ANNUAL UPDATES TO ITS LONG-TERM PLAN
CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
AND ORANGE AND ROCKLAND UTILITIES, INC.

Contents

Introduction

In its Order Adopting Gas System Planning Process, issued on May 12, 2022 in Cas No. 20-G-0131 (the "Gas Planning Order"), the New York Public Service Commission ("PSC" or "Commission") directed utilities to make long-term plan filings on a three- year cycle and to file annual reports relative to those plans on May 31 of each intervening year "to help stakeholders, Staff, and the Commission continue to develop and maintain their awareness and understanding of the LDC's long-term plan." The Gas Planning Order details the contents of the annual reports and the Commission's recent Order Regarding Long-Term Natural Gas Plan and Requiring Future Actions, issued on September 20, 2024 in Case No. 23-G-0147 (the "September 2024 Order") includes certain additional requirements for Consolidated Edison Company of New York's ("Con Edison") and Orange and Rockland Utilities' ("O&R") annual report. Con Edison and O&R's annual update to its long-term plan filed with the Commission on November 29, 2023 (LTP or Long-Term Plan) is outlined below.

Long-Term Plan Updates

Completed Initiatives

a. Demand Response Proposal – The September 2024 Order required the Companies to file at least one proposal for a demand response program for implementation in the winter 2025-26. The Companies filed their proposals in Case No. 23-G-0147 on January 21, 2025.
b. Non-Pipeline Alternative ("NPA") Deployment Plan - The September 2024 Order required the Companies to file NPA deployment plans that reflects input from PA Consulting and available for stakeholder comment. The Companies filed their plans in Case No. 23-G-0147 on January 21, 2025.
c. Identification of Pipe Segments subject to Pipeline and Hazardous Materials Safety Administration - The September 2024 Order required the Companies to file reports identifying all the segments subject to the regulations and for all the segments for which the Companies do not have traceable, verifiable, and completed records to substantiate maximum allowable operating pressure and need testing and/or replacement to maintain pressures. It would also include details for verifying the maximum allowable operating pressure of each of the segments including pros and cons of each alternative and its cost. The Companies filed their reports in Case No. 23-G-0147 on January 21, 2025.
d. Supplemental Report on Benefits to and Impacts on Disadvantaged Communities - The September 2024 Order required the Companies to file a report regarding the benefits to and impacts on disadvantaged communities that can be expected for actions unique to the Final LTP. The Companies filed their plan in Case No. 23-G-0147 on January 21, 2025.

e. Additional Annual Report Requirements – The September 2024 Order also identified a number of requirements to be included in addition to the ones in the Commission's Gas Planning Order, these include:
    - Detailed and disaggregated perspective regarding customer counts and annual use per customer;
    - A de-contracting framework for supply assets, including peaking contracts;
    - A specific definition of hard to electrify customers for each service territory;
    - Annual participation rates in energy efficiency programs and total energy savings in dekatherms and MMBtus by program and their impacts on use per customer; and
    - A bill impact analysis that reflects reduced natural gas usage by a representative gas customer over a 20-year period for every service classification, including interruptible customer classes.

Ongoing Initiatives

Listed below are steps towards implementing all necessary processes, policies, resources, and changes in standards impacting gas operations and supply.

a. Low carbon fuel pilot – The Company is in the process of developing a low carbon fuel purchase pilot for its steam customers. The pilot will provide guidance for the Company's efforts to develop additional low carbon fuel pilot programs for its natural gas customers.
b. Disadvantaged communities – The Companies shall conduct robust stakeholder engagement with disadvantaged communities when considering a new programmatic activity to identify the potential benefits and impacts associated with these activities. The Companies will consult with Staff on these engagements within 45 days including consulting beforehand to detail the groups that will be engaged, providing meeting agendas, and notes within 5 days from each engagement
c. Asset depreciation – As we navigate the transition to a sustainable energy future, it is crucial to address the financial implications of our investments. We continue to invest in the system because safe and reliable operation is core to our customers. Given that we continue to invest while we look for ways to moderate the costs, the priority continues to be safety and reliability, efficient operations, and programs like non-pipeline alternatives. Without adopting asset depreciation practices that account for the shorter economic lifespan of gas delivery investments, fewer customers in the future would bear the burden of remaining gas system costs. Implementing alternative depreciation methods can mitigate this unintended consequence of decarbonization policies. The Company has proposed reducing average service lives for some gas system investments as part of its pending rate case filing.

d. Data Sharing – Make at least minimally necessary data available to clean heat developers, e.g., specific areas where leak-prone pipe segments exist that could be targeted for abandonment and where infrastructure projects may be needed in the near future to maintain system pressures.

System Planning Update – Progress to date

Updated Revenue Requirement

A number of updates were made to the annual revenue requirements for the Reference case. For Con Edison, these updates include updated public improvement and customer connections budgets that reflect revised load forecasts. It also recognizes planned changes to capital expenditures for the Gas Infrastructure Retirement and Replacement Program (GIRRP), which constitutes approximately half of Con Edison's annual gas capital budget.[1] The Reference case presented here assumes a slower rate of growth for GIRRP expenditures over the next ten years than in the Final GSLTP as a result of factors discussed in the Company's recent Integrated Long-Range Plan and its January 2025 rate case filing.

For O&R, capital and O&M budgets and trajectories have been updated to reflect the company's rate case settlement, which was approved by the Commission in March 2025. In general, the Reference case assumes higher capital costs because of New York State's adoption of a strict prevailing wage requirement for companies engaged in street excavation work, including utilities.

The budget figures presented for both Con Edison and O&R are high-level, long-range budgets prepared in late 2024 and may not exactly match final calculations presented in formal rate filings. To maintain comparability with the Hybrid and Deep Electrification pathways presented in the 2023 GSLTP, some assumptions, such as rate of return and depreciation rates used in preparing the Hybrid and Deep Electrification pathways were retained. Updated figures are provided in Appendix A.

Updated load forecasts

The September 2024 Order requires the Companies to provide detailed and disaggregated perspective regarding customer counts and annual use per customer. These forecasts are provided in Appendix B. The Reference case firm volume forecast was updated using the process described below. The hybrid and deep electrification firm volume figures represent a

[1] The GIRRP focuses on retirement or replacement of leak-prone gas mains, specifically targeting small diameter mains (12 inches or smaller) made of cast iron, wrought iron, and unprotected steel (pre-1972).

subset of the total gas volume that was filed in the Final GLTP. For all scenarios, 2025 was updated to reflect what was in the Reference case.

The process for developing a disaggregated perspective on natural gas customer counts and annual usage per customer involves several key steps. Initially, the most recent official natural gas volume forecast serves as the foundation. This volume forecast is built by first using actual historical delivery volumes, which are then adjusted through a process of weather normalization to account for deviations from normal weather conditions. Next, these volumes undergo water normalization to adjust for variations in water temperature. Following this, adjustments are made to account for calendar and billing cycle sales, low-income customer changes, and transfers between firm and interruptible services. The forecast also incorporates the impacts of energy efficiency programs, electrification of heating and appliances, new business growth, and oil-to-gas conversions. Once completed, the volume forecast is extended using peak growth rate ratios, which involved analyzing peak demand data and applying these ratios to extend the forecast over the long-term horizon. This approach integrates the expected changes in customer behavior and market conditions, providing a comprehensive view of future gas demand up to 2050.

The customer count forecast is developed combining historical data collection and advanced econometric regression models. Initially, historical customer count data is gathered for each service classification, including residential, commercial, and industrial customers. This data is then adjusted to correct any known anomalies, such as billing adjustments or transfers between firm and interruptible services. Next, time-series regression equations are formulated using econometric and ARIMA models. These models incorporate various influencing factors such as historical trends, economic indicators, and expected changes in customer behavior. Additionally, adjustments are integrated into the forecast to account for new business growth, oil-to-gas conversions, and the impacts of energy efficiency programs and electrification initiatives. The resulting customer count forecast is then used to estimate the number of bills and the associated gas volumes for each service classification. The final step is to calculate the average consumption per customer type by dividing the natural gas firm sales by the customer counts for all service classes and all years in the forecast horizon, up to and including the year 2050.

For the hybrid and deep electrification scenarios, the annual use per customer was calculated based on the energy consumption reduction assumptions from the Final GSLTP. For the hybrid scenario this included a 9% reduction in energy consumed per square foot in buildings due to applicable and building shell improvements and a 23% reduction by 2043. For the deep electrification scenario this included a 20% reduction in energy consumed per square foot in buildings due to applicable and building shell improvements and a 41% reduction by 2043. The customer count was then calculated using the total volume forecast and annual use per customer.

Program Changes – NPA process

The Companies provided NPA deployment plans which were filed in January 2025 to show that they: 1) improve NPA programmatic design to eliminate barriers to NPA adoption; 2) leverage regional surveys and other stakeholders' reputations and tools, including community groups and local elected officials, to improve recruitment; 3) identify early investments, including leak-prone pipe segments suitable for NPA treatment, that are beyond the three-to-five-year horizon; 4) maintain line-of-sight of the electric grid impacts of electrification; 5) provide more specificity regarding alternatives; and 6) provide detailed assumptions and expectations for NPA programs going forward.[2]

Con Edison also submitted a NPA Implementation Plan update and NPA Annual Report in November 2024,[3] which described in detail how the Company plans to address gas infrastructure needs through energy efficiency and electrification measures.

A brief summary of the activities to date: For the Electric Advantage Program, Con Edison has successfully electrified 21 buildings, enabling the abandonment of ten full gas mains and five partial gas mains. For the Energy Exchange Program, the Company's active portfolio consists of 16 projects, four of which have been completed. For the Area Load Relief NPA program, the Company incentivized measures for eligible customers from April 2023 and through September 2024. The Company completed eight Multifamily gas energy efficiency projects, one Small Business space heating, and one Residential space heating project in the Soundview area as part of this Area Load Relief NPA portfolio.

