| In the Matter of a Comprehensive |) | Case 18-M-0084 |
|-------------------------------------|---|----------------|
| Energy Efficiency Initiative |) | |

Consolidated Edison Company of New York, Inc. Low-and-Moderate Income Multi-Family Energy Efficiency and Building Electrification Portfolio Proposal Filing

I. Executive Summary

Consolidated Edison Company of New York, Inc. ("Con Edison" or the "Company") proposes its Low-and-Moderate Income ("LMI") Multifamily¹ Energy Efficiency and Building Electrification ("EE BE") portfolio for 2026 – 2030, as required by the New York Public Service Commission's ("Commission") *Order Directing Energy Efficiency and Building Electrification Proposals* ("EE BE Order").² Con Edison is committed to assisting the State in meeting its ambitious clean energy goals, through actions including growing EE BE programs. The Company's EE BE programs are critical tools to help customers reduce their energy consumption and thereby reduce overall greenhouse gas emissions. Between 2020 and 2023, these programs reduced energy use in an amount equivalent to the energy produced by more 500 MW of offshore wind turbines, at approximately two-thirds of the cost when participating customers' investments are included.³

¹ Multifamily buildings are defined as residential buildings with five or more dwelling units.

² Case 18-M-0084, *In the Matter of a Comprehensive Energy Efficiency Initiative* ("NENY Proceeding") Order Directing Energy Efficiency and Building Electrification Proposals (issued July 20, 2023) ("EE BE Order"). The Company's proposed non-LMI portfolio is filed separately.

³ (154 million LMMBtu of EE BE achievement ÷ 2.9 MMBtu/MWh) ÷ (7.4 MW per turbine x 8,760 hours per year x 40% capacity factor x 30-year lifespan) = ~68 turbines. 68 turbines x 30-year lifespan x 7.4 MW per turbine x 8,760 hours per year x 40% capacity factor x \$84 per MWh Levelized Cost of Energy = \$4.4 billion. Con Edison's expenditures on EE BE programs between 2020-2023 were \$1.3 billion. *See*, U.S. Department of Energy Office of Energy Efficiency and Renewable Energy, Offshore Wind Market Report: 2022 Edition, pp. 71 and 80. at: https://www.energy.gov/sites/default/files/2022-09/offshore-wind-market-report-2022-v2.pdf

Con Edison regards energy efficiency and deep decarbonization measures as not only essential to delivering on the State's clean energy goals, but also important to the Company's business and customer services. The Company looks forward to working with Department of Public Service ("DPS") Staff, utilities, the New York State Energy Research and Development Authority ("NYSERDA") and other stakeholders to make these clean energy ambitions a reality for all customers, and in particular LMI customers. Accordingly, the Company developed two proposals to meet these goals, both of which are designed to work hand-in-hand with National Grid⁴ and NYSERDA to provide a cohesive EE BE offering to LMI Multifamily customers in the Company's service territory. The Company's primary proposal is aligned with the provided budget and other guidelines in the EE BE Order, expanding on existing successful programs to continue to deliver energy-efficient solutions to LMI Multifamily customers, including those in Disadvantaged Communities ("DAC"), as well as steam customers.⁵ In addition, the Company has included a supplementary proposal that will better align the scale of its programs to assist with the 2030 statewide targets as outlined in the Climate Leadership and Community Protection Act ("CLCPA") Final Scoping Plan. Between 2026-2030, the first proposal, the Base Portfolio Plan, will:

• Electrify nearly 9,000 homes;⁷

⁴ The Brooklyn Union Gas Company d/b/a National Grid NY ("National Grid").

⁵ The Company's programs for non- low- and moderate-income multi-family customers are outlined in a separate proposal concurrently filed in this Proceeding.

⁶ New York State Climate Action Council, *New York State Climate Action Council Scoping Plan*, 2022, p. 179. *See*, https://climate.ny.gov/Resources/Scoping-Plan.

⁷ For the purposes of this filing, the term "homes" means dwelling units.

- Upgrade approximately 123,000 homes to be electrification-ready through building envelope projects;⁸ and
- Achieve 28 million Lifetime Million British Thermal Units ("Lifetime MMBtu")
 or "LMMBtu")
 of energy savings; and
- Upgrade 237,000-326,000 homes overall.

The EE BE Order budgets constrain the achievable energy savings through the Base Portfolio Plan and will not allow the Company to scale up its programs and market activity to the trajectory needed to stay on track with CLCPA goals. ¹⁰ While codes, standards and other exogenous factors will support additional energy efficiency gains beyond program achievement, taken together these savings will still leave a significant shortfall from the Final Scoping Plan's building sector targets. ¹¹ Customers, especially those in the LMI Multifamily sector, will not pursue many electrification and energy savings projects that they would have with additional funding due to unfavorable project economics, causing buildings to commit to another 20-30 years of inefficient fossil fuel use by replacing their aging equipment with like-in-kind and foregoing important building envelope improvements during their upcoming renovation cycle.

If the energy savings included in the Company's Base Portfolio Plan do not meet the Commission's expectations, the Company is ready to do more. The Company's Expanded

⁸ "Electrification ready" refers to the building shell improvements that reduce energy usage once a heat pump is installed as well as energy usage related to the building's existing heating system.

⁹ Lifetime MMBtu refers to the total savings of an EE or BE measure over that measure's Expected Useful Life ("EUL"). This metric better captures the overall impact of each measure on participating customers' comfort, energy bills, and overall greenhouse gas emissions than first-year annual MMBtu ("AMMBtu"). LMMBtu is calculated by multiplying AMMBtu by the EUL of each measure.

¹⁰ New York State Climate Action Council, New York State Climate Action Council Scoping Plan, 2022, p. 179. See, https://climate.ny.gov/Resources/Scoping-Plan. For the methodology to convert CLCPA goals to TBtu savings, see NENY Proceeding, Comments of Consolidated Edison Company of New York, Inc. and Orange and Rockland Utilities, Inc. On The New Efficiency New York Interim Review (filed March 27, 2023), p. 68.

¹¹ NENY Proceeding, Comments of Consolidated Edison Company of New York, Inc. and Orange and Rockland Utilities, Inc. On The New Efficiency New York Interim Review (filed March 27, 2023), pp. 82-83.

Portfolio Plan illustrates one possible scenario that recognizes the Commission's goal to moderate customer bill impacts ¹² while scaling up program achievement in 2028, 2029, and 2030. This plan will enable the Company's programs – and the markets they support – to further scale as 2030 approaches and prepare for the nearly doubling of annual incremental GHG emissions reductions demanded by the CAC Final Scoping Plan during the next decade. ¹³ Without this Expanded Portfolio Plan, even if additional funding is made available through alternative mechanisms like the State's Cap-and-Invest framework, markets will struggle to make the leap from a lower level of activity to one that is in line with the growth needed to achieve State policy goals. Crucial gains in economies of scale that can be realized during this period of transformational growth may also be missed, leading to higher overall costs. By 2030, the Company's proposed Expanded Portfolio Plan would:

- Scale up program activity in 2030 by 50 percent when compared to 2026 levels,
 and 28 percent higher than 2030 activity in the Base Portfolio Scenario (measured in LMMBtu savings);
- Electrify an additional 2,000 homes for a total of 11,000 homes;
- Upgrade an additional 16,000 homes to be electrification-ready through building envelope improvements, thereby making 139,000 homes electrification-ready;
 and

¹³ The Final Scoping Plan states that the building sector must reduce GHG emissions from heating and water heating by 2.66 MMTCO₂e in 2029. This jumps to 4.78 MMTCO₂e in 2030. *See*, New York State Climate Action Council, *New York State Climate Action Council Scoping Plan*, 2022, Technical Supplement Annex 2. Key Drivers Outputs (https://climate.ny.gov/resources/scoping-plan/-/media/project/climate/files/IA-Tech-Supplement-Annex-2-Key-Drivers-Outputs-2022-1.xlsx).

¹² The estimated Revenue Requirement increase in 2030 under the Expanded Portfolio Plan (across both LMI and non-LMI combined) when compared to the Base Portfolio Plan is 0.3% for Electric, 0.2% for Gas, and 0.2% for Steam.

- Achieve another 4 million LMMBtu of energy savings for a total of 32 million LMMBtu; and
- Upgrade 270,000-373,000 homes overall.

Both proposed portfolios meet the Commission's program requirements, that is, they direct no less than 85 percent of funding to strategic measures, such as building electrification and envelope, and no more than 15 percent of funding to neutral measures. Strategic and neutral measures are more complex and costly for customers and will therefore require higher incentives and support to spur customer action than non-strategic measures – even when the impacts of Local Law 97 and federal tax incentives are accounted for. ¹⁴ The Company's experience demonstrates that its costs per unit of energy savings for strategic measures are \$7-\$20 per LMMBtu, while the costs per unit of energy saved for non-strategic measures is typically less than \$5 per LMMBtu.

Additionally, the EE BE Order called for Program Administrators' ("PAs") 15 filings to propose certain implementation details. Both proposed portfolios assume that the Commission adopts the following policies for these portfolios, which are detailed more fully herein: 16

> • Maintain electric utilities' responsibility for operating building electrification programs with NYSERDA support for technical assistance and allow the launch of a specific BE offering for LMI Multifamily customers;

¹⁴ NENY Proceeding, EE BE Order, p. 33.

¹⁵ Program Administrators refers to the New York State Energy Research and Development Authority ("NYSERDA") and the electric, gas, and steam utilities authorized by the Commission to operate EE BE programs under this proceeding.

¹⁶ If all of these are not adopted, the Company will need to review and revise its programs, costs and savings estimates based on the changes made.

