my first things that I wanted to say is can you say pipeline instead of transmission system, because there's a lot of different transmission systems and I think the public would be confused if they don't understand that it's gas pipeline when you're talking about the Iroquois system.

But I also - I was wondering - I have the second report and I perused the second report and I saw some new charts that you showed that showed how for the net-zero chart how that's going to - what will happen as things get withdrawn as you're heading towards net zero. And that's not in that report. Will it be in your third report that comes out in August?

That was a question that I wanted to ask. I was signed up to ask questions and you couldn't hear me so I was passed. But I want to, you know, say it's - this has got to stop. I mean, you know, I have family in Portland, Oregon. You know, when the high was 40 degrees, when the record-breaking high was 40 degrees higher than the last record, it's getting to be really scary, and we have to do something about this.

But I also wanted to just make a comment about your - I saw this also too, you seem to be very proud that you've got the largest CNG network which means trucks carrying compressed natural gas. And upstate we've been calling them bomb trucks because these are extremely dangerous. And you're going to be having them go through New York City where I think...

Bryan Grimaldi: Fifteen seconds to wrap, please (Mary). Thank you.

(Mary Finnerman): Thank you.

Bryan Grimaldi: Next caller, please. Thank you for your comment.

Coordinator: Our next comment comes from (Barbara Hatal). Your line is open. (Barbara), your line is open.

(Barbara Hatal): Hi. Hi. I just want - my name is (Barbara Hatal) and I'm a North Brooklyn resident. I'm opposed to the Greenpoint LNG vaporizers by CNG on Long Island, the expansion of the Iroquois pipeline and other fracked gas projects. These projects represent financial greed, not working toward a net-zero solution whether (unintelligible) fracked gas gas.

You have been gaslighting your customers. If you really wanted to meet net-zero you do not need these polluting construction projects. Your projections are incorrect as more people choose heat pumps and the thermal heating. Please listen to the people and not National Grid.

And also you've got to stop picking on Indians. Everybody does. (Unintelligible) they're out there, you know, building oil pipelines, and you're going to go do more on Long Island. That's insane. So please stop, you know, doing all this racial crap and start - just go to your net-zero solutions. Thank you.

Bryan Grimaldi: Thank you...

Coordinator: Our next...

Bryan Grimaldi: ...for your comment. Next caller, please.

Coordinator: Our next public comment comes from (Eric Sherman). (Eric), your line is open.

(Eric Sherman): Hello. Can you hear me? Hello?

Bryan Grimaldi: Yes. Yes, we can hear you.

(Eric Sherman): Okay, great. So my name is (Eric Sherman) and I'm calling today. I understand the limitations of the existing system that we have, and I understand that the potential shortfalls could cause a lot of havoc within existing infrastructure. But my position is that all new fossil fuel projects must not be built.

We are not acting in correspondence with the emergency at hand. I understand all of the challenges that you guys have to go through with your existing networks and all the challenges to maintain service to all of your existing customers. But we need to act as if the house is on fire. Our house is on fire.

And what we need from you is strong leadership to be able to pull us out of this potential mess that by 2050 is going to be too late. I understand that you have several interesting opportunities with respect to geothermal and wind, but I just implore you to please push as hard as you can and to investigate all these options and not even investigate, to implement as many of these

renewable energy options as we possibly can, and pull away from all the fracked gas projects that we possibly can.

Because we know that they are destructive. We know that they hurt people. We know that they destroy the environment. And the more that we do them, the more we are hurting ourselves. So please use all of your power in any way that you possibly can, to help push away from fracked gas and other fossil fuel projects. And help push us into a more sustainable future. Thank you very much.

Coordinator: Our next public comment comes from...

(Louise Ishi): (Louise Ishi), National Grid customer.

Coordinator: Your line is open.

(Louise Ishi): Hi. Yes. I have to agree with (Margo) that this entire hearing is a farce. You have completely ignored in this second report, the thousands of public comments and the people that showed up during a pandemic, when New York City was being ravaged by a pandemic, to speak out against any of these fracked gas distributed projects.