O&R launched its NPA program in April 2024 and has prioritized leak prone pipe ("LPP") and farm tap removal gas capital projects as its initial NPA projects. O&R is executing these types of NPA projects under the Electric Advantage Program which currently consists of five active projects. There are a total of 23 customers across these five projects. To date, the Company has completed two installations disconnecting these customers from the gas distribution system. The Company is actively engaged with several interested customers, conducting site assessments and drafting of customer agreements. The Company plans to expand the NPA program and pursue gas capital projects beyond LPP and farm-tap replacements, including system reinforcement, main extension, and service lines. As part of its 2025 Joint Proposal, O&R will host a technical conference in the second half of 2025, and annually, to detail its current NPA program and future program expansions with Staff, community leaders, and other stakeholders. Each rate year it will also file 3 quarterly reports covering the status of ongoing and planned NPA projects for the

[2] Gas Planning Proceeding, GSLTP Order, p. 53.

[3] 2022 Rate Case Proceeding, Non-Pipes Alternatives Implementation Plan Update and NPA Annual Report (filed November 18, 2024).

previous quarter. In lieu of a fourth quarterly report, O&R will file an annual report no later than January 31 detailing the overall NPA activities, program changes, and lessons learned in the previous year.

Actual Usage

a. Natural gas throughput for the previous winter
   - Con Edison: 189,529 Mdt
   - O&R: 18,005 MDt

b. Gas customer load for the previous winter
   - Con Edison: 126,056 MDt
   - O&R: 17,927 MDt

c. Peak day load for highest system throughput day reported by customer segment (residential, commercial, industrial and electric generation)[4]
   - Con Edison peak day load of 1,703 Mdt
     - 1,257 Mdt (843 Mdt residential, 414 Mdt commercial/industrial)
     - 446 electric generation
   - O&R peak day load of 205 Mdt
     - 205 Mdt (144 Mdt residential, 61 Mdt commercial/industrial)
     - 0 electric generation

De-contracting framework

The September 2024 Order directed the Companies to provide a de-contracting framework for supply assets, including peaking contracts. The design basis for Con Edison and Orange and Rockland gas systems are N-0, not N-1, from a relatability/operational security design, do not have any loss of load expectation, do not include reserve margins to accommodate any loss of supply due to equipment issues on a peak day, cannot operate safely with diminished system operating pressures, and rely on transportation from distant supply sources not under the Companies' direct control. In summary, in contrast to the electric system which maintains a 19% reserve margin, 100% of gas supply resources are assumed to be available in order to meet peak design day customer demand requirements. The loss of a gas interstate pipeline, compressor station, or a gate station is likely to result in a loss of gas supply to firm gas customers on a design winter day.

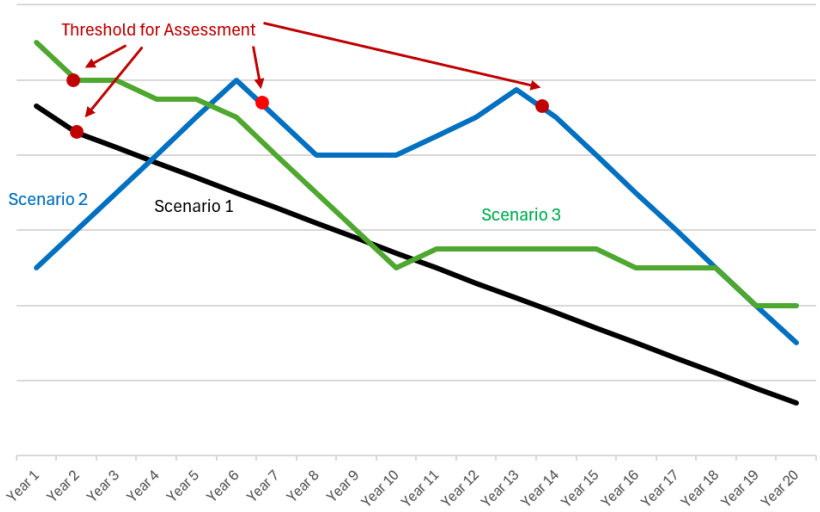
The Company seeks to maximize the use of its pipeline and storage contracts. It routinely releases portions of contracts that are not needed the full year through asset management agreements and discretionary releases and will continue to do so. The de-contracting framework for pipeline and storage contracts involves several steps and groups. The first threshold that

[4] The split between customers is based on actual usage for the respective month

would trigger an assessment is two-prong and dependent on our peak demand forecast: 1) that the most recent weather adjusted peak ("WAP") must be lower than the prior year at an amount that is greater than the margin of error and 2) the forecast has to be consistently declining for many years with no increase in the forecast. Electrification and energy efficiency forecast modifiers should be expected to outpace any new business increases. The decrease in WAP should also not be attributed to a temporary situation (e.g., COVID).

Illustrative demand curves are provided below to be used as guiding principles. The forecast informs how much you can release and how soon it can be done. In Figure 1 below, there are three illustrative natural gas demand scenarios with the year they meet the threshold for assessment marked by a red dot. Scenario 1 is the most straight forward and meets the threshold in year 2 since it decreases steadily over time. Scenario 2's demand decreases steadily but increases again after a number of years; the threshold for assessment is met in two instances. The first follows the first instance of the demand decreasing in year 7 where the Company would look to release capacity through asset management arrangements or discretionary releases for the period between the two peaks which would allow the ability to retain our right of first refusal and also reduce costs for customers. The second instance after the second increase in year 14 where the forecast decreases steadily afterwards. Scenario 3 is similar to scenario 2, however the increase in demand that is forecasted in year 11 is small, allowing the Company to release capacity between the year it meets the threshold and where the demand increases and flattens.

Figure 1: Illustrative Natural Gas Demand Curves



Once the first threshold is met, the resulting forecast would be provided to the engineering team to model the volumes at each of the gate stations. The engineering team and gas supply department would work together to see if delivered services can first be reduced and then determine which gate station requirements could be lowered while maintaining reliability and considering our loss of gate contingency. A sufficient decrease in load at a specific gate station is required to continue. The amount of decrease must be at least 1,000 Dt/d for one gate station.

The Company will proceed to examine opportunities based on contract availability for the gate stations where this threshold is met.

The Company would then go through the process of determining which contract would be the first to release by first retaining the contracts with the biggest benefits and identifying a remaining pool which are up for release. We would start by excluding contracts that are essential to balancing the gas system:

- Those associated with no-notice service (10 out of 74 contracts)
- Those that deliver from a storage field and provide intra-day flexibility. (28 contracts)

Of the remaining contracts, the contracts will be evaluated based on the minimum considerations listed below. The Company will evaluate the list of considerations on an annual basis to see if any additional characteristics should be included.

- Those that deliver to multiple utilities such as to both CE and O&R or to National Grid (14 contracts)
- Whether a contract is dependent on another contract to complete the path from supply to citygate (37 contracts)
- Liquidity of supply associated with the contract
- Economics of contract (Including cost and revenue potential)
- Cancellation notification time frame of path (may include multiple contracts) and how it aligns with timeline of decrease

Once a contract(s) has been identified, the Company will determine whether to reach out to the appropriate pipeline to discuss if lowered volumes are needed. Depending on the contracts identified, there may be one or more that would fit the decreased load amount. If there is a contract that fits the decreased load amount, the Company will proceed to cancel the contract in accordance with the contract's cancellation process.

If there is not a contract that fits the decreased load amount, the Company has two options. First, it may have to elect their ROFR right and let the pipeline post the pipeline capacity to the market. In such a situation, the Company may be unable to reduce the quantity if another party bids on it and we must match the term in order to keep the amount required to meet our load. If no other party bids, the Company may be able to negotiate a lowered volume commitment with the pipeline. Second, it may look for opportunities to release the portion of the capacity that is not required through either an asset management arrangement or a discretionary capacity release. It can do this through holding Request for Proposals to interested parties and reaching out to parties that have been interested in the capacity in the past. This would be done until the decrease in volume reaches the contract volume and could be released. The Company would also follow the steps of the second option where the contract volume is appropriate but there is time between when the Company cancels the contract and when the contract expires.

Update to O&R Vulnerable Locations

Kiryas Joel was previously identified as a vulnerable location in 2020 due to a local distribution system restriction. The distribution system was not capable of meeting the forecasted peak demand and associated reliability requirements without falling below minimum design pressure requirements and/or exceeding existing equipment flow specifications. A regulator station near Kiryas Joel was recently upgraded for increased capacity and reliability, along with associated distribution system reinforcement. In addition, a new regulator station and associated distribution system work is planned for the current 2025 to 2027 rate agreement to meet the increase in load and the associated reliability needs.

Definition of Hard to Electrify Customers

The September 2024 Order requires the Companies to develop a specific definition of hard to electrify customers for each service territory.

Introduction

The Companies acknowledge in their Final 2023 GSLTP that under all decarbonization scenarios, portions of the gas system will need to continue serving customers who face significant challenges in electrifying their buildings. While these customers will be encouraged to adopt electric solutions through various incentives and advance towards societal climate goals, many may still require the option to utilize low- to zero-carbon gaseous fuels.

In the September 2024 Order, the New York Public Service Commission (“PSC”) issued an Order directing both Companies to develop specific definitions of "hard-to-electrify" customers and sectors within their respective service territories. The Commission explicitly noted that these definitions would likely differ between the two service territories due to their distinct characteristics. For Con Edison's service territory, the PSC requested collaboration with the New York City Department of Buildings (“DOB”) in developing these definitions, along with a geographical distribution of hard-to-electrify buildings.

The Order anticipates that this definition and mapping exercise will help identify areas of the gas system that will need to remain operational in the long term. While it is not possible to identify the exact remaining customers of the gas system given the complexity of criteria contributing to customer decision making, we can show what may remain on the system by reviewing sets of publicly available data for the buildings in the Companies’ service territories. This data may suggest greater complexity and cost associated with converting buildings, necessitating more intervention to fully electrify them and eliminate the gas system. This in effect creates a range of levels of intervention required up to and inclusive of commercial/industrial customers, who may have limited viable electrification alternatives for some or all of their process uses.