- Allow Con Edison to develop and implement a steam-specific energy efficiency
 offering that LMI Multifamily customers could access through the non-LMI
 programs. Today, steam customers are not eligible for incentives for energy
 efficiency measures that only reduce steam usage leaving a significant number
 of large LMI Multifamily buildings in the Company's service territory unable to
 access incentives for envelope projects and other strategic measures to achieve
 more energy efficiency;
- Transition the EE BE framework to annual targets and budgets with limited budget flexibility to sustain popular offerings and maximize savings each year;
- Move EE BE program utility labor costs into program budgets approved in this
 proceeding; better aligning labor costs with the setting of NENY targets and
 budgets and improving transparency by having all EE BE program costs tracked
 and reported the same way across PAs;
- Align program activity with State policy objectives¹⁷ by setting portfolio targets
 in terms of building envelope and electrification project savings, with a guardrail
 of overall energy savings achieved across the portfolio;
- Measure energy savings as lifetime energy savings to reflect the value that longerlived EE BE projects provide;
- Identify DAC objectives for each PA and appropriately value the LMI
 Multifamily Portfolio's contribution to that goal so that DACs are fully served by
 EE BE programs;

¹⁷ New York State Climate Action Council, *New York State Climate Action Council Scoping Plan*, 2022, p. 11. *See*, https://climate.ny.gov/Resources/Scoping-Plan.

- Direct the NYSERDA to use Inflation Reduction Act ("IRA") funds to supplement its LMI customer programs, since NYSERDA is the state energy office that will administer these funds; and
- Recover all EE BE program costs (including EE BE program staffing costs reflected in the Company's current rate plan plus additional Full-Time Equivalents ("FTE") to support the transition to and growth of strategic savings) via surcharge; and continue in 2026-2030 the Company's current practice of amortizing and recovering EE BE program costs over 15 years (roughly the lifetime of the EE BE measures incentivized).

The Company remains committed to supporting the State's ambitious clean energy goals and urges the Commission to advance achievement of those goals in approving the Company's proposals. As noted by many stakeholders in their earlier comments in this proceeding, EE and BE need to be a "cornerstone" of any strategy to meet CLCPA goals. Programs serving LMI customers are particularly crucial to supporting this market segment's participation in the clean energy transition. It is crucial to invest now to sustain and grow these programs to continue to deliver benefits to customers and Con Edison is prepared to do so.

II. Energy Efficiency and Building Electrification Portfolios

To support more LMI Multifamily buildings in adopting strategic measures, the Company reviewed its LMI Multifamily EE portfolio to prioritize electrifying buildings and making buildings electrification ready with envelope upgrades. The Base Portfolio Plan uses the

¹⁸ NENY Proceeding, Comments of Natural Resources Defense Council, Regional Plan Association, Association for Energy Affordability, Urban Green Council, and New Yorkers for Clean Power (filed March 27, 2023), p. 5.

budgets outlined in the EE BE Order and moves Labor costs into EE BE budgets. ¹⁹ The Expanded Portfolio Plan builds on the Base Portfolio Plan to grow achievement from 2026 through 2030 beyond the budgets prescribed in the EE BE Order to advance achievement of CLCPA goals.

Table 1 below includes a side-by-side comparison of key outputs of the Base Portfolio Plan and the Expanded Portfolio Plan in 2030.

Table 1 — Comparison of Budget, Savings, and Other Metrics for Base vs. Expanded Portfolio Plan (2030)

| Category | Base Portfolio (2030) | Expanded Portfolio (2030) |
|------------------------------------|-----------------------|---------------------------|
| Budget (Million \$) | 101 | 137 |
| Energy Savings (Million LMMBtu) | 6 | 8 |
| Homes electrified (000s) | 2 | 3 |
| Homes electrification-ready (000s) | 28 | 34 |

Base Portfolio Plan: 2026-2030 Budget and Savings

The Base Portfolio Plan proposes to modify the EE BE Order budgets by: (1) moving an annual average of \$19 million from the EE BE Order's non-LMI electric budgets to gas budgets (\$14 million in non-LMI gas and \$5 million in LMI gas) to better balance electrification and envelope achievement; (2) exercising the flexibility in the EE BE Order to propose that annual budgets are lower in early years and ramp up to higher budgets in later years, averaging to the annual amounts established in the EE BE Order; and (3) moving labor costs from base rates into the program budget. Tables 2 through 5 summarize the Base Portfolio Plan budgets and

¹⁹ Company Labor is currently recovered in rates, not through program budgets. See the "Labor Needs" section below.

associated energy savings.²⁰ Section 4 describes the Company's proposed portfolio targets, which are based on the savings in Table 5.

Tables 2 and 3 show the proposed budget and associated energy savings by commodity budget.

Table 2 — 2026-2030 Base Portfolio Plan Budget (Million \$)²¹

| Commodity | 2023 | 2026 | 2027 | 2028 | 2029 | 2030 | 2026-2030 |
|-----------|------|------|------|------|------|-------|-----------|
| Electric | 6.0 | 17.7 | 19.5 | 21.4 | 23.2 | 25.0 | 106.8 |
| Gas | 34.2 | 59.3 | 63.5 | 68.1 | 71.5 | 76.1 | 338.6 |
| TOTAL | 40.2 | 77.1 | 83.0 | 89.5 | 94.7 | 101.1 | 445.4 |

Table 3 — 2026-2030 Base Portfolio Plan Savings (Million LMMBtu)

| Commodity | 2023 | 2026 | 2027 | 2028 | 2029 | 2030 | 2026-2030 |
|-----------|------|------|------|------|------|------|-----------|
| Electric | 0.5 | 0.5 | 0.5 | 0.6 | 0.6 | 0.7 | 3.0 |
| Gas | 4.1 | 4.7 | 4.9 | 5.1 | 5.2 | 5.4 | 25.3 |
| TOTAL | 4.6 | 5.2 | 5.4 | 5.7 | 5.8 | 6.1 | 28.2 |

Tables 4 and 5 summarize Base Portfolio Plan for incentives and implementation spend and energy savings by measure category.

²¹ The budget assumes funding building envelope measures using the approach of allocating costs to each commodity's budget proportional to each commodity's share of total savings generated. This generally results today in most envelope costs being funded from the gas budget. However, given the State's ambitious policy goals for heating electrification, many of these gas buildings receiving building upgrades will soon electrify their heating, in which case it will be predominantly electric ratepayers benefiting from these envelope upgrades. In light of this, a 50/50% allocation of building envelope costs between electric and gas (or steam) is more appropriate and is included in Appendix C.

²⁰ Further breakdown of the budgets into portfolio categories (e.g., incentives, implementation, Company Labor etc.) are in Appendices A and B.

Table 4 — 2026-2030 Base Portfolio Plan Spend by Measure Category (Million \$)

| Category | 2023 | 2026 | 2027 | 2028 | 2029 | 2030 | 2026- 2030 |
|--|------|------|------|------|------|-------|---------------|
| Electrification | - | 6.9 | 7.6 | 8.3 | 9.1 | 9.9 | 41.6 |
| Building Envelope | 19.2 | 39.2 | 41.6 | 44.2 | 46.9 | 49.8 | 221.9 |
| Sub-total – Strategic – Electrification & Envelope | 19.2 | 46.1 | 49.2 | 52.5 | 56.0 | 59.7 | 263.5 |
| Other Strategic | 7.9 | 20.1 | 22.4 | 25.1 | 27.1 | 29.3 | 124.0 |
| Neutral | 8.1 | 2.6 | 2.5 | 2.3 | 1.3 | 1.2 | 9.9 |
| Total Incentives & Implementation | 35.3 | 68.8 | 74.1 | 79.9 | 84.4 | 90.2 | 397.3 |
| Other Portfolio Costs | 5.0 | 8.3 | 9.0 | 9.7 | 10.3 | 10.9 | 48.1 |
| GRAND TOTAL | 40.2 | 77.1 | 83.0 | 89.5 | 94.7 | 101.1 | 445.4 |

Table 5 — 2026-2030 Base Portfolio Plan Savings (Million LMMBtu)²²

| Category | 2023 | 2026 | 2027 | 2028 | 2029 | 2030 | 2026- 2030 |
|--|------|------|------|------|------|------|---------------|
| Electrification | - | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 1.0 |
| Building Envelope | 1.7 | 2.7 | 2.8 | 3.0 | 3.2 | 3.4 | 15.0 |
| Sub-total – Strategic – Electrification & Envelope | 1.7 | 2.8 | 3.0 | 3.2 | 3.4 | 3.6 | 16.0 |
| Other Strategic | 1.6 | 1.9 | 2.0 | 2.2 | 2.2 | 2.3 | 10.7 |
| Neutral | 1.3 | 0.4 | 0.4 | 0.4 | 0.2 | 0.2 | 1.5 |
| GRAND TOTAL | 4.6 | 5.2 | 5.4 | 5.7 | 5.8 | 6.1 | 28.2 |

²² The budget shown above is based on cost recovery for building envelope measures that is using the current approach, wherein costs are recovered proportionally based on savings generated, generally resulting in most costs recovered from the gas budget. The Company believes that given the State's ambitious policy goals for heating electrification, a cost recovery mechanism in which more of the costs are recovered from electric budget, to reflect the expected future heating electrification of the building stock, is appropriate. An alternative budget proposal with a 50/50% cost recovery of building envelope costs between electric and gas is included in Appendix C.

The Base Portfolio Plan will increase spending and associated energy savings from building electrification and envelope measures between 2026 and 2030, delivering double the savings from these measures in 2030 than in 2023. That being said, the change in focus to deeper and more expensive electrification and building envelope projects will reduce overall portfolio savings over time as the more expensive projects dominate the portfolio. More detail concerning the specific offerings the Company proposes to provide to each sector can be found in Section 3.

Expanded Portfolio Plan: 2026-2030 Budget and Savings

If approved, the Company's Expanded Portfolio Plan will empower Con Edison to deliver more than double the savings from building envelope measures in 2030 compared to the Company's anticipated achievement in 2023. The Expanded Portfolio Plan is a potential scenario that builds on the Base Portfolio Plan to scale up the Company's programs and the markets they serve in 2028, 2029, and 2030 towards the Final Scoping Plan's objectives while still managing customer bill impacts. This will enable these markets to use additional future funding that becomes available and better capture efficiencies of scale that can be gained in the interim. Tables 6 through 9 summarize the Expanded Portfolio Plan budgets and associated energy savings. Section 4 below describes the Company's proposed Expanded Portfolio targets, which will be based on the savings in Table 9.

Tables 6 and 7 show the proposed budget and associated energy savings by commodity budget.