You have not addressed any of our concerns about the health of these projects. And you have not addressed any of our concerns about the climate impact. So that is why I am one of now over 200 people who have joined the gas bill strike. I will never pay for the North Brooklyn pipeline. I will never pay for any of your racist ass fracked gas infrastructure that is hurting people.

So that's what you guys have to deal with now. And that's what we're here today to say. Thank you.

Coordinator: Our next public comment comes from (Susan Albrecht). Your line is open.

(Susan Albrecht): Thank you. You know, I left a message or a question earlier. I'm a 30 year resident of Greenpoint, and I'm very concerned about the environmental impact of both the LNG facility and the pipeline. I have significant concerns about the lack of truly sustainable new initiatives that you are trying to pursue, and the lack of transparency about the new pipeline and the fracking.

In New York City and New York State, they are committing to a 70% renewable energy goal for 2030. And I think that you should be showing us what you're doing to try to work towards those goals, as opposed to showing us the scary bills that we're going to pay, and the bills that are going to be most significantly impacted in the lower income communities.

Coordinator: Our next public comment comes from (Lisa Marshall). (Lisa), your line is open.

(Lisa Marshall): Yes. Hi. Thanks for calling on me. So a year ago National Grid, when the final denial of the Williams Pipeline came down, you presented three alternative options, including Option C, the no infrastructure option. And at

the time, you pointed out that the cost of the no infrastructure option to the ratepayers was actually less than the cost of the proposed Williams Pipeline.

So I noticed today that you emphasized the cost of the alternatives versus the cost of your expanded gas infrastructure. But you didn't really mention the fact that your original Plan A would have cost us all a whole lot more than any of the options that you're putting on the table now.

Further, you also noted in that - in your own proposal at the time, that the energy efficiency upgrades to homes and buildings, would be a $2 billion dollar investment in the local economy. And so - and would stimulate local economies a $1.8 billion investment through 2035. No mention of that benefit was brought up today in your presentation, and I'm really wondering why.

And lastly, you know, the benefits of electrification and energy efficiency and demand response benefit customers in the short term, but also in the long term with more comfortable homes, lower energy bills, and reducing fossil fuel use overall. Again, no mention whatsoever of those benefits in your presentation today.

I'm absolutely outraged. I have no reason to trust you as a company, to take care of me and my children and other New Yorkers. I live upstate. I'm not in the downstate case. But you sold a pipeline right in my town to the Dominion Company and then you posed as the customer for the gas.

Coordinator: Our next public comment comes from (Corwin Duncan). Your line is open.

(Corwin Duncan): Thank you. I also object very strongly to any further natural gas infrastructure. I would ask you seriously, to consider - oh, I'm sorry, one thing as well. There was a question earlier in the question period about the videos not being on for the presenters, and the answer was that the video is on. That is not true for me either. And I'm not sure why you would - like I'm not sure what's happening there.

But either there's a consistent problem with that or you're just not - you don't have your video on. And I agree that that decreases trust in the community. Not that there's a lot there to begin with. I think the refusal of National Grid to take strong action away from further fossil fuel infrastructure, is fundamentally cowardice in the face of an emergency.

And I ask you to look at what actions you can take, not words you can use, not studies you can explore, but what actions can you take that will impact the communities you are ostensibly certain to reduce? Absolutely reduce, not increase fossil fuel infrastructure and reduce fossil fuel usage. For example, not having any more new hookups. And I know that's not what you're doing right now.

You're talking about increased usage over the next few years by stopping new hookups, or reducing your hookups, that will reduce your usage and force other energy sources. Please take strong action as leaders rather than

acting from a place of cowardice and going with what you believe is the only way to move forward. Thank you. That is my time.

Bryan Grimaldi: Thank you for your comment. Next caller, please.