It is important to note that although parts of the gas system may be phased out, the Companies continue to invest in the system to maintain its safety and reliability and it is prudent to ensure these investments can be recovered through a proper asset depreciation mechanism.

What this analysis does:

- Uses publicly available data by census tract
- Provides a directional level of intervention required for a given census tract, implying the likelihood that the gas system in the tract can be eliminated

What this analysis does not do:

- Indicate that all buildings in each tract require the same level of intervention
- Indicate that partial electrification of buildings in the area cannot be achieved
- Indicate that all buildings in each tract can be fully electrified
- Directly calculate costs
- Evaluate electric system costs and/or gas system savings resulting from building electrification

Rather than creating a binary definition of hard-to-electrify versus easy-to-electrify buildings, this analysis defines a spectrum showing different "levels of customer intervention" needed for buildings' electrification. These levels should be interpreted as the relative amount of effort and resources required to electrify heating spaces in buildings. For this purpose, the analysis creates a scoring system that focuses specifically on building technical characteristics that could be retrieved from publicly available datasets. The results are aggregated to the census tract area level and presented as heat maps—showing area averages rather than individual building assessments. The analysis and maps are limited to gas service territories of both Companies.

The results of this analysis indicate that achieving building electrification transition goals will require some level of customer intervention across almost all areas of the service territories. Drivers for adoption will therefore likely come through programs, policies, incentives, and future technological advancements. Policies such as Local Law 97 and programs such as Clean Heat can play an important role in accelerating this transition.

It is important to note that this analysis is high-level and directional in nature. Its scope was limited by data availability and the timeframe provided by the Order. Future iterations of the GSLTP will expand this work to incorporate additional criteria and to examine hard-to-electrify buildings from multiple perspectives that may make areas of the gas system more or less attractive to electrify, such as electric system capacity and potential savings on gas system capital projects that could result.

Many external stakeholders were informed and consulted during the development of this project. Specifically, DOB and the Mayor's Office of Climate and Environmental Justice "MOCEJ" were actively engaged through several coordination meetings held at different stages of the project.

This document serves as the response to the Order for the first Annual Update to the Final GSLTP. The PSC has also requested that the Companies update their definitions in their next GSLTP filing in 2027 to account for technological advancements in electrifying heating systems.

Approach

It may not be possible to identify individual customers that will remain on the gas system in the long term since many factors, such as future policies, programs, technologies, etc., can greatly influence customers' decisions in electrifying their buildings. Given the level of uncertainty and complexity, this project attempts to show what may remain in the system by reviewing technical characteristics of buildings - as found in publicly available datasets in the Companies' service territories – and rating the relative complexity of electrifying them.

From a purely technical standpoint, almost any building can be electrified given enough time and resources. However, in practice, the feasibility of electrification varies significantly based on factors such as cost, time requirements, and disruption to building occupants (customers). These factors affect the likelihood that customers will electrify, the speed at which they will do so, and the level of intervention required to achieve this transition.

To satisfy the Order's requirements, the Companies have developed a spectrum definition that assesses the "level of customer intervention" needed for electrifying space heating in buildings. This nuanced framework acknowledges that electrification challenges exist on a continuum and vary based on multiple factors. The advantages of using a spectrum approach rather than a binary definition include:

- Avoids setting a potentially arbitrary threshold for separating hard-to-electrify versus easy-to-electrify
- Creates a more nuanced and directional assessment
- Provides flexibility for future expansion of the analysis
- Recognizes that the level of funding and policy support for customer electrification may change over time

The focus of this analysis is electrification of space heating, which is the main driver of natural gas system infrastructure needs. Other gas end-uses, such as cooking and water heating, were not explicitly considered when criteria were developed and were assumed to be technically feasible across all building types.

This assessment focuses primarily on buildings' technical and engineering considerations. Building characteristics are used as proxies for operational challenges, however, they can also implicitly represent the cost of electrification.

Beyond technical factors, there are other important viewpoints from which this topic can be studied. For example, financial factors (including incentives, penalties, debt status, and overall

economic capacity), ownership structures, and socioeconomic considerations in Disadvantaged Communities and for LMI customers may all significantly influence electrification decisions. These additional factors will potentially be included in future phases of this definition study.

This analysis uses census tract areas as the geographical unit of measurement, as they provide consistent data availability across all service territories. While building-level data is primarily available for NYC, census tracts offer a practical level of granularity for comparing all areas. There are approximately 1,115 census tracts in the Con Edison gas service territory (880 in NYC, 235 in Westchester), and 130 in the O&R gas service territory. This area-level approach also aligns with gas system planning practices, which typically focus on infrastructure needs by geographical zone rather than individual buildings.

Building Characteristics

When evaluating building electrification challenges, numerous criteria can impact the feasibility and cost. These building features include existing heating systems, building size and type, building age, electrical infrastructure, building envelope, space constraints, ownership, and financial resources. While assessing additional criteria would enhance the analysis, this study uses only publicly available data, limiting the criteria to those available for all buildings across all service territories.

Specifically, the analysis focuses on four key building technical characteristics. These criteria and their segments as described below have been recognized and utilized in various previous building electrification studies.[5]

- **Building Age:** Older buildings typically require more significant modifications for electrification due to older building envelopes, less compatibility of existing heating distribution systems with current technologies, and the need for electrical infrastructure upgrades. Building age is segmented into three categories:
  - Pre-1940 (pre-war)
  - 1940–1979 (post-war to pre-energy code)
  - 1980–present (post-energy code)

- **Building Size:** Taller and larger buildings have substantial base energy loads, more complex heating systems, and space constraints. This criterion is segmented as follows:
  - Buildings less than 500,000 sq. ft.

[5] Studies include:

- NYSERDA - Assessment of Energy efficiency and Electrification Potential in New York State Residential and Commercial Buildings (April 2023)
- NYSERDA – New York's Carbon Neutral Buildings Roadmap (December 2022)
- Urban Green Council – Grid Ready (December 2021)
- New York City Mayor's Office of Sustainability – Pathways to Carbon – Neutral NYC
- New York City Mayor's Office of Sustainability – One City Built to Last

  - Very large buildings (>500,000 sq. ft.)

- **Building Use:** Single-family homes and small multi-family buildings can adopt relatively simple solutions such as ductless air-source heat pumps with minimal disruption, while system complexity, cost, and level of disruption for occupants increase significantly in large multifamily and commercial buildings. This criterion is segmented as:
  - Single-family homes (1-4 units)
  - Multi-family buildings (5+ units)
  - Commercial buildings

- **Building Fuel Type:** A building's current heating fuel type can influence the economic, technical, and logistical considerations for electrification. For example, buildings using a relatively costly heating fuel at present, such as oil or propane, may have more favorable economics, while those using district steam may require extensive upgrades to convert. The data for this analysis was segmented as:
  - Oil/propane/electric
  - Natural gas
  - Con Edison district steam

Data

While data availability varies significantly across the Companies' service territories, this study utilizes the following public datasets to assess building characteristics in these territories:

- NYC PLUTO (Primary Land Use Tax Lot Output): Provides comprehensive land use and geographic data for all tax lots in New York City

- LL84 dataset: Contains energy benchmarking data collected through NYC's Local Law 84, which requires large buildings (25,000 square feet and larger) to report annual energy and water consumption

- Physical housing characteristics for occupied housing units from US Census Bureau: Provides information on housing characteristics across all service territories

- Westchester tax parcel dataset: Contains property assessment data for buildings in Westchester County

- Westchester County Buildings/Structures dataset: Provides building footprints, areas, and heights

- NYS DEC air permit data: Contains comprehensive list of major air pollution sources including those using natural gas

Data collection and analysis methods were tailored to each service territory based on data availability:

New York City: Data for NYC buildings are available through PLUTO and LL84 datasets, allowing for inclusion of all four criteria in the analysis. However, census tract data were used to

complement the LL84 dataset for building fuel type information as LL84 does not include data for buildings smaller than 25,000 square feet.

Westchester County: The four data criteria were extracted using the tax parcel and Buildings/Structures datasets for Westchester County.

Orange and Rockland Counties: Due to limited availability of building-specific information, the analysis relies primarily on Census data for the O&R service territory. It should be noted that Census data only represent residential sectors and are measured by building units (not building area). Due to these data limitations, the building size criterion was not included in the scoring system for the O&R service territory.

Large / Special Gas Users: This study attempts to identify large natural gas users and other customers who may have special natural gas applications. These customers are mainly hospitals, and large educational, industrial, and manufacturing facilities.[6] For this purpose several datasets have been utilized including NYS DEC air permit datasets in combination with other publicly available datasets such as LL84, PLUTO and tax parcels.

Scoring system

Each segment of the four criteria – as detailed in Building Characteristics section - is assigned a score that serves as a proxy indicating electrification challenges (See Appendix C for details.) For example, in the building usage criterion, single-family buildings are assigned a score of 1, while multi-family and commercial buildings have scores of 2 and 3, respectively. This indicates that the level of intervention required increases from single-family to multi-family and further to commercial as being the most challenging building type for electrification. It's important to note that these scores are intended to be directional indicators only and should not be interpreted as multiplicative - for example, a score of 2 does not represent twice the challenge level of a score of 1.

For each census tract, a total score is calculated using a weighted average methodology based on the total square footage of buildings or the number of residential units (in Con Edison and O&R territories, respectively) in that tract. First, we calculate the weighted average score for each criterion within the tract, then sum these criterion scores to create the total score for the census tract. This composite score represents the average customer intervention level required for all buildings in that area and enables geographic visualization and comparison of relative electrification challenges across different regions of the service territories.

Analysis and mapping

By calculating scores for each census tract as described in the previous section, we created a distribution of scores across all census tracts in the service territories. To make these scores more

[6] The list in this study may not include all the large / special customers and is subject to future modifications

meaningful for planning purposes, they are divided into four equal intervals representing different "levels of customer intervention" required for electrification. In other words, each level represents the relative amount of effort and resources required to electrify heating in a census tract. Detailed definitions of these levels for each Company are listed in Appendix D.