Table 6 — 2023, 2026-2030 Expanded Portfolio Plan Budget (Million \$)²³

| Commodity | 2023 | 2026 | 2027 | 2028 | 2029 | 2030 | 2026-2030 |
|-----------|------|------|------|-------|-------|-------|-----------|
| Electric | 6.0 | 17.7 | 20.6 | 24.1 | 30.0 | 38.0 | 130.4 |
| Gas | 34.2 | 59.3 | 67.3 | 76.4 | 86.9 | 99.0 | 388.8 |
| TOTAL | 40.2 | 77.1 | 87.9 | 100.5 | 116.8 | 137.0 | 519.2 |

Table 7 — 2023, 2026-2030 Expanded Portfolio Plan Savings (Million LMMBtu)

| Commodity | 2023 | 2026 | 2027 | 2028 | 2029 | 2030 | 2026-2030 |
|-----------|------|------|------|------|------|------|-----------|
| Electric | 0.5 | 0.5 | 0.6 | 0.7 | 0.8 | 1.0 | 3.5 |
| Gas | 4.1 | 4.7 | 5.1 | 5.6 | 6.2 | 6.8 | 28.5 |
| TOTAL | 4.6 | 5.2 | 5.7 | 6.3 | 7.0 | 7.8 | 31.9 |

Tables 8 and 9 summarize Expanded Portfolio Plan spend and energy savings by measure category.

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 $^{^{23}}$ Id. The 50/50 allocation of budget to Electric and Gas is shown in Appendix C.

Table 8 — 2023 and 2026-2030 Expanded Portfolio Plan Spend by Measure Category (Million \$)

| Category | 2023 | 2026 | 2027 | 2028 | 2029 | 2030 | 2026- 2030 |
|--|------|------|------|-------|-------|-------|---------------|
| Electrification | - | 6.9 | 8.0 | 9.3 | 12.5 | 17.1 | 53.8 |
| Building Envelope | 19.2 | 39.2 | 44.1 | 49.6 | 55.8 | 62.8 | 251.5 |
| Sub-total – Strategic – Electrification & Envelope | 19.2 | 46.1 | 52.1 | 59.0 | 68.3 | 79.9 | 305.3 |
| Other Strategic | 7.9 | 20.1 | 23.8 | 28.2 | 33.6 | 40.2 | 145.9 |
| Neutral | 8.1 | 2.6 | 2.5 | 2.5 | 2.3 | 2.1 | 12.0 |
| Total Incentives & Implementation | 35.3 | 68.8 | 78.4 | 89.6 | 104.2 | 122.2 | 463.1 |
| Other Portfolio Costs | 5.0 | 8.3 | 9.5 | 10.8 | 12.7 | 14.8 | 56.0 |
| GRAND TOTAL | 40.2 | 77.1 | 87.9 | 100.5 | 116.8 | 137.0 | 519.2 |

Table 9 — 2026-2030 Expanded Portfolio Plan Savings (Million LMMBtu)

| Category | 2023 | 2026 | 2027 | 2028 | 2029 | 2030 | 2026- 2030 |
|--|------|------|------|------|------|------|---------------|
| Electrification | - | 0.2 | 0.2 | 0.2 | 0.3 | 0.4 | 1.3 |
| Building Envelope | 1.7 | 2.7 | 3.0 | 3.3 | 3.7 | 4.2 | 16.9 |
| Sub-total – Strategic – Electrification & Envelope | 1.7 | 2.8 | 3.2 | 3.6 | 4.0 | 4.6 | 18.2 |
| Other Strategic | 1.6 | 1.9 | 2.1 | 2.4 | 2.6 | 2.9 | 11.9 |
| Neutral | 1.3 | 0.4 | 0.4 | 0.4 | 0.3 | 0.3 | 1.8 |
| GRAND TOTAL | 4.6 | 5.2 | 5.7 | 6.3 | 7.0 | 7.8 | 31.9 |

Approach to Portfolio Plan Development

To develop the portfolio plans, the Company considered the required shift to strategic measures and tried to quantify the associated costs. To do so, the Company developed detailed forecasts of an overall savings goal through the following methods:

- (1) leveraging external factors that encourage energy efficiency and electrification, including federal funding and the potential for Local Law 97 fines in New York City;
- (2) considering exogenous factors that influence market development, including real estate development trends and potential workforce, equipment, and supply chain constraints;
- (3) developing program delivery and partnership strategies that will maximize the effectiveness of program incentives while increasing participation, including by DAC customers;²⁴ and
- (4) conducting in-depth analysis to forecast future program incentive and implementation costs.

To these last two items, the Company developed its portfolio to focus on the customers likely to undertake a building electrification or building envelope project with the assistance of the Company's programs. Examples include customers that own older buildings (*e.g.*, pre-war multifamily buildings in New York City) who typically have higher energy use and leakier building envelopes, customers with heating equipment at the end of its useful life, and customers facing potential Local Law 97 fines.

Most customers investing in their buildings do so with the expectation that they at least break-even on the investment within a period of years. Building electrification and envelope

²⁴ See Section 3 for a description of these strategies.

projects are typically more expensive than traditional projects. Even focusing on the customers most likely to undertake EE BE projects, these targeted customers will not achieve the breakeven point in the expected timeframe at current incentive levels. As such, the Company needs to increase building electrification and envelope incentive levels to achieve substantial growth in these programs. Providing financial support sufficient to make these projects economically feasible is particularly important where affordable housing is concerned: high costs can further erode housing affordability, negatively impacting the customers these programs are seeking to serve.

The example below illustrates the project economics for heating electrification in a prototypical small affordable pre-war multifamily New York City building with existing heating equipment facing the end of its useful life. Current incentive levels would not offset the cost of the project, meaning that most customers, making the decision based on cost alone, would choose a fossil fuel upgrade. Moreover, Inflation Reduction Act ("IRA") tax credits are not enough to change the outcome.²⁵

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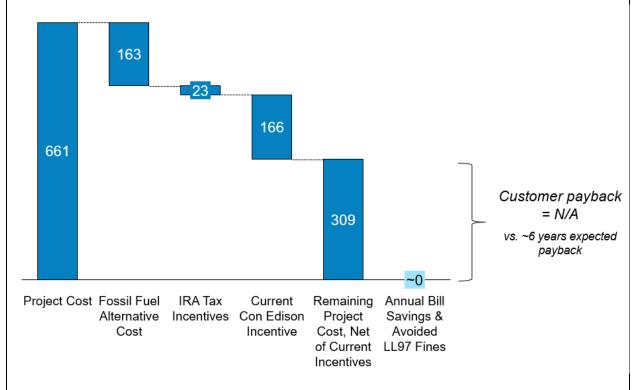
²⁵ The analysis assumes that the building is an affordable building that meets the requirements for exemption from New York City's Local Law 97 emission limits until 2036 or can comply with the law by undertaking certain prescriptive measures by 2024 rather than meet emission limits. Therefore, the analysis does not take into account Local Law 97 fines.

Figure 5 — Heating electrification in a prototypical small LMI pre-war multifamily building in New York City

Building characteristics

- ~31,000 sq. ft. pre-war multifamily building in NYC
- Gas boiler for space heating at the end of life and window ACs at the end of life
- Electrification option: mini-split air-source heat pump → \$16/sq. ft. (incl. additional ~\$5/sq. ft. for building electrical upgrades)
- Fossil fuel alternative: gas boiler and AC replacement \rightarrow \$7/sq. ft.
- Customer can use 179D IRA Commercial Tax Deduction to offset project costs
- Energy savings from electrification vs. gas heating = 35-40% of total building energy
- Increase in electricity bills from heating electrification with air-source heat pump is typically approximately equal to the decrease in gas bills (~0 bill savings)

Project economics based on current incentives (\$'000)



Customer payback expectation (~6 years) from NYSERDA, Assessment of Energy Efficiency and Electrification Potential in New York State Residential and Commercial Buildings (2023).

Current Con Edison (\$5k/dwelling unit) from the Company's market rate offering – no LMI offering available today.

The Company performed this analysis for larger existing affordable Multifamily buildings with similar results. The Company concludes that to foster adoption of building electrification and envelope measures for LMI Multifamily buildings, it will have to increase its program incentives to help customers close the gap between project costs and their economic break-even point.²⁶

This approach and the results are outlined in detail in Appendices A and B.²⁷

Adding Energy Efficiency Incentives for Steam Customers

Unlike gas and electric customers, the Company's more than 1,500 steam customers cannot fully participate in the Company's energy efficiency programs. Previously steam customers have not been able to receive incentives for measures that solely reduced steam usage because there is no steam-specific EE budget and/or cost recovery mechanism. ²⁸ The EE BE Order noted that the Company filed a petition to develop a steam energy efficiency program and the Order made no comment on the proposal.²⁹ Given the Company and CLCPA's goals, it is imperative to start a steam energy efficiency program in 2026.

²⁶ For the remaining energy efficiency measures (which are projected to decline as an overall percentage of the base portfolio), the Company relied on historical data from its programs to forecast the incentives needed.

27 A backup Excel workbook is also filed along this document with the detailed plan for all measure categories.

²⁸ These customers are eligible for electric and gas EE portfolio for measures the generate either electric savings or electric and steam savings, gas savings and electric, gas and steam savings, and these incentives are limited to an amount that is equal to or less than the average incentive rate across the electric portfolio. Energy Efficiency Proceeding, 2018 NENY Order, p. 34. The Commission ordered three requirements to incentivize secondary savings: "(1) the program must demonstrate that it delivers Btu savings at an average cost per-Btu-saved that reduces total portfolio costs; (2) the program may not fund installation of delivered-fuel space heating and domestic hot water equipment; and (3) the portfolio must produce year over year efficiency gains in usage of the utility's primary product (electricity or gas)."

²⁹ NENY Proceeding, Petition of Consolidated Edison Company of New York, Inc. for Commission Authorization to Provide Energy Efficiency Incentives to Steam Customers and to Implement a Revenue Decoupling Mechanism (filed November 8, 2022). The Company hereby withdraws that petition because the Company is requesting approval of its steam energy efficiency program herein. However, The Company reserves its rights to make proposals in the future related to EE and our sales forecasts.