Coordinator: Our next public comment comes from (Kim Frachek). Your line is open.

(Kim Frachek): Thank you so much. National Grid CEO makes $3600 per hour. Per hour. So there's no incentive for your company to move to renewable energy because John Pettigrew is profiting off making mass purchases of local energy systems like two of them here in New York State and Massachusetts and elsewhere.

We see our energy system as a human right. And this is not a commodity for John Pettigrew or any of you that are working for him. We already gave tens of thousands of comments against your fossil fuel proposal when this investigation for long term solutions was mandated for you. And you have not implemented any of them.

You've also - you never put out a request for proposals for the energy efficiency options. So it's clear you're not really serious about it. You're ignoring our support for energy efficiency on a mass scale. So it's just really like us people up against a massive corporation that's trying to capitalize on our our lives.

And we're going to fight you and we're going to fight for public power, because we don't want you in our state anymore. You guys can go back to the UK. I know some of you are local folks working for National Grid, but we can get you better jobs, you know, working for a much more equitable community focused on, you know, energy company that's owned by the people.

And I have joined the gas bill strike because I am not going to pay a dime to any of you for fossil fuel infrastructure so John Pettigrew can continue to make $3600 per hour. Thank you.

Coordinator: Our next public comment comes from (Judith Klepper). (Judith), your line is open.

(Judith Klepper): Yes. I truly wish that I had been able to ask this as a question, but I'll take it as a comment. So let's talk about the great savior hydrogen, and your assurance that the wonders of hydrogen are just around the corner. I have no reassurance on that score. I don't see anything in the literature that reassures us that hydrogen is the answer to continuing to build all these pipes.

The production of hydrogen, it includes the continued burning of natural gas or fracked gas, as we call it. Ninety-five percent of hydrogen being used in industry right now is what we call gray hydrogen. It's gray because it comes from methane. Then there's the dream of carbon capture and sequestration

with carbon capture and storage with what we call blue hydrogen. Still involves methane.

And then there's the mythical answer of green hydrogen using renewable energy to produce this hydrogen. That doesn't address the question of how are you going to scale up renewable energy to the point that it's going to be used to make hydrogen, which is like using a middleman when we could eliminate these pipes and just use the renewable energy directly.

So it's just mystifying to me for anybody to go along with this idea that these pipes are going to be useful in the future because we're going to run hydrogen through them, which is a molecule of two atoms so tiny that what pipe that you're building now could possibly prevent leakage by hydrogen, or damage by this molecule?

So that's it. That's what I have to say. And I certainly wish that I had asked it so that you could respond to it.

Bryan Grimaldi: Thank you for your comment. Next caller, please.

Coordinator: Our next public comment comes from (Jonathan Jackson). (Jonathan), your line is open.

(Jonathan Jackson): Hello. Thank you for taking the time to hear our comments. To Greenpoint 20 years, I'm originally from England. (Unintelligible) about Greenpoint is the long history of environmental injustice and burdens that have happened and of course the longest one is the one from the petrochemical oil and gas industry.

And, you know, also we have a (super fund) site like half a mile from where I live in (Unintelligible) Creek. And that one got sued to clean it up, all around where the LNG facilities that you're proposing and I don't know if you've got permits for it and so it's going to need cleaning up. And I know in the rate case that that remediation cost was kind of unknown.

So, therefore, if the ratepayers of National Grid are going to have to pay for the project, the unfinished project, as it sounds and god knows how long it's going to take, after all the remediation, I would, you know, I'm definitely going to look into how much the extra cost this is going to cost us.

And it's a horrible irony, right, a horrible irony that the ratepayers have to pay for the cleanup of another oil and gas corporation coming in after 100 years of oil and gas and petrochemical industry causing the original pollution. It's a horrible irony and the last 30 seconds, I'm - in the Quaker tradition, I'm just going to say what are we going to do about climate change? And maybe just we can have some silence and think about that.

Coordinator: Our next...