It should be highlighted that different categorizations may be used in future iterations to accommodate greater data granularity and specific analytical needs.

By using these four levels, we created heat maps that visually display the intervention level associated with each census tract across the service territories. Maps are shown in Appendix E.

The primary purpose of these heat maps is to identify geographic clusters that can inform both electric and gas system planning while directionally identifying decarbonization opportunities. In addition, the maps also display the locations of individual large natural gas customers, such as industrial facilities and hospitals. These major consumers are highlighted separately because they can significantly influence gas planning in their respective areas, as they often face the most substantial technical and economic challenges when considering electrification alternatives to their natural gas applications.

Preliminary results

The analysis reveals that in Con Edison’s gas service territory, those areas requiring the highest level of customer intervention (Level 4) are concentrated in neighborhoods around midtown and downtown Manhattan, where buildings are predominantly large offices. For O&R’s gas service territory, the results indicate that areas with predominantly pre-war buildings that use natural gas as their primary heating fuel tend to require the highest level of customer intervention. Meanwhile, areas that consist of mostly newer, single-family homes that use oil require the lowest level of customer intervention.

The analysis shows that almost all census tracts across the service territories require at least medium levels of intervention to electrify. This finding underscores the need for diverse policy interventions and program offerings to promote heating electrification. While all areas represent good candidates for the Companies' Building Electrification programs (Clean Heat) and Energy Efficiency incentives, it is expected that areas requiring a lower level of intervention to adopt electric heating technologies sooner.

New York laws are already beginning to address these challenges. For example, Local Law 97 in New York City may help drive electrification in multifamily and commercial sectors, while Local Law 154 and the upcoming All-Electric Building Act require electric heating in many newly constructed buildings. Additional legislation, such as the New York HEAT Act, if passed into law, will further encourage customers to choose alternatives to fossil fuels. Complementing these regulatory approaches, incentives and programs can help customers navigate the financial and technical challenges of electrification. The Commission’s expected order in the New Efficiency New York proceeding, which will establish future funding levels for electrification

and energy efficiency programs, will also play an important role in advancing challenges to electrification.

The results also indicate that some areas may require a sustained commitment to achieve New York State GHG emissions reduction goals. For example, areas with many buildings requiring higher levels of intervention may benefit from phased approaches to electrification, such as gradually implementing electrification during major renovations required in the building lifecycle or as LL97 requirements tighten.

In those areas, alternative solutions may also play important roles in decarbonization efforts. Decarbonization of Con Edison's district Steam system will provide viable solutions for very large buildings in Manhattan that would otherwise face significant challenges to full electrification. Additionally, future technological advancements in electrification technologies may eventually make conversion economically viable for customers who currently find it prohibitively expensive.

Large customers in Con Edison are spread across the entire service territory while in O&R territory they are more clustered around certain areas. These customers require additional detailed analysis to fully understand their specific circumstances. While some are exempt from existing electrification laws, they generally face more complex technical challenges and are more likely to continue needing gas infrastructure if viable electrification options are not available for them.

Limitations

This analysis is preliminary in nature and has several important limitations that should be considered when interpreting the results. The heat maps are intended as analytical tools that show relative intervention levels required for electrification rather than as prescriptive decision-making guidelines for individual buildings in those areas.

Key limitations include:

- The analysis considers only technical building characteristics and does not account for other aspects that can significantly impact electrification planning, such as customer financial resources, owner preferences, or policy influences.
- Financial factors (including incentives, penalties, debt status, and overall economic capacity), ownership structures, and socioeconomic considerations in Disadvantaged Communities and for LMI customers are not included in this assessment but may influence electrification decisions.
- The assessment is limited to only four building criteria and does not capture the full range of building characteristics that may affect electrification feasibility.

- The focus is specifically on space heating electrification, while other gas end-uses such as cooking and water heating were assumed to be technically feasible across all building types.
- The methodology does not account for potential upgrades to building heating systems or envelopes that may have occurred over a building's lifetime, which could affect electrification potential.
- Census tract aggregation provides a directional indicator but can mask significant variation within tracts. For example, a high-intervention building (such as a hospital) surrounded by low-intervention single-family homes would be averaged together in the analysis.
- Building-specific nuances such as ownership structures, landmark designations, and other important characteristics are not captured in this methodology.
- The analysis does not directly calculate costs of electrification for individual buildings or areas.
- The analysis does not evaluate electric system costs or potential gas system savings resulting from building electrification, which would be important factors in comprehensive infrastructure planning.
- Data availability varies significantly across service territories, with more granular building-level data available for NYC than for other regions, potentially affecting consistency of analysis across different areas.

Further analysis incorporating additional layers of data will be required to develop a more comprehensive understanding of building electrification potential across the service territories. Future iterations of this work will aim to address these limitations as data availability improves and methodologies are refined.

Look ahead

This analysis represents only an initial step in studying and identifying buildings that will potentially stay on a future gas system. As requested by the PSC Order, a more comprehensive and updated definition will be provided in the next Gas System Long-Term Plan update in 2027, which will also incorporate the impact of potential upcoming changes in electrification technologies.

The more nuanced and comprehensive approach to be developed in the next phase could include:

- A complete picture of building characteristics – incorporating additional data layers such as specific heating systems, electrical infrastructure capacities, building envelope conditions, and ownership situations
- Expanded building type categories to include more specialized facilities such as hospitals, industrial buildings, and educational institutions

- Creation of different building profiles to study their unique electrification pathways
- More detailed mapping of the building stock and associated cost implications for electrification

Additional considerations for future analysis may include the impact of existing and future policies, incentives, and penalties on building electrification. The analysis could also incorporate life cycle operating cost impacts from utilities' perspective. This future iteration could potentially be combined with the pathway analysis requested by the PSC Order and due for 2027.

Conclusion

This project establishes a foundation for understanding the varying levels of customer intervention required for building electrification across different areas of the Companies' gas service territories. By adopting a spectrum approach rather than a binary classification of hard-to-electrify buildings, we provide a more nuanced understanding of levels of customer intervention associated with building electrification.

The analysis reveals that most buildings require at least some medium levels of intervention to electrify, highlighting the need for comprehensive policy support, incentive programs, and technical solutions to achieve decarbonization goals. The heat maps developed through this analysis offer insights for both electric and gas system planning while identifying geographic areas that may benefit from targeted program offerings.

This work serves as a starting point for future analysis that will incorporate additional factors beyond basic building characteristics. Subsequent iterations will develop more sophisticated methodologies and incorporate emerging technologies, providing increasingly comprehensive electrification planning and implementation strategies to support New York's clean energy transition.

Energy Efficiency Program Rates, Savings and Impacts; also specifically for DACs

The September 2024 Order requires the Companies to provide annual participation rates in energy efficiency programs and total energy savings in dekatherms and MMBtus by program and their impacts on use per customer as well as the number of EE/Clean Heat program participants, program costs and GHG emissions reductions in DACs. The Commission set targets for the Companies' portfolio of energy efficiency and building electrification programs in Millions of British Thermal Units ("MMBTUs") saved by the customer during the first year of installation of the energy efficiency measure incentivized ("Annual MMBtu" or "AMMBtu"). Funding for the current portfolio is authorized under the New Efficiency New York ("NENY") proceeding and

expires at the end of 2025.[7] As directed by the Commission,[8] Con Edison has proposed new budgets and savings targets for the period between 2026-2030,[9] which are still under review by the Commission. The gas energy savings, broken down by year, customer type, and measure type included in Con Edison's proposal are shown in Figure 2 for non-Low-to-Moderate-Income (LMI) programs and Figure 3 for LMI programs.

Figure 2: Con Edison Proposed 2026-2030 Annual Gas Savings (AMMBtu/dth) – Non-LMI

CATEGORY	2026	2027	2028	2029	2030
Large Commercial & Industrial / Electrification	129,309	131,162	132,461	133,262	133,615
Large Commercial & Industrial / Building Envelope	9,387	9,947	10,541	11,173	11,843
Large Commercial & Industrial / Other EE	216,477	211,833	208,667	197,770	189,335
Small Business / Electrification	89,387	93,223	96,750	99,969	102,879
Small Business / Building Envelope	500	516	533	550	567
Small Business / Other EE	26,446	24,969	23,582	22,153	20,833
Multifamily Buildings / Electrification	90,039	93,355	96,372	99,104	101,567
Multifamily Buildings / Building Envelope	62,167	65,432	68,870	72,512	76,347
Multifamily Buildings / Other EE	173,934	156,612	141,024	119,554	101,391
Residential / Electrification	263,086	273,760	283,548	292,469	300,541
Residential / Building Envelope	13,024	14,321	15,748	17,308	19,023
Retail Products / Building Envelope	47,001	49,805	52,775	55,942	59,298
TOTAL	**1,120,757**	**1,124,935**	**1,130,871**	**1,121,766**	**1,117,240**

Figure 3: Con Edison Proposed 2026-2030 Programmatic Area/Program Level Annual Gas Savings (AMMBtu/dth) – LMI

Program	2026	2027	2028	2029	2030
Multifamily Buildings / Electrification	10,630	11,284	11,912	12,511	13,080

[7] Case 18-M-0084, *In the Matter of a Comprehensive Energy Efficiency Initiative* ("NENY Proceeding"), Order Authorizing Utility Energy Efficiency and Building Electrification Portfolios Through 2025 (issued January 16, 2020)

[8] NENY Proceeding, Order Directing Energy Efficiency and Building Electrification Proposals (issued July 20, 2023).

[9] The Company submitted two proposals in the NENY Proceeding, Consolidated Edison Company of New York, Inc. Non-Low-and-Moderate Income Energy Efficiency and Building Electrification Portfolio Proposal Filing (filed January 12, 2024) and Consolidated Edison Company of New York, Inc. Low-and-Moderate Income Multi-Family Energy Efficiency and Building Electrification Portfolio Proposal Filing (filed January 12, 2024). These numbers reflect the base proposals.