Con Edison's steam system is an integral part of New York City's infrastructure, serving approximately 8 percent of the City's building stock including many LMI buildings/campuses. The State's and City's ambitious decarbonization goals will require conservation of all types of energy. Preventing steam customers from fully participating in the Company's programs will limit the overall achievable energy savings. Moreover, steam-focused energy efficiency offerings can assist in decarbonizing the steam system because decreasing steam usage will decrease the amount of new, carbon-free production infrastructure needed to operate the steam system.³⁰ Finally, steam customers should have an opportunity to reduce their supply costs through energy efficiency measures.

If the Company's Steam energy efficiency portfolio is approved, the Company will incentivize LMI Multifamily buildings to adopt measures that save only steam. It will fund these measures from its non-LMI Steam budget. This will give LMI Multifamily customers access to the full Steam budget should demand exceed what would otherwise be a smaller commodity-specific budget for LMI customers.

Labor Needs

The Company proposes transferring internal Company labor costs³¹ for the EE BE programs out of base rates and into the EE BE program budgets starting in 2026.³² In recent years, EE BE budgets have excluded internal utility labor expenses, with the Company's

³⁰ Case 22-S-0659, *Proceeding on Motion of the Commission as to the Rates, Charges, Rules and Regulations of Consolidated Edison Company of New York, Inc. for Steam Service*, Summary of the Joint Proposal (Filed September 1, 2023), pp. 1-2.

Labor expenses include employee salaries and expenses, such as travel, training, and telecom.

³² This would coincide with the end of the Company's current Rate Plan. See, Case 22-E-0064, Proceeding on Motion of the Commission as to the Rates, Charges, Rules and Regulations of Consolidated Edison Company of New York, Inc. for Electric Service, Order Adopting Terms of Joint Proposal and Establishing Electric and Gas Rate Plans with Additional Requirements (issued July 20, 2023), p. 2.

individual rate plans separately addressing EE BE program labor needs. For Con Edison, the NENY proceeding, and its rate cases are on different timelines, creating disconnects between the setting of EE BE program targets, and the funding for the utility labor resources required to achieve them. For example, the Company's requested staffing in its 2022 rate proceeding did not consider the full transition from non-strategic programs the Company now needs to make by the end of 2025. Moving labor costs into the NENY proceeding would resolve this mismatch.

Moving Company EE BE labor expenses into program budgets would also improve reporting transparency and consistency by having all EE BE program costs to be set, tracked and reported in the same, "apples to apples" way across PAs. Currently, the Company excludes internal labor expenses when it reports EE BE budgets and program costs in its quarterly Scorecard and annual System Energy Efficiency Plan filings³³ because its labor expenses are included in the Company's rates. By contrast, NYSERDA's EE BE program budgets have included NYSERDA labor expenses.

Consistent with these changes, the proposed 2026-2030 budgets above include line items for the Company EE BE labor. Today, the Company's energy efficiency department employs 140 FTE for its EE BE programs compared to the 136 assumed in its rate plan. The Company will require net additional staff in program delivery and program support (*e.g.*, Engineering, Evaluation, Measurement, and Verification ("EM&V"), Business Planning and Analysis, Strategic Channel Engagement, Program Design, and Data) to:

³⁴ See, NYSERDA, New York State Disadvantaged Communities Barriers and Opportunities Report, https://climate.ny.gov/-/media/Project/Climate/Files/21-35-NY-Disadvantaged-Communities-Barriers-and-Opportunities-Report.pdf. NYSERDA identified common challenges customers in DACs may face in participating in EE and BE programs.

- Transition its portfolio to strategic and neutral EE BE measures. While the Company will
 repurpose FTE currently working on non-strategic offerings, delivering strategic
 measures in early-stage markets will require greater resourcing;
- Launch and scale its new Steam Energy Efficiency offering; and
- Increase program participation by customers located in DACs through new forms of customer and community engagement, program design, tracking, and reporting.

At the end of 2025, the Company forecasts that it will employ 158 FTE to change and improve the programs to be ready to execute on the EE BE Order's new targets and requirements in 2026. The Company then forecasts needing an additional 13 FTE over 2026-2030 for its base portfolio plan for a total of 171 by 2030. The Company's 2026-2030 Base Portfolio Plan budgets above include the labor expenses for the 145 FTE assumed under its current rate plan in 2025 plus these additional 26 FTE. The Company allocated labor costs between its Non-LMI and LMI portfolios according to the portion of total non-Labor expenses each Portfolio represents.

Table 10 — Base Portfolio Plan Company Labor, FTE and Budget

| | 2023 | 2026 | 2027 | 2028 | 2029 | 2030 |
|---|--------|--------|--------|--------|--------|--------|
| Total FTE | 140 | 163 | 167 | 169 | 171 | 171 |
| Total Budget, Million \$ | \$20.4 | \$25.7 | \$26.9 | \$27.9 | \$28.9 | \$29.6 |
| Allocation to LMI Multifamily EE BE Portfolio, FTE | 23 | 31 | 33 | 34 | 36 | 37 |
| Allocation to LMI Multifamily EE BE Portfolio, Million \$ | \$3.3 | \$4.8 | \$5.3 | \$5.7 | \$6.0 | \$6.4 |

The Company's Expanded Portfolio Plan budgets include the Base Portfolio costs plus the labor expense for an additional forecast total 85 FTE by 2030 to meet the needs of the increased program size and achievement.

Table 11 —Expanded Portfolio Plan Company Labor, FTE and Budget

| | 2023 | 2026 | 2027 | 2028 | 2029 | 2030 |
|---|--------|--------|--------|--------|--------|--------|
| Total FTE | 140 | 163 | 179 | 194 | 226 | 256 |
| Total Cost, Million \$ | \$20.4 | \$25.7 | \$28.9 | \$32.1 | \$38.1 | \$44.4 |
| Allocation to LMI Multifamily EE BE Portfolio, FTE | 23 | 31 | 35 | 39 | 44 | 50 |
| Allocation to LMI Multifamily EE BE Portfolio, Million \$ | \$3.3 | \$4.8 | \$5.6 | \$6.4 | \$7.5 | \$8.7 |

Details on the Company's labor costs and staffing plan are included in Appendices A and B.

III. Program Delivery Strategy & Program Offerings

Program Delivery Strategy

To optimize the impact of its LMI Multifamily EE (and future BE) programs on policy goals and local communities, the Company must continue to refine the design, promotion, and administration of its programs. Con Edison will consider common challenges to LMI Multifamily customer participation in EE and BE programs, including those identified by NYSERDA.³⁴ These issues include the cost burden for prospective participants with limited access to credit or capital, often paired with the increased costs of upgrading older building stock; a lack of awareness of programs and services; and administrative burden associated with participating programs.

³⁴ See, NYSERDA, New York State Disadvantaged Communities Barriers and Opportunities Report, https://climate.ny.gov/-/media/Project/Climate/Files/21-35-NY-Disadvantaged-Communities-Barriers-and-Opportunities-Report.pdf. NYSERDA identified common challenges customers in DACs may face in participating in EE and BE programs.

The Company will continue to engage with customers, participating contractors, and stakeholders for feedback on its programs and incorporate this feedback into program design and execution. The Company is already working toward:

- Simplifying program requirements, streamlining the participation process for customers and participating contractors, ³⁵ including by working with NYSERDA to better align its FlexTech technical assistance offering with utility program eligibility and data requirements, right-sizing the technical study requirements for the proposed project scope and deploying tools that will enable customers to more easily estimate project savings and incentives;
- Expanding and diversifying the pool of participating contractors;
- Offering multi-year incentive agreements to support phased measure implementation and longer-term project lifecycles;
- Considering federal funding opportunities (including IRA tax credits) and third-party financing solutions in developing program offerings, marketing, and communications;
- Leveraging the strengths of partners and stakeholders to support buildings seeking to make EE and BE investments, including NYSERDA, Clean Energy Hubs³⁶, and the New York City Accelerator; and
- Supporting NYSERDA-led efforts to further develop customer awareness of EE and BE benefits, research new offerings, develop financing options, and expand New York State's clean energy workforce; and

³⁶ NENY Proceeding, Statewide Low-and Moderate-Income Portfolio Implementation Plan (filed June 28, 2023), Pp. 81.

³⁵ "Participating Contractors" are third parties qualified to participate in the Company's programs that customers hire to do building upgrades.

• Improving digital and language accessibility.³⁷

Program Offerings

The Company's LMI Multifamily program offerings are designed to encourage customer and industry investments in EE and are tailored to this important customer segment's needs. The Company supports the EE BE Order's emphasis on maintaining housing affordability while supporting this sector's participation in the clean energy transition. The offerings described below will continue to evolve through 2030 to respond to changing market conditions and incorporate best practices.

To sustain a stable market environment for existing LMI Multifamily buildings, the Company, NYSERDA, and National Grid propose to retain the current structure for serving this market in the Company's service territory:

- NYSERDA will continue to offer EE and BE funding through its Direct Injection program³⁸ for LMI multifamily buildings pursuing refinancing through the New York State Division of Housing and Community Renewal ("HCR") or the New York City Department of Housing Preservation and Development ("HPD");
- Con Edison and National Grid will continue to offer EE funding to all other
 existing LMI multifamily buildings through the Affordable Multifamily Energy
 Efficiency Program ("AMEEP");

³⁷ A plan to improve digital and language accessibility is detailed in: NENY Proceeding, Consolidated Edison Company of New York, Inc. and Orange and Rockland Utilities' Energy Efficiency Documentation Review for Language Access (filed September 18, 2023).

³⁸ NENY Proceeding, Statewide Low-and Moderate-Income Portfolio Implementation Plan (filed June 28, 2023), Pp. 34.

- Con Edison will incorporate incentives for BE measures into the AMEEP program for projects in its service territory;
- NYSERDA will continue to offer technical assistance through its FlexTech
 program and work with Con Edison and National Grid to better align this offering
 with utility program requirements; and
- Con Edison will support NYSERDA's efforts to develop and promote financing offerings for this sector.