Bryan Grimaldi: Thank you for your comment.

Coordinator: Our next public comment comes from (Billie Roberti). (Billie), your line is open.

(Billie Roberti): My name is (Billie Roberti) and I live in Huntington Station. I'm addressing you tonight as a member of Mothers Out Front, speaking out for the children and their parents who worry about what kind of world they're leaving to their kids.

I normally would thank National Grid for this opportunity to speak, but I'm really tired of coming to you saying we don't want more gas and then being ignored. You tell us at stakeholder comments are being heard. But that's not really true, is it? If you had, we wouldn't need this meeting.

We New Yorkers have already made it clear that we oppose Greenpoint LNG Vaporizers, CNG on Long Island, expansion of Iroquois Pipeline and any other fracked gas project. And we say no to the Clove Lakes pipeline and LNG barges if National Grid moves towards these fracked projects. When are you going to get it? No means no.

The climate crisis has escalated to a climate emergency, in case you have not been aware of the record breaking heat waves in the Pacific Northwest and other devastating weather patterns. The time for delay is over. We can't be looking at 2050. We have to look at 2030.

Multiple reports have already proven National Grid is overestimating the gap between supply and demand. Demand will not follow the trends you project. Areas you hope to expand into with gas will be switching to ground source heat pumps. This latest report is more of the same non-solutions you have presented in the past.

You are also ignoring the health impacts of fracked gas. Communities near Greenpoint LNG facility have suffered from decades of environmental pollution. They need healing, not more. Even those of us who live far from these facilities have had our indoor air polluted with fracking chemicals in the gas that is released when we cook our meals.

Respiratory problems are worse now due to COVID. The game has changed. You need to update your game. The gas bill strike is gaining momentum. Maybe the strike will change your mind. I certainly hope so. Thank you.

Coordinator: Our next public comment comes from (Eric Alexander). (Eric), your line is open.

(Eric Alexander): Hi. Can you hear me?

Bryan Grimaldi: Yes, we can. Thank you.

(Eric Alexander): Great. Thanks. (Eric Alexander) Division of Long Island. Also, Long Island Main Street Alliance which is 45 downtowns. Before the pandemic, in prior years, there had been challenges getting transitory development in affordable

housing projects online with gas, with natural gas, during your moratorium period, which we ended up supporting the NESE pipeline because, you know, a lot of our small businesses and transitory development projects, also need to come online.

So we don't want to see that again. We hope you meet some of your demand goals. We obviously support renewables on a whole level, but we'll get to that in a second. We have 15,000 units of transitory development coming. Three thousand of those are affordable. We need 50,000 to 100,000 affordable units on Long Island like tomorrow, largely due to the exodus of folks from New York City, which they're causing a massive affordability problem in our region, which we already had.

So that gets me to affordability. We'll leave it to the regulators and others to figure out the demand side. The affordability for us, big problem. We're concerned that if you don't meet your goals home heating oil and propane will be a use that folks are going to look for because we support wind but there's a cost with that. Electric heat pumps they are still more costly. Geothermal is really, unfortunately right now, for millionaires and not for all building types.

Bio gas isn't here yet. So in the end we want to get to net-zero as quick as possible, closer than 2050. And we're lobbying for subsidies with other environmental groups. But we don't want to see our small businesses or residents, hurt in the process also, with the cost of everything going up. Affordability is very important for folks.

So I just wanted to make those comments. Thank you.

Bryan Grimaldi: Thank you for your comment. I see that there are no callers left in the queue.

Coordinator: We have no additional comments at this time.

Bryan Grimaldi: Okay. Well, thank you, everyone, for participating in our public meeting. We hope you found it informative. We will take your comments to heart and incorporate them into the supplemental report. And we look forward to receiving the public comments from those who were unable to make this meeting. Thank you so much for your time and have a good evening.

Coordinator: This concludes today's presentation. You may disconnect at this time, leaders, please stay on the line for post-conference. One moment.

END

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