Multifamily Buildings / Building Envelope	116,195	122,797	129,775	137,151	144,946
Multifamily Buildings / Other EE	155,195	159,037	163,773	145,279	149,326
Total	**282,020**	**293,118**	**305,460**	**294,941**	**307,352**

As directed by the Commission,[10] O&R has proposed new budgets and savings targets for the period between 2026-2030,[11] which are still under review by the Commission. The gas energy savings, broken down by year, customer type, and measure type included in O&R's proposal are shown in Figure 4.

Figure 4: O&R Proposed 2026-2030 Annual Gas Savings (AMMBtu/dth)

CATEGORY	2026	2027	2028	2029	2030
Residential - EE	13,249	13,405	13,609	13,685	11,418
Commercial (Small and Large C&I) - EE	14,905	11,482	7,800	5,545	4,825
Residential - Electrification[12]	11,144	11,918	12,366	13,062	13,813
Commercial (Small and Large C&I) - Electrification	5,440	2,909	3,392	3,599	3,805
Residential -Building Envelope	6,333	6,785	7,270	7,572	7,889
Retail Products - Building Envelope	2,533	2,714	2,908	3,029	3,156
Commercial (Small and Large C&I) - Building Envelope	1,520	1,628	1,745	1,817	1,893
TOTAL	**55,124**	**50,841**	**49,090**	**48,309**	**46,799**

While the Companies tracks the number of participants in its programs, it does not forecast the number of customers who will participate, nor does it forecast changes in the energy consumption for each program participant. Energy savings per participant can vary greatly based on several factors, such as the equipment installed and the size of the building. The Companies calculates energy savings achieved through its NENY programs using engineering calculations which are based on the New York State Technical Resource Manual (TRM), as well as custom calculations submitted by applicants and reviewed by the Companies' engineering team. These calculations are using industry accepted energy savings methodologies, which do not require

[10] NENY Proceeding, Order Directing Energy Efficiency and Building Electrification Proposals (issued July 20, 2023).

[11] The Company submitted four proposals in the NENY Proceeding, *Orange and Rockland Utilities Inc. Energy Efficiency and Building Electrification Portfolio Proposal Filing*. These numbers reflect the base proposal.

[12] Residential and Commercial Electrification totals assume 50% of achieved AMMBtu totals come from gas fired projects.

capturing pre- and post-installation energy use for each program participant. For reference, Figures 5, 6, 7, and 8 summarize the gas energy savings in the Companies' energy efficiency and building electrification programs in 2024, as well as the number of program participants.

Figure 5: Con Edison Gas Energy Savings and Participation by Program (2024) – Non-LMI [13]

Program Name	2024 Gas Savings (AMMBtu/dth)	Participants	Participant Definition
Commercial & Industrial	121,514	104	Number of acquired projects
Commercial & Industrial Electrification / Air Source Heat Pump	53,807	22	Number of acquired projects -gas baseline fuel
Commercial & Industrial Electrification / Ground Source Heat Pump	4,425	1	Number of acquired projects -gas baseline fuel[14]
Marketplace	708	623	Each order counted as one participant. Returns are subtracted from that count
Midstream Electrification / Heat Pump Water Heater	9,512	57	Number of acquired projects -gas baseline fuel
Midstream Water and Space Heating	38,490	367	Count of quantity
Multifamily	244,436	670	Number of acquired projects
Multifamily Electrification / Air Source Heat Pump	229,738	166	Number of acquired projects -gas baseline fuel
Multifamily Electrification / Ground Source Heat Pump	28,885	5	Number of acquired projects -gas baseline fuel
Residential Electrification / Air Source Heat Pump	825,513	11,245	Number of acquired projects -gas baseline fuel
Residential Electrification / Ground Source Heat Pump	16,473	61	Number of acquired projects -gas baseline fuel
Residential Home Energy Reports	31,966	5,162,500	Number of reports sent to customers during the quarter
Retail Products Gas	1,564,833	257,320	Number of products sold divided by the allotted

[13] NENY Proceeding, CECONY Clean Energy Dashboard Scorecard 2024 Q4 (filed February 28th, 2025).

[14] Savings and participation figures for heat pump programs are from all CECONY electric customers who used gas for heating prior to participating even if they are not located in CECONY's gas territory.

			purchase limit cap which is set per product
Small-Medium Business	9,190	21	Number of acquired projects
Small-Medium Business Electrification / Air Source Heat Pump	54,493	180	Number of acquired projects -gas baseline fuel
Smart Kids	18,665	35,455	Number of kits
Weather Ready	7,842	674	Number of acquired projects
TOTAL	**3,260,490**		

Figure 6: Con Edison Gas Energy Savings and Participation by Program (2024) – LMI[15]

Program Name	**2024 Gas Savings (AMMBtu/dth)**	**Participants**	**Participant Definition**
Affordable Multifamily Energy Efficiency Program (AMEEP)	419,700	85,181	Number of dwelling units impacted by the project. In-unit projects are 1 participant each. All dwelling units are counted as participants for common area projects.
Efficiency Starter Program – LMI	6,098	5,800	Count of customers acquired
Empower	3,973	165	Number of participants provided by NYSERDA
Multifamily - LMI Comprehensive Building Upgrades	15,519	2,368	Number of dwelling units impacted by the project. In-unit projects are 1 participant each. All dwelling units are counted as participants for common area projects.
TOTAL	**445,290**		

Figure 7: O&R Gas Energy Savings and Participation by Program (2024) – Non-LMI [16]

Program Name	**2024 Gas Savings (AMMBtu/dth)**	**Participants**	**Participant Definition**

[15] NENY Proceeding, CECONY Clean Energy Dashboard Scorecard 2024 Q4 (filed February 28th, 2025).

[16] NENY Proceeding, O&R Clean Energy Dashboard Scorecard 2024 Q4 (filed March 3, 2025).

Residential Gas HVAC	60,451	14,014	Number of acquired projects
Commercial & Industrial HVAC	14,408	13	Number of acquired projects
Residential Gas Behavioral	26,457	61,768	Number of acquired projects
Clean Heat	22,728	127	Number of acquired projects - gas baseline fuel
TOTAL	**123,761**	**75,922**	

Figure 8: O&R Gas Energy Savings and Participation by Program (2024) – LMI[17]

Program Name	**2024 Gas Savings (AMMBtu/dth)**	**Participants**	**Participant Definition**
LMI Gas - EmPower	5,323	357	Number of acquired projects
LMI Gas - Customer Engagement	218	106	Number of items rebated
LMI Gas - AMEEP	1,639	2	Number of acquired projects
TOTAL	**7,180**	**465**	

The Companies' do not forecast energy efficiency and building electrification participation, costs, and avoided emissions by geographic area. However, the Companies' do track historic energy efficiency and building electrification program spend in Disadvantaged Communities. Figures for spend specific to gas energy efficiency and building electrification for 2024, by program, can be found in Figures 9 and 10.

Figure 9: Con Edison Gas Energy Efficiency and Building Electrification Incentives Provided to Customers in Disadvantaged Communities[18]

Program Name	**Spend in DACs ($)**	**Total Spend ($)**	**% of Spending in DACs**
Affordable Multifamily Energy Efficiency Program (AMEEP) Gas	63,064,741	67,621,170	93%

[17] NENY Proceeding, O&R Clean Energy Dashboard Scorecard 2024 Q4 (filed March 3, 2025).

[18] Matter - 23-02017, *In the Matter of Reporting Investments and Benefits to Disadvantaged Communities,* 2024 Con Edison Climate Act DAC Reporting Data (filed April 10, 2025). The spend associated with the Clean Heat program was provided to customers who used either gas or oil for heating prior to participation in the program. Figures are rounded to the nearest dollar.

Clean Heat – Commercial & Industrial Air Source Heat Pump	3,436,916	14,233,506	24%
Clean Heat – Commercial & Industrial Ground Source Heat Pump	-	1,526,891	0%
Clean Heat – Midstream Heat Pump Water Heater	655,300	1,790,099	37%
Clean Heat – Multifamily Air Source Heat Pump	27,928,074	42,663,626	65%
Clean Heat – Multifamily Ground Source Heat Pump	6,579,092	6,693,753	98%
Clean Heat – Residential Air Source Heat Pump	45,204,005	94,920,742	48%
Clean Heat – Residential Ground Source Heat Pump	547,990	5,455,378	10%
Clean Heat – Small-Medium Business Air Source Heat Pump	3,285,890	10,421,345	32%
Commercial & Industrial	2,221,815	12,767,576	17%
Empower Gas	1,066,407	1,066,407	100%
Midstream Water and Space Heating	1,206,857	1,471,341	82%
Multifamily	13,747,492	25,092,969	55%
Multifamily - LMI Comprehensive Building Upgrades	2,444,046	2,945,269	83%
Other[19]	294,193	517,589	57%

[19] Includes Commercial Kitchens, Energy Efficiency Starter Kits, Marketplace, and Pilots.

Retail Products Gas	4,480,265	7,071,726	63%
Small-Medium Business	486,875	802,788	61%
Smart Kids	570,351	579,011	99%
Weather Ready	457,016	2,128,682	21%
Total	**177,677,325**	**299,769,867**	**59%**

Figure 10: O&R Gas Energy Efficiency and Building Electrification Incentives Provided to Customers in Disadvantaged Communities

Program Name	Spend in DACs ($)	Total Spend ($)	% of Spending in DACs
Residential Gas HVAC	$256,340	$451,936	57%
Commercial & Industrial HVAC	$50,227	$303,212	17%
Residential Gas Behavioral	$60,572	$214,064	28%
LMI Gas - EmPower	$466,591	$1,752,910	27%
LMI Gas - Customer Engagement	$857	$8,914	10%
LMI Gas - AMEEP	$47,082	$83,082	57%
Clean Heat[20]	$555,009	$1,982,177	28%
Total	**1,436,678**	**4,796,295**	**30%**

Bill Impact Analysis

The September 2024 Order requires the Companies to provide a bill impact analysis that reflects reduced natural gas usage by representative gas customers over a 20-year period for every service classification, including interruptible customer classes. The analysis was done for service classifications with more than five customers and those that do not have fixed and/or negotiated rates. The usage levels in the tables below reflect the typical customer usage level forecasted for each of the service classifications. Actual customer usage in any service classification is highly

[20] Percentage of DAC expenditure by fuel type is not tracked. Total DAC expenditure percentage for Clean Heat (28%) was attributed to gas baseline fuel projects within the Clean Heat portfolio.

situationally dependent and will vary by an individual customer's annual usage and seasonal variation.