Affordable Multifamily Energy Efficiency Program

Launched in late 2021 as a statewide program, AMEEP works with partners and stakeholders including the New York City Accelerator, NYSERDA, National Grid, the Urban Homesteading Assistance Board ("UHAB"), Kinetic Communities Consulting ("KC3") and others to support EE upgrades to existing LMI Multifamily buildings. The program is designed to encourage buildings to pursue comprehensive upgrades, allow flexibility for buildings pursuing smaller projects, and simplify up-front incentive estimates. AMEEP offers customers two pathways for participation:

- Non-Comprehensive Pathway: Offers measure-specific incentives for projects including fewer measures.
- Comprehensive Pathway: Offers dollars-per-dwelling-unit incentives for projects
 including a variety of measures that result in higher overall energy savings. This
 pathway assigns points to each measure according to the typical energy savings it
 achieves. To qualify, buildings must adopt measures with enough total points to reach
 one of two thresholds. Projects reaching the lower points threshold are eligible for

incentives of \$1,500 per dwelling unit and those reaching the higher points threshold are eligible for incentives of \$2,000 per dwelling unit.

AMEEP's flexible incentive structure has been popular with building owners and contractors, making it easier to assess how much financial support will be available for a variety of project scopes right up front and without the need for a preliminary audit or engineering study. Customers who are interested in participating in the Comprehensive Pathway are required to have either an existing energy audit that meets program criteria or seek reduced-cost technical assistance from NYSERDA's FlexTech program.

The Company will continue to refine the AMEEP program, including by:

- Seeking and addressing feedback from customers, contractors and stakeholders;
- Right-sizing energy audit requirements for project scopes and streamlining ways to identify additional EE BE improvements at the building;
- Expanding the Company's Commercial and Industrial ("C&I") Strategic Energy

 Partnership ("SEP") to include large affordable multifamily building owners to enable

 greater collaboration on their energy efficiency and electrification capital planning;
- Leveraging the Company's business development managers to assist customers through the lifecycle of the incentive application process;
- Offering participating contractors access to services to estimate savings and incentives for proposed projects;
- Developing accessible tools to facilitate energy savings calculations;
- Streamlining program processes to reduce administrative requirements where existing
 LMI Multifamily buildings are already reporting required information for other State or federal programs;

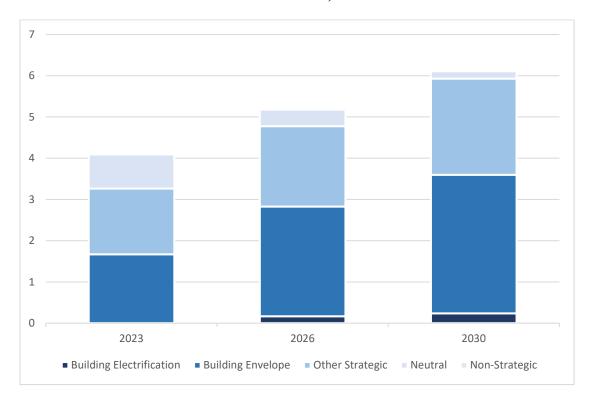
- Enhancing incentive structures to increase program participation from buildings with 25 or fewer units;
- Growing the network of participating contractors installing building envelope measures;
 and increasing incentives to promote further adoption of envelope improvements.

Moreover, if approved, steam customers will become eligible for incentives for measures including pipe insulation, digital pressure reduction valve controls, and condensate waste heat recovery by participating in the non-LMI Multifamily program.

The Company proposes to meet the EE BE Order's requirement that least 85 percent of funds should go to strategic measures and no more than 15 percent of funds should go to neutral measures in its operation of the AMEEP program. The existing LMI Multifamily housing sector remains a priority area of EE BE investment due to its lower overall participation in EE BE programs to date. Measures that have become commonplace in many non-LMI buildings have not yet been adopted at scale in the affordable housing sector and financial support is necessary to help buildings adopt these upgrades. Conditions in existing LMI Multifamily buildings typically result in higher overall project costs. As a result, it is too soon to phase out program offerings for key energy saving measures. Specifically, the Company proposes the following categorization for measures for its LMI Multifamily offerings:

| Strategic | All measures included in the AMEEP comprehensive pathway Space heating/ hot water electrification Building envelope upgrades Fuel switching (e.g., gas to electric chiller conversions) Electric and gas controls (e.g., building management systems, variable frequency drives, economizers, advanced analytics) Waste heat recovery Heating distribution system efficiency (e.g., pipe insulation) Other electric (e.g., elevator modernization, pumps, motors) | | |
|---------------|--|--|--|
| Neutral | Gas combustion devices (space heating and hot water, commercial kitchen) Lighting Measures with an EUL < 6 years (e.g., steam traps) Appliances (e.g., residential refrigeration) | | |
| Non-Strategic | Home Energy Reports | | |

Figure 6 — LMI Multifamily Sector Measure Mix in 2023, 2026, and 2030 (Million LMMBtu)



Beneficial Electrification

To date, the Company has not incorporated a BE offering into AMEEP due in large part to affordability concerns. First, the Company has sought to avoid outcomes where a landlord shifts the cost of heating onto its tenants without a commensurate reduction in rent. This could occur if a landlord were to remove a central fossil heating system and install a new heat pump heating system that is wired through the tenant's electrical meter. Because the Company lacks the authority to oversee the landlord's rental agreements, it has no way to prevent building owners from shifting these costs in the absence of a consistent and enforceable regulatory framework. Second, the Company has sought to avoid situations where the new electric heating system increases energy costs for the landlord and thereby works against housing affordability.

The Company proposes to continue to work with DPS Staff, NYSERDA, HPD, HCR and other stakeholders to develop and launch a BE offering that resolves these various concerns as part of AMEEP by 2026. This solution should prioritize energy efficiency within these buildings, including building envelope improvements, so that new heating systems can be efficiently sized for building needs and overall cost increases can be better mitigated and controlled.

In addition to offering incentives for full-load heating electrification projects in the existing LMI Multifamily sector, the Company plans to incentivize supplemental and hybrid systems that demonstrate energy savings and emission reductions in these buildings. With current technologies and prices, full electrification generally attracts smaller multifamily buildings (25 dwelling units or less) and buildings undergoing complete rehabilitation. Larger projects may find it technically impossible or, more likely, not cost effective to fully electrify at one time. For example, costs rise in buildings that require variable refrigerant flow ("VRF") or

larger central systems. Moreover, considerations for tenants may preclude a complete electrification project, whereas a phased approach is a better fit. Buildings may also find partial electrification solutions desirable to avoid potentially expensive upgrades to their own electrical systems. The Company plans to offer a higher incentive rate for projects that electrify completely than for those with partial space heating solutions to encourage full space electrification.

Similar to space heating, switching domestic and other hot water uses to heat pumps offer significant energy savings, but many projects are not cost effective today. Under current practice, partial or supplemental systems are often the most cost-effective approach for customers in existing buildings to begin to electrify their domestic hot water. Such solutions should be available under custom incentive structures when the new LMI Multifamily BE program is launched. The Company plans to develop an effective approach to incentivize advanced controls for both space and water heating projects that integrate with existing fossil systems such that they prioritize their heat pump systems and extract their full potential benefit.

Program Coordination

In operating AMEEP, the Company proposes to work with NYSERDA and National Grid to provide a seamless experience throughout the customer's journey. LMI Multifamily customers interested in receiving support for EE BE projects should feel as though they are participating in a single program even though they may be interacting with up to three PAs at various points in the project pipeline. To facilitate this, the Company will explore the development of a common application intake and project management system with NYSERDA, National Grid, HCR, and HPD. This system would enable all program applicants to use a single system to apply that would automatically direct them to the program area they are eligible for. It could also allow all PAs serving this sector to track active and completed projects to give a more comprehensive

view of the building's EE BE journey and their use of and interest in EE BE programs over time. For example, a building may have considered a project scope several years ago within the AMEEP program and decided to delay pursuing that project until they entered the refinancing cycle when they could become eligible for the Direct Injection program. Capturing and sharing this information would enable HPD and HCR to provide better and faster customer service as they consider the building's eligibility for Direct Injection funds. Such data systems can be complex and desired features may not ultimately be feasible (particularly because the system must interface with existing systems run by Implementation Contractors, utilities and government agencies), but a well-functioning tool could be very valuable to the future success of these programs.

The Company proposes to coordinate operation of the downstate LMI Multifamily program among the three PAs through a streamlined process that emphasizes information sharing and limits unnecessary delays in decision making or program administration. NYSERDA should operate its Direct Injection program with HPD and HCR as it sees fit to have the greatest impact, including by setting and modifying incentive levels, covered measures, and program design specifics according to its view of the market needs it is serving. Con Edison and National Grid should do the same for AMEEP. This will allow the programs to expeditiously address changing market conditions and stakeholder feedback specific to certain offerings or processes.

The Company also proposes to coordinate with National Grid and NYSERDA on the development of demonstration or pilot projects that will inform the development of future offerings. Pilots and demonstrations should advance collective learning with a goal of future program implementation without creating duplicative or competing offerings.

IV. Program Administration

Target Metrics

Portfolio targets have historically been directly tied to the State's policy goals. For example, NENY targets were established as total MMBtu of energy savings achieved to align with the then-current goal to combat climate change by reducing energy usage. ³⁹ Given that the policy focus has changed from reducing energy use to electrifying homes and making homes electrification-ready, the Company suggests that the Commission reconsider the existing metrics. The Company proposes that there be an LMMBtu target for savings from electrification and building envelope measures that would be subject to a guardrail for all energy savings achieved (described below) so that that the Company appropriately manages its total portfolio. To accomplish this, the Company recommends three changes to the target setting approach to achieve the requested result.

First, to align a PA's actions directly with the State's objectives for building electrification and weatherization, the target should be altered from measuring all energy savings achieved to measuring the amount of lifetime energy savings from electrification and building envelope measures each portfolio can achieve. Measuring homes electrified or made electrification-ready should not be used as the metric because simply counting the number of homes served does not differentiate between lighter touch efforts and deeper savings, such as full-home insulation or ground-source heat pumps and excludes savings from the commercial and industrial sectors. Tracking energy savings from these measures will encourage PAs to focus on deeper envelope and electrification projects that deliver the most energy savings.

³⁹ Governor A. Cuomo, 2018 State of the State, "Excelsior - Ever Upward", p. 301.