Figure 13: Con Edison Average Monthly Customer Usage for each Service Classification (therms)

	2025	2030	2035	2040	2045
SC1					
Base Case	4.61	3.92	3.88	3.81	3.72
Hybrid Case	4.61	4.38	4.13	3.90	3.66
Deep Electrification	4.61	4.61	4.61	4.61	4.61
SC2R1					
Base Case	283.88	266.38	264.82	261.59	257.12
Hybrid Case	283.88	269.92	254.70	240.35	225.52
Deep Electrification	283.88	283.69	283.52	283.33	283.11
SC2R2					
Base Case	408.88	375.02	372.39	367.23	360.28
Hybrid Case	408.88	388.82	366.91	346.23	324.88
Deep Electrification	408.88	364.72	327.69	294.41	263.43
SC3					
Base Case	255.68	238.75	237.27	234.26	230.13
Hybrid Case	255.68	239.27	225.62	212.70	199.38
Deep Electrification	255.68	231.96	215.67	200.48	186.95
SC12 R1 - Commercial					
Base Case	8,144.90	7,683.02	7,644.01	7,557.91	7,435.78
Hybrid Case	8,144.90	7,745.39	7,308.85	6,896.92	6,471.66
Deep Electrification	8,144.90	7,265.29	6,527.52	5,864.68	5,247.62
SC12 R1 - Residential					
Base Case	8,144.90	7,683.02	7,644.01	7,557.91	7,435.78
Hybrid Case	8,144.90	7,745.39	7,308.85	6,896.92	6,471.66
Deep Electrification	8,144.90	7,265.29	6,527.52	5,864.68	5,247.62

Figure 14: O&R Average Monthly Customer Usage for each Service Classification (ccf)

	2025	2030	2035	2040	2045
SC1					
Base Case	105.23	101.12	100.26	97.78	92.98
Hybrid Case	105.23	100.07	94.43	89.11	83.61
Deep Electrification	105.23	105.23	105.23	105.23	105.23
SC2					
Base Case	783.62	702.82	692.79	669.19	627.06
Hybrid Case	783.62	745.19	703.19	663.56	622.64
Deep Electrification	783.62	702.82	692.79	669.19	627.06

SC8					
Base Case	40,368.03	37,840.02	37,368.46	36,172.97	33,961.23
Hybrid Case	40,368.03	38,387.96	36,224.38	34,182.74	32,075.08
Deep Electrification	40,368.03	36,428.71	33,149.00	30,164.56	27,434.58

The tables below show the impact to the various service classifications over the next 20 years. The estimated gas service costs include base revenue requirements, which were updated as described in the Budget forecast section. The gas supply costs reflect those included in the November 2023 Final report. The rates and bill impacts developed for this analysis are for illustration only and rely on a relatively limited set of planning assumptions specific to the GSLTP that are likely to differ from those presented in future rate proceedings. The current rate design structure was used for the 20-year period. The monthly usage represents the average of the annual projected volume, it does not represent seasonal differences that may occur. Similarly, in our 2023 Final GSLTP filing, the Companies acknowledge that long-term impacts shown will likely be unsustainable for many, if not most of our customers. This emphasizes the need for the Companies to take action early to collaborate on addressing customer affordability alongside decarbonization efforts.

Figure 11: Representative Average Monthly Con Edison Gas Bills for each Pathway ($2025)

	2025	2030	2035	2040	2045
SC1					
Base Case	$51	$60	$65	$68	$61
Hybrid Case	$51	$66	$70	$82	$80
Deep Electrification	$51	$82	$102	$194	$430
SC2R1					
Base Case	$423	$473	$505	$530	$512
Hybrid Case	$424	$489	$548	$669	$693
Deep Electrification	$424	$570	$675	$1,147	$2,324
SC2R2					
Base Case	$705	$797	$853	$894	$853
Hybrid Case	$706	$838	$930	$1,128	$1,156
Deep Electrification	$706	$882	$947	$1,482	$2,745
SC3					
Base Case	$705	$797	$853	$894	$853
Hybrid Case	$706	$838	$930	$1,128	$1,156
Deep Electrification	$706	$882	$947	$1,482	$2,745
SC12 R1 - Commercial					
Base Case	$10,502	$12,096	$12,870	$12,639	$13,056
Hybrid Case	$10,517	$12,490	$14,097	$17,401	$18,081
Deep Electrification	$10,517	$12,991	$13,781	$21,339	$39,303
SC12 R1 - Residential					

Base Case	$12,472	$14,076	$15,012	$14,492	$14,854
Hybrid Case	$12,486	$14,428	$16,019	$19,543	$19,982
Deep Electrification	$12,486	$15,232	$16,294	$25,800	$48,372

Figure 12: Representative Average O&R Annual Gas Bills for each Pathway ($2025)

	2025	2030	2035	2040	2045
SC1					
Base Case	$177	$199	$209	$222	$227
Hybrid Case	$177	$205	$220	$253	$274
Deep Electrification	$177	$231	$265	$372	$631
SC2					
Base Case	$916	$975	$1,007	$1,064	$1,082
Hybrid Case	$916	$1,077	$1,184	$1,393	$1,533
Deep Electrification	$916	$1,070	$1,101	$1,367	$2,021
SC8					
Base Case	$33,241	$37,376	$38,540	$41,191	$42,386
Hybrid Case	$33,241	$39,974	$45,611	$55,780	$62,582
Deep Electrification	$33,241	$39,524	$40,773	$51,559	$77,070

Conclusion

The Company continues to implement its Long-Term Plan in accordance with Commission directives and priorities.

Dated: May 15, 2025

Respectfully submitted,

Appendix

Appendix A. Revenue Requirements

Real 2025 $ Millions

CECONY	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
Reference	2,329	2,464	2,556	2,590	2,657	2,664	2,666	2,719	2,787	2,783	2,795	2,801	2,800	2,793	2,777	2,738	2,663	2,575	2,492	2,413	2,339
Hybrid	2,329	2,508	2,557	2,594	2,610	2,591	2,578	2,563	2,541	2,513	2,488	2,462	2,432	2,401	2,370	2,375	2,315	2,238	2,165	2,094	2,028
Deep Electrification	2,329	2,482	2,513	2,535	2,522	2,446	2,385	2,314	2,231	2,145	2,065	1,982	1,893	1,808	1,725	1,638	1,557	1,481	1,407	1,336	1,267

ORU	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
Reference	176	186	195	199	204	208	211	212	212	211	208	218	214	211	207	204	201	197	194	191	188
Hybrid	176	186	195	191	192	189	189	186	184	181	179	176	174	171	169	166	164	162	159	157	155
Deep Electrification	176	186	195	201	197	188	184	180	176	173	169	165	161	158	154	150	147	143	140	137	133

Appendix B. Forecast of Customer Counts and Annual Usage per Customer

Table 1. Con Edison Reference Case

	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
Gas Firm Sales Forecast (MDt)																					
SC1	3,359	3,206	3,042	2,917	2,783	2,756	2,738	2,711	2,677	2,644	2,608	2,573	2,541	2,503	2,466	2,431	2,397	2,365	2,330	2,298	2,263
SC2 R1 (includes SC13)	27,317	27,149	26,725	26,243	25,642	25,415	25,265	25,035	24,756	24,481	24,175	23,887	23,614	23,296	22,987	22,693	22,415	22,145	21,851	21,578	21,292
SC2 R2	32,823	31,927	30,874	30,327	29,576	29,305	29,127	28,852	28,519	28,191	27,826	27,482	27,157	26,777	26,408	26,058	25,726	25,404	25,053	24,728	24,386
SC3 (includes SC11 and SC31)	99,246	97,419	95,205	94,406	92,917	92,091	91,546	90,709	89,691	88,692	87,578	86,529	85,537	84,377	83,252	82,185	81,170	80,190	79,118	78,126	77,084
Gas Firm Customer Count Forecast																					
SC1	607,583	603,413	599,113	595,107	590,806	585,814	582,581	577,695	571,853	566,215	560,040	554,319	549,001	542,898	537,088	531,671	526,608	521,798	516,623	511,908	507,027
SC2 R1 (includes SC13)	80,189	80,385	80,443	80,386	80,173	79,508	79,077	78,426	77,647	76,896	76,073	75,311	74,602	73,788	73,014	72,292	71,617	70,976	70,286	69,658	69,008
SC2 R2	66,896	66,626	66,295	65,922	65,671	65,119	64,761	64,221	63,575	62,951	62,268	61,636	61,048	60,373	59,730	59,131	58,571	58,039	57,467	56,946	56,406
SC3 (includes SC11 and SC31)	323,475	324,028	324,168	324,097	324,108	321,428	319,692	317,070	313,933	310,906	307,591	304,520	301,665	298,389	295,270	292,362	289,644	287,062	284,283	281,752	279,132
Average Consumption per customer																					
SC1	0.0055	0.0053	0.0051	0.0049	0.0047	0.0047	0.0047	0.0047	0.0047	0.0047	0.0047	0.0046	0.0046	0.0046	0.0046	0.0046	0.0046	0.0045	0.0045	0.0045	0.0045
SC2 R1 (includes SC13)	0.3407	0.3377	0.3322	0.3265	0.3198	0.3197	0.3195	0.3192	0.3188	0.3184	0.3178	0.3172	0.3165	0.3157	0.3148	0.3139	0.3130	0.3120	0.3109	0.3098	0.3085
SC2 R2	0.4907	0.4792	0.4657	0.4600	0.4504	0.4500	0.4498	0.4493	0.4486	0.4478	0.4469	0.4459	0.4448	0.4435	0.4421	0.4407	0.4392	0.4377	0.4360	0.4342	0.4323
SC3 (SC11 and SC31)	0.3068	0.3007	0.2937	0.2913	0.2867	0.2865	0.2864	0.2861	0.2857	0.2853	0.2847	0.2841	0.2835	0.2828	0.2820	0.2811	0.2802	0.2793	0.2783	0.2773	0.2762

Table 1. Con Edison Hybrid Case

	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
Gas Firm Sales Forecast (MDt)																					
SC1	3,359	3,273	3,106	2,978	2,843	2,814	2,796	2,767	2,732	2,698	2,660	2,624	2,591	2,551	2,513	2,476	2,442	2,408	2,372	2,338	2,303
SC2 R1 (includes SC13)	27,317	27,720	27,287	26,795	26,191	25,954	25,798	25,558	25,266	24,980	24,661	24,361	24,077	23,745	23,424	23,119	22,830	22,550	22,244	21,962	21,665
SC2 R2	32,823	32,599	31,524	30,965	30,210	29,927	29,741	29,455	29,107	28,766	28,385	28,027	27,689	27,294	26,911	26,547	26,202	25,868	25,504	25,167	24,813
SC3 (includes SC11 and SC31)	99,246	99,469	97,208	96,392	94,908	94,045	93,476	92,603	91,541	90,499	89,339	88,246	87,213	86,006	84,837	83,727	82,673	81,655	80,542	79,513	78,432
Gas Firm Customer Count Forecast																					
SC1	607,583	598,096	573,238	555,240	535,289	535,324	537,987	538,696	538,132	537,612	536,223	535,179	534,442	532,428	530,553	528,978	527,690	526,558	525,627	525,190	524,256
SC2 R1 (includes SC13)	80,189	82,196	81,732	81,072	80,052	80,130	80,577	80,759	80,769	80,786	80,686	80,634	80,624	80,442	80,280	80,160	80,080	80,022	80,008	80,064	80,053
SC2 R2	66,896	67,111	65,553	[illegible]043	64,098	64,140	64,484	64,609	64,592	64,579	64,469	64,399	64,364	64,185	64,023	63,895	63,800	63,723	63,678	63,689	63,645
SC3 (includes SC11 and SC31)	323,475	328,760	325,579	[illegible]571	327,202	327,546	329,392	330,165	330,241	330,346	329,976	329,801	329,800	329,100	328,481	328,032	327,746	327,552	327,544	327,815	327,819
Average Consumption per customer																					
SC1	0.0055	0.0055	0.0054	0.0054	0.0053	0.0053	0.0052	0.0051	0.0051	0.0050	0.0050	0.0049	0.0048	0.0048	0.0047	0.0047	0.0046	0.0046	0.0045	0.0045	0.0044
SC2 R1 (includes SC13)	0.3407	0.3372	0.3339	0.3305	0.3272	0.3239	0.3202	0.3165	0.3128	0.3092	0.3056	0.3021	0.2986	0.2952	0.2918	0.2884	0.2851	0.2818	0.2780	0.2743	0.2706
SC2 R2	0.4907	0.4857	0.4809	0.4761	0.4713	0.4666	0.4612	0.4559	0.4506	0.4454	0.4403	0.4352	0.4302	0.4252	0.4203	0.4155	0.4107	0.4059	0.4005	0.3951	0.3899
SC3 (includes SC11 and SC31)	0.3068	0.3026	0.2986	0.2943	0.2901	0.2871	0.2838	0.2805	0.2772	0.2740	0.2707	0.2676	0.2644	0.2613	0.2583	0.2552	0.2522	0.2493	0.2459	0.2426	0.2393

Table 1. Con Edison Deep Electrification Case

	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
Gas Firm Sales Forecast (MDt)																					
SC1	3,359	3,058	2,830	2,602	2,348	2,150	2,033	1,907	1,773	1,630	1,457	1,284	1,109	936	768	601	454	392	344	270	208
SC2 R1 (includes SC13)	27,317	25,892	24,863	23,412	21,637	19,826	18,761	17,617	16,399	15,093	13,504	11,918	10,307	8,715	7,158	5,613	4,247	3,669	3,225	2,538	1,954
SC2 R2	32,823	30,448	28,723	27,056	24,956	22,861	21,628	20,303	18,891	17,380	15,543	13,711	11,853	10,017	8,223	6,445	4,874	4,209	3,698	2,908	2,238
SC3 (SC11 and SC31)	99,246	92,907	88,571	84,222	78,403	71,840	67,978	63,832	59,414	54,679	48,921	43,171	37,335	31,566	25,925	20,328	15,378	13,287	11,677	9,189	7,076
Gas Firm Customer Count Forecast																					
SC1	607,583	553,049	511,901	470,717	424,764	388,871	367,755	345,015	320,776	294,884	263,489	232,230	200,597	169,356	138,888	108,753	82,159	70,890	62,206	48,879	37,579
SC2 R1 (includes SC13)	80,189	76,012	73,002	68,752	63,551	58,240	55,117	51,763	48,189	44,356	39,692	35,033	30,303	25,626	21,050	16,509	12,492	10,795	9,490	7,469	5,753
SC2 R2	66,896	63,491	61,277	59,055	55,732	52,234	50,486	48,420	46,028	43,262	39,528	35,624	31,463	27,165	22,783	18,244	14,094	12,436	11,176	8,993	7,081
SC3 (SC11 and SC31)	323,475	309,051	300,485	291,780	277,334	258,090	247,783	236,080	222,967	208,214	189,025	169,260	148,533	127,431	106,198	84,499	64,865	56,787	50,612	40,388	31,539
Average Consumption per customer																					
SC1	0.0055	0.0055	0.0055	0.0055	0.0055	0.0055	0.0055	0.0055	0.0055	0.0055	0.0055	0.0055	0.0055	0.0055	0.0055	0.0055	0.0055	0.0055	0.0055	0.0055	0.0055
SC2 R1 (includes SC13)	0.3407	0.3406	0.3406	0.3405	0.3405	0.3404	0.3404	0.3403	0.3403	0.3403	0.3402	0.3402	0.3401	0.3401	0.3400	0.3400	0.3400	0.3399	0.3398	0.3398	0.3396
SC2 R2	0.4907	0.4796	0.4687	0.4581	0.4478	0.4377	0.4284	0.4193	0.4104	0.4017	0.3932	0.3849	0.3767	0.3687	0.3609	0.3533	0.3458	0.3385	0.3309	0.3234	0.3161
SC3 (SC11 and SC31)	0.3068	0.3006	0.2948	0.2886	0.2827	0.2784	0.2743	0.2704	0.2665	0.2626	0.2588	0.2551	0.2514	0.2477	0.2441	0.2406	0.2371	0.2340	0.2307	0.2275	0.2244

Table 1. O&R Reference Case

	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
Gas Firm Sales Forecast (MMcf)																					
SC 1	17,264	16,975	16,793	16,728	16,621	16,342	16,069	15,794	15,520	15,247	14,972	14,700	14,431	14,045	13,666	13,295	12,930	12,573	12,202	11,836	11,473
SC 2	5,574	5,361	5,165	5,027	4,820	4,732	4,646	4,559	4,473	4,387	4,300	4,214	4,129	4,007	3,887	3,770	3,655	3,542	3,425	3,309	3,195
Gas Firm Customer Count Forecast																					
SC 1	136,711	136,607	136,580	136,718	136,895	134,680	132,553	130,452	128,410	126,408	124,439	122,529	120,676	118,098	115,643	113,306	111,080	108,962	106,834	104,794	102,833
SC 2	5,928	5,872	5,808	5,756	5,706	5,611	5,520	5,430	5,342	5,257	5,172	5,090	5,011	4,900	4,795	4,695	4,599	4,508	4,417	4,330	4,246
Average Consumption per customer																					
SC 1	0.1263	0.1243	0.1230	0.1224	0.1214	0.1213	0.1212	0.1211	0.1209	0.1206	0.1203	0.1200	0.1196	0.1189	0.1182	0.1173	0.1164	0.1154	0.1142	0.1129	0.1116
SC 2	0.9403	0.9130	0.8893	0.8735	0.8448	0.8434	0.8417	0.8396	0.8373	0.8345	0.8313	0.8278	0.8240	0.8177	0.8107	0.8030	0.7947	0.7856	0.7754	0.7643	0.7525

Table 1. O&R Hybrid Case

	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
Gas Firm Sales Forecast (MMcf)																					
SC 1	17,264	17,382	17,029	16,498	15,545	14,346	14,108	13,828	13,505	13,135	12,609	12,084	11,545	11,039	10,550	10,067	9,727	9,441	9,206	8,707	8,277
SC 2	5,574	5,489	5,237	4,958	4,509	4,155	4,079	3,992	3,892	3,779	3,621	3,464	3,303	3,149	3,001	2,855	2,749	2,660	2,584	2,435	2,305
Gas Firm Customer Count Forecast																					
SC 1	136,711	139,038	137,592	134,649	128,157	119,469	118,860	117,855	116,450	114,578	111,275	107,886	104,280	100,868	97,527	94,146	92,024	90,362	89,316	85,620	82,497
SC 2	5,928	5,897	5,683	5,434	4,991	4,646	4,615	4,569	4,507	4,427	4,291	4,153	4,007	3,864	3,725	3,585	3,493	3,419	3,367	3,215	3,085
Average Consumption per customer																					
SC 1	0.1263	0.1250	0.1238	0.1225	0.1213	0.1201	0.1187	0.1173	0.1160	0.1146	0.1133	0.1120	0.1107	0.1094	0.1082	0.1069	0.1057	0.1045	0.1031	0.1017	0.1003
SC 2	0.9403	0.9309	0.9216	0.9124	0.9033	0.8942	0.8839	0.8737	0.8636	0.8537	0.8438	0.8341	0.8245	0.8150	0.8056	0.7963	0.7871	0.7780	0.7676	0.7573	0.7472