More specifically, achievement should be measured as lifetime energy savings, expressed in MMBtu (LMMBtu). 40 The LMMBtu target totals savings over the useful life of a measure rather than the currently-used method of calculating savings from the measure's first year of operation (annual MMBtu). The Commission has recognized that LMMBtu targets may be an improved metric as it can "encourage longer lived savings" and "discourage an over-reliance on measures with shorter EULs."41 On an annual energy savings basis, for example, a pipe insulation project and a roof insulation project might both save 400 AMMBtu. When expressed as lifetime energy savings, however, the pipe insulation project would only achieve 60 percent of the energy savings compared to the roof insulation project due to the roof insulation's longer EUL. An annual energy savings target would prioritize funding toward the pipe insulation project because it is cheaper and easier to implement. This contravenes State policy objectives, however, by directing funding away from deeper energy efficiency measures that deliver greater carbon reduction and customer value. Moreover, calculating lifetime energy savings is possible since PAs currently report both data points (annual energy savings and expected useful life of the measure) needed to determine LMMBtu. 42

Second, Con Edison, as a combined utility, should have an all-commodity target, measuring energy savings achieved from the electric and natural gas portfolios together, for

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⁴⁰ Lifetime energy savings from electrification and building envelope measures could be expressed in a variety of units of measurement. British Thermal Units ("Btu") are a universally recognized unit of energy used to measure consumption of oil, natural gas and electricity. Well-established conversion rates are applied to megawatt-hour and dekatherm usage so that overall achievement can be measured in a single metric. The same conversion rates could be used in reverse to express the total savings as either megawatt-hours or dekatherms. Electrification, however, makes these metrics more challenging to understand because energy savings expressed solely as megawatt-hours would indicate reduced consumption of electricity when in fact electrification may be driving increased consumption of electricity. The same dynamic could occur with respect to dekatherms of natural gas, where electric energy efficiency savings could be understood as a greater decline in natural gas consumption than is actually occurring.

⁴¹ NENY Proceeding, Order Adopting Accelerated Energy Efficiency Targets (issued December 13, 2018), p. 68.

⁴² The Company would continue to report both data points separately.

electrification and building envelope measures. The electrification and envelope markets are still relatively small and are rapidly growing. Enabling utilities to respond to changing market dynamics will be important to achieving State goals. Especially where envelope projects are concerned, regardless of the heating fuel saved, the measures installed and contractors installing them are the same (*e.g.*, insulation, windows, and air sealing). Establishing separate targets for the electric and gas portfolios could force the Company to undertake projects that save only a specific fuel depending on their progress toward each target and available budget, which could prove disruptive.

Finally, to make sure that Company is delivering the appropriate lifetime energy savings, if deemed necessary, the Company is willing to adopt a guardrail to monitor and manage total spending and savings achieved. This non-binding mechanism would be an indicator of the efficacy of the overall portfolio and trigger a review if Con Edison achieves less than 60 percent of a given year's total planned lifetime energy savings. When layered with the requirement that a minimum of 85 percent of expenditures must go to strategic measures and 15 percent or less to neutral measures, this control will provide sufficient oversight of non-envelope energy efficiency investments.

Limited Budget Flexibility

Flexibility mechanisms are important to program administration because it is challenging to align program expenditures exactly to a fixed annual budget in an environment where market demand and the schedules for larger projects are constantly in flux. This is especially true when forecasting future expenditures through 2030, seven years in the future, while shifting the portfolio to strategic measures.

In response to the EE BE Order's recognition that PAs may need some flexibility to shift funding during the five-year period, the Company proposes three limited mechanisms that allow PAs to move funding in response to the expected changing market conditions. In designing these mechanisms, the Company sought to achieve the following goals:

- Maintain the annual budget and target framework;
- Provide transparency and simplicity;
- Sustain program operations year to year as project volumes vary; and
- Allow for maximum energy savings achievement.

First, the Company proposes that PAs be permitted to spend up to 30 percent of the following year's budget in the then-current year. This would allow customers to continue with their projects in years when funds have been fully committed, instead of delaying their projects until funding is renewed in the following year. The energy savings achievement enabled by expenditures brought forward would be applied to the following year's achievement. This approach maintains the annual targets and budget framework proscribed in the EE BE Order and the 30 percent cap eliminates the risk that all funding from outer years is drawn forward, potentially causing an insufficient 2029 or 2030 program budget. This approach also avoids the need to recalculate budgets and targets when shifts occur, simplifying program reporting and tracking. It also assures accountability for annual performance by eliminating the ability to push budget and targets out to later years to compensate for reduced achievement in early years. The

Company proposes tracking this flexibility by creating a new tab in the Scorecard detailing the budget, achievement, and timing of any budget pull forward. ⁴³

The second mechanism allows dual- or triple-commodity PAs to shift funds between commodity-specific budgets to respond to changing market dynamics. To control bill impacts, this mechanism would allow the smaller commodity's budget to grow or shrink by up to 50 percent each year as a result of these transfers. ⁴⁴ For example, the Company proposes a \$134 million annual Non-LMI and LMI Multifamily combined gas budget for Con Edison's programs in 2030. This mechanism would limit transfers to \$67 million either into or out of that budget (see Table 12 for flexibility limits for all possible transfers in 2030).

Table 12 — Maximum Cross-Commodity Budget Flexibility in 2030, Non-LMI and LMI Multifamily Budgets (\$Million)⁴⁵

| Commodity | Annual Budget ¹ [\$MM] | Max Possible Transfer to Electric | Max Possible Transfer to Gas |
|-----------|--------------------------------------|--------------------------------------|---------------------------------|
| Electric | \$309 | | \$67 |
| Gas | \$134 | \$67 | |

Con Edison is most likely to use this mechanism to increase the amount of its LMI

Multifamily EE BE budget to support building electrification measures if market activity exceeds

⁴³ The EE BE Order requested that utilities address how flexibility to shift funds across years would function within a potential generic utility incentive mechanism (p. 79). The constraints described above remove any potential for utilities to overachieve a given year's target at the expense of prior or future year performance. Under the above proposal 1) unspent funds from prior years cannot be used in future years; and 2) use of a next year's funds does not contribute to the utility's current year goals.

⁴⁴ The Company estimated that if exercising the maximum amount of flexibility each year across LMI and non-LMI portfolios to transfer funds from electric to gas budget, the increase in the gas Revenue Requirement in 2030 will be 0.7% compared to what it would have been with no flexibility. The equivalent increase if exercising maximum flexibility each year to shift budget from electric to steam is 1.0%.

⁴⁵ Table 12 shows values in 2030 as proposed in the Company's Base Portfolio Plan. Budgets in 2026-2029 are lower and therefore maximum cross-commodity flexibility will be lower in each year.

its ability to incent projects. It recommends tracking cross-commodity budget flexibility in an Annual LMI Report and proposes a new section be added to compare the approved budgets with actual and planned movement of budget shifts between commodities.

Finally, the Company proposes that budgets continue to be set on a commodity portfolio basis and not subdivided into separate budgets for each program activity (*e.g.*, incentives, implementation, EM&V, etc.). ⁴⁶ This allows PAs to respond in real time to market trends to deliver savings as cost effectively as possible. For instance, a PA may find that envelope adoption within a segment is hindered more by low customer awareness than challenging economics and move some planned incentive spending to customer marketing and education instead. Or a PA may identify an innovative program implementation solution in the market that can deliver savings for a program more effectively or efficiently than in-house company staff, and then outsource this program's implementation and reapportion planned spending accordingly.

Coordinating Achievement of Disadvantaged Communities Goals Across Program

Administrators

The Company supports the Order's requirement that the CLCPA's goal that at least 35 percent of clean energy benefits should go to DACs be implemented at the Statewide level. To progress toward this goal across the State, the Commission should establish spending goals for each PA. This will help PAs design and execute more specific DAC strategies to meet those goals.

⁴⁶ The Company will continue to report the expenditures in these categories.

In setting goals, the Commission should acknowledge the uneven distribution of DACs across the State and the individual PAs roles in serving those communities. For example, roughly sixty percent of the DACs statewide are located within the Company's service territory. As a result, it may be relatively easier for the Company to meet a 35 percent DAC investment goal than it would be for, say, Orange and Rockland Utilities, whose service territory is home to only two percent of the statewide DACs. The Commission must also factor in the fact that the EE BE Order requires NYSERDA to serve all low-income customers in the upstate market and all low-income customers residing in 1-4 family homes in the downstate market. This market segmentation limits other PAs ability to serve DAC customers, since many of the State's LMI households are located in DACs. As a result, it may be reasonable to expect a higher portion of NYSERDA's investments will likely go to DACs than for other PAs, including Con Edison.

Finally, the Company recommends that DPS Staff reconsider its methodology for assessing the proportion of savings from projects in non-DAC LMI multifamily buildings that can be counted toward the DAC goal. In a recent guidance document, ⁴⁷ DPS Staff adopted an approach whereby 40 percent of savings from such projects should count toward the DAC goal, with the rationale that 40 percent of residents in eligible LMI Multifamily housing meet the low-income thresholds established by the Climate Action Council. The Company supports the approach to apply a percentage to all projects because Company does not collect resident income data and therefore cannot validate the percentage of residents that meet the State's low-income threshold of 60 percent of State Median Income. The Company disagrees, however, with the conclusion that only 40 percent of all households residing in eligible LMI Multifamily buildings

⁴⁷ New York State Department of Public Service, CE-12 CLCPA-Disadvantaged Communities Investment and Benefits Reporting Guidance (issued September 27, 2023), p. 6.

meet this low-income threshold. Census data suggests that roughly 35 percent of all New York State households⁴⁸ living in all housing sectors earn incomes below this threshold. Where affordable housing is concerned, the U.S. Census estimates that roughly 49 percent of residents meet the State's low-income threshold.⁴⁹ This data confirms the natural intuition that the affordable housing sector is home to a greater concentration of low-income New Yorkers than the market-rate housing sector. The percentage of savings from non-DAC LMI Multifamily buildings that count toward DAC goals should be increased to a minimum of 49 percent.

Building Electrification and Envelope Program Administration

Regarding BE and envelope program administration, the Company has three requests.