Table 1. O&R Deep Electrification Case

	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045
Gas Firm Sales Forecast (MMcf)																					
SC 1	17,264	16,669	15,918	15,010	13,870	12,578	12,032	11,449	10,829	10,167	9,368	8,569	7,758	6,977	6,210	5,448	4,771	4,473	4,243	3,343	2,558
SC 2	5,574	5,264	4,896	4,511	4,023	3,642	3,479	3,305	3,121	2,925	2,690	2,456	2,220	1,990	1,767	1,545	1,348	1,260	1,191	935	712
Gas Firm Customer Count Forecast																					
SC 1	136,711	132,001	126,057	118,864	109,841	99,603	95,284	90,666	85,756	80,510	74,183	67,858	61,435	55,248	49,181	43,146	37,779	35,425	33,597	26,470	20,253
SC 2	5,928	5,715	5,426	5,104	4,646	4,292	4,178	4,045	3,892	3,717	3,484	3,242	2,985	2,728	2,467	2,199	1,956	1,861	1,793	1,434	1,114
Average Consumption per customer																					
SC 1	0.1263	0.1263	0.1263	0.1263	0.1263	0.1263	0.1263	0.1263	0.1263	0.1263	0.1263	0.1263	0.1263	0.1263	0.1263	0.1263	0.1263	0.1263	0.1263	0.1263	0.1263
SC 2	0.9403	0.9211	0.9023	0.8839	0.8658	0.8486	0.8327	0.8172	0.8019	0.7869	0.7722	0.7578	0.7436	0.7297	0.7160	0.7027	0.6895	0.6771	0.6642	0.6515	0.6391

Appendix C. Scoring tables

Table 1. CECONY criteria scores

Weight:	1	1	1	1
Score	**Age**	**Size**	**Use**	**Heating fuel**
1	1981 – present	< 500K square feet	1-4 family home	Electric or oil
2	1940 – 1980	--	Multifamily building	Natural gas
3	Pre-1940	> 500K square feet	Commercial building	Steam

Level of intervention

$$Census\ tract\ score = \sum_{criteria} (building\ area\ in\ census\ tract * score * weight)$$

Table 2. O&R criteria scores

Weight:	1	1	1
Score	**Age**	**Use**	**Heating fuel**
1	1980 – present	1-4 family home	Electric, oil, propane, wood, or coal
2	1940 – 1979	Multifamily building	Natural gas
3	Pre-1940		

Level of intervention

$$Census\ tract\ score = \sum_{criteria} (\#\ of\ residential\ units\ in\ census\ tract * score * weight)$$

Appendix D. Results

Table 3. CECONY results

Customer intervention level	Scores	Percent of square footage	Description
Level 1	4 - 6	5%	• Consists mostly of newer (post-war), smaller (< 500K square feet), 1-4 family homes • Most of these buildings use oil or natural gas as their primary heating fuel • Located primarily in Westchester and in some areas of Queens and the Bronx
Level 2	6 – 8	70%	• Consists mostly of older (pre-war), smaller (< 500K square feet, multifamily buildings • Most of these buildings use natural gas as their primary heating fuel • Located throughout areas of CECONY's service territory
Level 3	8 – 10	22%	• Consists mostly of older (pre-war), larger, commercial buildings • Most of these buildings use natural gas or Con Edison's district steam as their primary heating fuel • Located primarily in Manhattan and in some areas of Queens, the Bronx, and Westchester
Level 4	10 - 12	3%	• Consists mostly of older (pre-war), very large (>=500K square feet), commercial buildings • Most of these buildings are on Con Edison's district steam system • Located in Manhattan

Table 4. O&R results

Customer intervention level	Scores	Percent of building units	Description
Level 1	3.4 – 3.9	7%	• Consists mostly of newer, single-family homes that use oil as their primary heating fuel • Located in Orange County
Level 2	4.0 – 4.4	13%	• Consists of single-family homes built in 1940 – 1979 that use oil or natural gas as their primary heating fuel • Located primarily in Orange County
Level 3	4.5 – 5.0	59%	• Consists of mostly pre-war, multifamily buildings that use natural gas as their primary heating fuel • Located primarily in Rockland County
Level 4	5.1 – 5.5	21%	• Consists of predominantly old, pre-war buildings that use natural gas as their primary heating fuel • Located in both Orange and Rockland Counties

Appendix E. Maps

Figure 1. CECONY service territory map: New York City

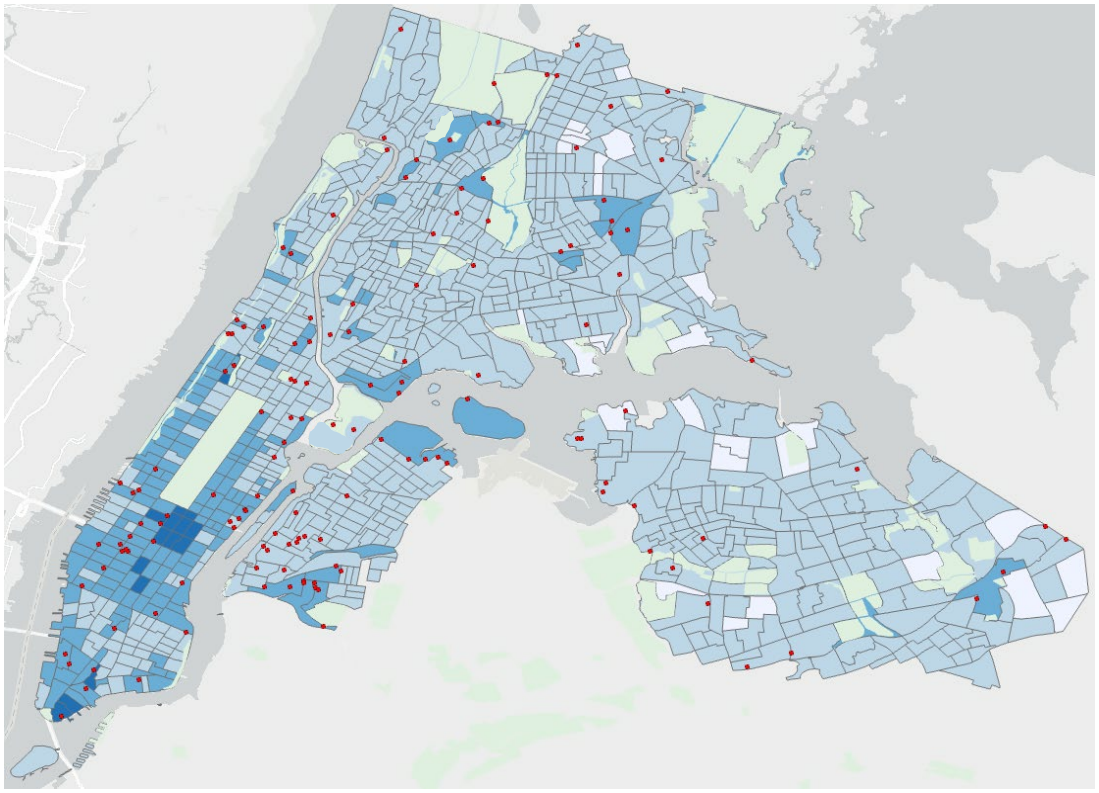


Figure 2. CECONY service territory map: Westchester

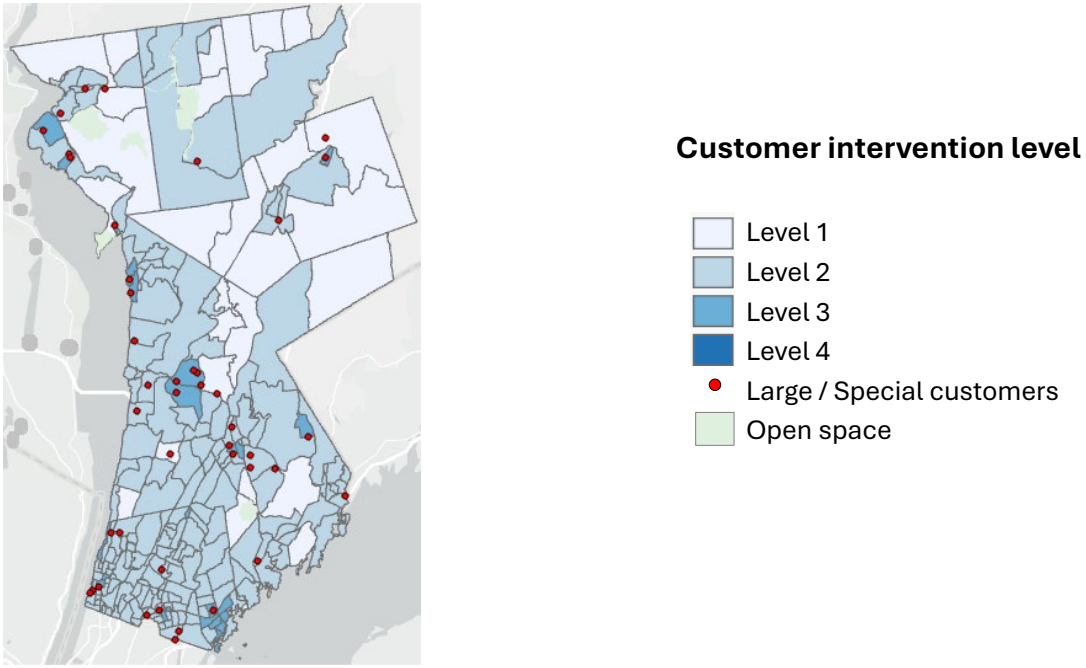


Figure 3. O&R service territory map