First, Con Edison should provide BE offerings within the AMEEP program for the segment of the market it serves, with technical and marketing support from NYSERDA. Under this framework, Con Edison would provide building electrification incentives through AMEEP for its entire electric service territory. In cases where the gas utility (whether Con Edison or National Grid) seeks to offer larger building electrification incentives as part of a Non-Pipeline

Alternative ("NPA") or gas moratorium relief effort, these incentives would continue under the

⁴⁸ According to 2021 U.S. Census American Housing Survey data, there are 7,778,600 households in New York State. Of these, 3,020,800 (or 39 percent) have combined incomes at or below \$49,999. 2,439,000 households (or 31 percent) have combined incomes at or below the next income bracket, \$39,999. The Climate Scoping Plan defines low-income households as those earning 60 percent or less of State Median Income, which equates to roughly \$45,094 per year when using the average 2017-2021 State Median Income reported by the U.S. Census. While the Census Bureau does not report income levels with sufficient granularity to assess exactly the percentage earning this suggests that approximately 35 percent of all households in NYS meet the State's definition of low-income. *See*, https://www.census.gov/programs-

surveys/ahs/data/interactive/ahstablecreator.html?s_areas=00036&s_year=2021&s_tablename=TABLE1&s_bygroup1=7&s_bygroup2=1&s_filtergroup1=1&s_filtergroup2=1&s_show=S

⁴⁹ According to 2021 U.S. Census American Housing Survey data, 3,553,400 New York State households resided in affordable housing units. Of these, 1,868,700 households (or 53 percent) earned less than \$49,999 and 1,565,200 households (or 44 percent) earned less than \$39,999. This suggests that roughly 49 percent of households living in affordable housing meet the State's definition of low-income. *See*, https://www.census.gov/programs-surveys/ahs/data/interactive/ahstablecreator.html?s_areas=00036&s_year=2021&s_tablename=TABLE17&s_bygro up1=7&s bygroup2=1&s filtergroup1=1&s filtergroup2=1&s show=S

current model, acting as an adder funded by the NPA on top of the baseline incentives available through electric-funded BE programs. This approach avoids offering competing options to the same customer base to limit customer confusion and optimize use of customer investment.

Second, the Company requests that the Commission grant the PAs the ability to review and update the qualified product list ("QPL") for the residential-focused Clean Heat Program after consultation with DPS Staff to better align with federal standards. This would reduce the administrative barriers to manufacturer participation in the State's EE and BE programs and better align with industry practice. For example, the 2020 NENY Order mandated that the utilities use the Northeast Energy Efficiency Partnership ("NEEP") cold climate air source heat pump ("ccASHP") list to determine equipment eligibility. At the time, the NEEP list was the authoritative source for a ccASHP designation. However, in the last three years there have been significant updates in national standards development. Notably, in January 2022, Energy Star released a specification, 6.1, for Cold Climate Energy Star designation, which became effective in January 2023. To adapt to these changes, the Company requests that the PAs should be allowed to propose an update to the ccASHP QPL by aligning with regional or national requirements for contractor, customer, and manufacturer convenience.

Third, the utility providing service for heating should also provide building envelope incentives for that customer because the majority of energy savings resulting from building envelope projects occur as a result of reduced heating needs. Con Edison would provide building

⁵⁰ NENY Proceeding, Order Authorizing Utility Energy Efficiency and Building Electrification Portfolios Through 2025 (issued January 16, 2020), p. 87.

⁵¹ ENERGY STAR® Program Requirements Product Specification for Central Air Conditioner and Heat Pump Equipment (available at:

https://www.energystar.gov/sites/default/files/ENERGY%20STAR%20Version%206.1%20CACHP%20Final%20Specification%20and%20Partner%20Commitments%20%28Rev.%20January%20%202022%29 0.pdf)

envelope incentives to its natural gas heating customers using funding from its gas budgets. The Company would provide envelope incentives funded by its electric budgets to its electric customers who either already heat their space with electricity; who are pursuing heating electrification within the next two years; or who heat their space with delivered fuels (e.g., oil or steam).

Cost Recovery and Collection

To moderate changes in customer bills and match recovery of EE BE program expenditures to the lifetimes of the equipment and upgrades that the programs incentivize, all Company authorized and incurred EE BE expenditures would be treated as regulatory assets amortized over 15 years⁵² at the applicable rate plan's regulated rate of return. ⁵³ Any spending associated with the proposed limited flexibility (described above) to spend a portion of the next year's budget early or to move EE BE budget between commodities would be deferred to the next year for reconciliation and for collection to begin.

The Company proposes collecting all electric and gas NENY expenditures (incentives, implementation, and administration, including Company Labor) as components of the System Benefits Charge ("SBC") starting in 2026, removing these collections from base rates.⁵⁴ Costs for steam energy efficiency programs would be assessed as a new surcharge for steam customers. For each commodity, estimated annual costs will be allocated among the customer classes based on allocations in the same proportions as delivery revenue requirements. Costs will

have been deferred as regulatory assets.

⁵² This is consistent with the amortization section in Con Edison's current rate plan.

⁵³ The pre-tax Weighted Average Cost of Capital for Electric, Gas, or Steam. ⁵⁴ This would include collection of the ongoing amortization of 2020-2025 electric and gas NENY expenditures that

be recovered through monthly volumetric or demand components, as applicable. NYPA customers would continue to be exempt from electric program cost collection because they will continue to be ineligible to participate in Company electric programs. This move to surcharge recovery would provide the State and stakeholders an additional level of transparency by regularly disclosing EE BE program recoveries made from customers.

The EE BE Order indicates that the NENY proceeding will authorize funding for NYSERDA EE BE program activities to be collected from utility customers starting in 2026 as a passthrough cost using the surcharge approaches above. The Company proposes that beginning in 2026 NYSERDA's EE BE costs be attributed across utility customers as follows:

- NYSERDA NENY LMI program incentives costs should be allocated to utility customers based on EE BE project incentives paid in each utility's service territory. For example, if \$10 million of NYSERDA LMI gas EE incentives are paid to Con Edison gas customers, that \$10 million would be allocated to Con Edison Gas customers;
- NYSERDA NENY LMI program non-incentive costs would be allocated to
 each utility's customers in proportion to the EE BE project incentives paid in each
 utility's service territory. For example, if NYSERDA paid \$10 million of
 incentives to Con Edison gas customers out of total NYSERDA Gas incentive
 spending across the state of \$100 million, then a corresponding 10 percent of
 NYSERDA LMI program non-incentive costs would be allocated to Con Edison
 Gas customers.
- NYSERDA other NENY program costs (e.g., EE BE workforce development) would be allocated based on each utility's 2025 share of statewide electric

(excluding NYPA) and gas (firm and interruptible) volumes respectively. For example, if NYSERDA spent \$10 million of NENY gas budget on workforce development and Con Edison Gas distributed 26 percent of gas volumes distributed to end use customers by investor-owned utilities across the State in 2025, then \$26 million of these workforce development program costs would be allocated to Con Edison gas customers.

Inflation Reduction Act Incentives

Beyond the tax credits the Company is including in its portfolio development and program offerings, the federal IRA includes limited funding for EE BE incentive programs in each state. NYSERDA is poised to administer two new IRA-funded federal grant programs: the Home Efficiency Rebates and the Home Electrification and Appliance Rebate. The programs' rules designate NYSERDA as the exclusive recipient of these funds in their role as the State Energy Office. NYSERDA will receive approximately \$318 million for these rebate programs through Q3 2031 if it elects to administer both. The programs fund residential energy efficiency and building electrification measures. The Company urges NYSERDA to deploy these funds to support their LMI programs to maximize benefits for low-income customers and limit the competing offerings and resulting market confusion if both NYSERDA and the utilities were running programs for the same measures and markets.

Program Reporting

As it relates to reporting, Con Edison has four suggestions for the Commission to consider:

First, the Company recommends that Staff and PAs explore the development of a new reporting structure and statewide database that could automate many aspects of EE BE program reporting. Today, tracking and reporting progress toward statewide EE BE goals is a manual process, whereby utilities are required to file quarterly spreadsheets containing hundreds of rows of data and dozens of columns that NYSERDA must upload into a statewide dashboard with limited functionality. Numbers from these quarterly spreadsheets are reflected in a variety of lengthy annual reports, which must be updated with every data revision. While intended to provide transparency, today's process delivers so much information across so many filings that it can be difficult to track progress across all EE BE programs. The new system would:

- Perform data checks during data upload so that errors can be more quickly identified and addressed so that cleaner data is provided;
- Automatically populate a dashboard that stakeholders could use to assess
 progress by each PA on demand, taking the place of the charts currently filed in
 the spring Annual System Energy Efficiency Plan;
- Eliminate the need for repetitive revision filings; and
- Track progress toward individual PA and statewide goals.

Second, the Company recommends that NENY spending reporting be based on accrual accounting standards, not cash accounting, which is the standard currently used for reporting NENY spend. Under accrual accounting standards, program spending will be reported at the same time as savings are acquired or a support activity is completed, whereas, under cash accounting spend is reported at the time payment is made (which could be earlier or later). This means that under cash accounting, savings and expenditures for certain projects can be reported under different time periods, causing a potential mismatch. As an example, if a project is

acquired in Q4 2026 but the associated Implementation Contractor invoice is paid in Q1 the next year, under cash accounting, the savings will be in 2026 but the implementation expenditures will be in 2027. In accrual accounting, this project's savings and associated implementation expenditures are recorded in the same time-period to provide an accurate view of the cost of delivering the project. Using accrual accounting is also consistent with Generally Accepted Accounting Principles ("GAAP").

Third, to enable transparent tracking of Labor costs, the Company recommends tracking Labor costs on the Scorecard "Progress – Portfolio Tab" by creating an additional "Labor" category, which is not currently tracked. This will track Labor costs at the Portfolio level, similar to current tracking and reporting approach used for Administration and EM&V costs. The Company will allocate Labor costs across commodity portfolio budgets (*i.e.*, electric, gas) proportionally based on total portfolio budget.

Fourth, in response to the Commission's suggestion regarding tracking energy expenditure savings from these programs,⁵⁵ the Company notes that any such metric should be developed in a way that simplifies the complexity of forecasting energy prices over the useful life of a measure and calculating bill savings for customers taking service under different utility rate designs.

Earnings Adjustment Mechanisms

While the Company acknowledges that the Commission has paused consideration of new EE BE Earnings Adjustment Mechanisms ("EAMs"), the Company continues to believe performance-based positive incentives play an important role in accelerated and/or over

⁵⁵ NENY Proceeding, EE BE Order, p.77.

achievement of policy goals. EE BE EAMs should be developed for the 2026-2030 portfolios as soon as sufficient certainty around portfolio budgets and targets exists.

V. Conclusion

Con Edison will work with the LMI Multifamily housing sector to electrify their buildings and install energy efficiency measures. The implementation design outlined herein and adequate budgets that its programs will be an important contributor in meeting the State's goals of electrifying one million homes as well as assisting one million additional homes in becoming electrification-ready through building shell improvements. The Company respectfully asks the Commission to approve its proposals.

Appendix A – Analysis Supporting Base Portfolio Plan

This appendix explains in detail the development of the LMI Portfolio's Base Plan's budgets and targets.

1. Incentives and Energy Savings

In accordance with the EE BE Order, the Company has developed a Base Portfolio Plan that focuses future EE BE Program investment on strategic and neutral measures. As described in the main body of this filing, the Company's Base Portfolio Plan for LMI emphasizes growth in heating electrification and building envelope measures. Heating electrification is not an LMI program in 2023 and grows to 0.2 million LMMBtu in 2030. Building envelope sees 59% growth in LMMBtu savings in 2026 compared to 2023, growing to 101% in 2030 compared to 2023 (see Table 3 below).

As a preliminary matter, it is important to acknowledge that developing projections for portfolio costs through 2030 is challenging. As the portfolio transitions to achieving greater savings from heating electrification, envelope, and strategic measures generally, the Company's programs are entering uncharted territory. In certain market segments, relatively few projects have been completed to date, leaving small data sets from which to draw conclusions concerning future program participation. In addition, many factors will affect how project costs materialize, including the future course of inflation, the relative financial health of the real estate sector and willingness of building owners to invest, the cost of electrification technologies and the effects of competition as the installation contractor market matures.

To address these challenges, the Company undertook extensive analysis to develop its projections for program costs and achievement between 2026 and 2030, including by:

- Evaluating individual and aggregate project data from current programs to evaluate measures installed, measure configurations, actual project costs, and the effect of incentives in driving project completion;
- Conducting focus groups with relevant market actors, such as building owners and managers, lenders, contractors, and engineers, manufacturers and suppliers to better understand segments of the market where fewer projects have been completed to date;
- Creating customer and building profiles and mapping the customer journey and decision factors for each profile;
- Calculating the financial impacts of IRA tax credits on future project economics;
- Segmenting various market sectors to account for the wide variety of conditions across buildings in the Company's service territory;

- Developing scenarios for each building typology that estimate the total project economics including consideration of the factors listed above;
- Determining the incentive levels likely to be required to make projects meet building owners' expected payback thresholds;
- Assessing exogenous factors affecting program growth, including contractor workforce limitations; and
- Forecasting internal capabilities to scale program participation year-to-year.

The Company developed estimates for the \$/LMMBtu incentive unit costs for each of the customer segments it serves in two ways:

1. For <u>heating electrification</u> and <u>building envelope</u>, the two measure categories with the most growth in the portfolio, the Company developed prototypical project costs for its various offerings based on project economics for prototypical buildings. The Company defined prototypical buildings that are representative of the buildings in the Company's territory for each customer segment (see Table A-1 below). The Company then developed bottom-up project costs derived from sector analyses, current project cost data and other sources discussed in more detail below.

Table A-1 — Description of Prototypical Buildings for Each Customer Segment

| Customer Segment | Building size (sq. ft.) | Building energy use (kBtu/sq. ft.) |
|---------------------------|----------------------------|------------------------------------|
| Multifamily ⁵⁶ | 30,400-76,800 | 88-91 |

2. For the <u>rest of the portfolio</u>, the Company relied on historical costs, with adjustments to account for changes in the level of targeted savings.

The results of the Company's analysis for the LMI portfolio are summarized in Tables A-2 through A-4 below. Further detail for each of the measure categories is provided in the subsections below.

 $^{^{56}}$ Used a range of building size and energy use, representing small (< 7 stories) and large (\geq 7 stories) multifamily buildings.

Table A-2 — Base Portfolio Plan Expected Spending, Incentives, 2026-2030 (Million \$)

| Category | 2023 | 2026 | 2027 | 2028 | 2029 | 2030 |
|---------------------------------------|------|------|------|------|------|------|
| Heating Electrification ⁵⁷ | - 💥 | 6.4 | 7.0 | 7.7 | 8.4 | 9.2 |
| Building Envelope | 16.2 | 36.7 | 39.0 | 41.4 | 44.0 | 46.7 |
| Other Strategic | 5.6 | 17.3 | 19.4 | 21.8 | 23.6 | 25.7 |
| Neutral | 5.4 | 2.0 | 1.8 | 1.7 | 1.1 | 1.0 |
| TOTAL | 27.2 | 62.4 | 67.2 | 72.6 | 77.1 | 82.5 |

Table A-3 — Expected Savings, 2026-2030 (Million LMMBtu, Post-VGS⁵⁸)

| Category | 2023 | 2026 | 2027 | 2028 | 2029 | 2030 |
|-------------------------|------|------|------|------|------|------|
| Heating Electrification | - }} | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| Building Envelope | 1.7 | 2.7 | 2.8 | 3.0 | 3.2 | 3.4 |
| Other Strategic | 1.6 | 1.9 | 2.0 | 2.2 | 2.2 | 2.3 |
| Neutral | 1.3 | 0.4 | 0.4 | 0.4 | 0.2 | 0.2 |
| TOTAL | 4.6 | 5.2 | 5.4 | 5.7 | 5.8 | 6.1 |

Table A-4 — Base Portfolio Plan Expected Incentive Unit Costs, 2026-2030 (\$/LMMBtu)

| Category | 2023 | 2026 | 2027 | 2028 | 2029 | 2030 |
|-------------------------|------|------|------|------|------|------|
| Heating Electrification | N/A | 38.2 | 38.2 | 38.3 | 38.3 | 38.3 |
| Building Envelope | 9.7 | 13.8 | 13.8 | 13.9 | 13.9 | 13.9 |
| Other Strategic | 3.5 | 8.9 | 9.5 | 10.1 | 10.6 | 11.0 |
| Neutral | 4.1 | 4.8 | 4.8 | 4.7 | 5.5 | 5.5 |
| TOTAL | 5.9 | 12.0 | 12.4 | 12.7 | 13.2 | 13.5 |

a. Heating Electrification

The Company's heating electrification offerings accounts for 11 percent of its expected LMI Multifamily incentive spend in the period between 2026-2030. Table A-5 below breaks down the Company's expected incentive spend.

48

⁵⁷ For 2023, heating electrification includes only spend and savings from projects delivered under the continuity funding mechanism. Excludes spend and savings from projects sold before the Clean Heat pause in May 2022. ⁵⁸ Verified Gross Savings (VGS) is the value reported by an independent evaluator after the energy efficiency program activities and Gross Savings Analysis are complete. Verified gross savings realization rates (the ratio of the savings determined after verification to the gross savings) are used to calculate VGS. Historic realization rates have been used where available; where they are not, assumed default 70% realization rate.

Table A-5 — Expected Heating Electrification Incentives, 2026-2030 (Million \$)

| Customer Segment | 2023 | 2026 | 2027 | 2028 | 2029 | 2030 |
|---------------------|------|------|------|------|------|------|
| Multifamily LMI | - | 6.4 | 7.0 | 7.7 | 8.4 | 9.2 |

To develop the expected incentives, the Company first estimated the savings it expects to be able to acquire in the period between 2026-2030. These estimates were developed by evaluating current and forecasted market conditions (*e.g.*, considering current program pipeline and market intelligence from the Company's internal and external sales and business development teams and feedback from customer and contractor focus groups), as well as internal capabilities and capacity across programs (see Table A-6 below).

Table A-6 — Expected Heating Electrification Savings, 2026-2030 (Million LMMBtu)

| Customer Segment | 2023 | 2026 | 2027 | 2028 | 2029 | 2030 |
|---------------------|------|------|------|------|------|------|
| Multifamily LMI | - } | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| Growth vs. 2023 | N/A | N/A | N/A | N/A | N/A | N/A |

The expected savings from above were multiplied with the Company's planned unit costs, on a \$ per LMMBtu-basis (\$/LMMBtu) (see Table A-7 below).

Table A-7 — Heating Electrification Incentive Unit Costs, 2026-2030 (\$/LMMBtu)

| Customer Segment | 2023 | 2026 | 2027 | 2028 | 2029 | 2030 |
|---------------------|------|------|------|------|------|------|
| Multifamily LMI | N/A | 38.2 | 38.2 | 38.3 | 38.3 | 38.3 |

Heating Electrification Unit Cost Detail

Project costs in the prototypical projects used to develop the unit cost estimates, including equipment and labor costs, are based primarily on internal analysis of Con Edison's Clean Heat project data and interviews with industry experts (such as, engineering firms and architects operating in Con Edison's territory) and contractors. Project costs include costs of electrical upgrades that may be needed for certain buildings; more details around these costs are provided in Section 2 of this appendix.

Energy savings in the prototypical projects used to develop the unit costs are based on Con Edison's Clean Heat data and assumptions that were developed by the Company's engineering team as part of the Clean Heat program reopening in 2023. The Company applied a default 70% realization rate for all electrification savings, given the lack of evaluation for the Clean Heat program.

The unit costs shown in Tables A-8 and A-9 below are aligned with the approach used to design the revised 2023 Clean Heat program incentives and reflect the projects that the Company is most likely to see in 2026 - 2030.

Table A-8 —Multifamily Heating Electrification Incentive Unit Costs for Small Multifamily LMI Buildings (< 7 stories), 2026-2030 (\$/LMMBtu)⁵⁹

| | ASHP |
|--|----------|
| Building area (square feet) | 30,400 |
| | 1.50.000 |
| Cost of Fossil Fuel Alternative (\$) ^[1] | 163,000 |
| Electrification project cost (\$) | 660,900 |
| Equipment, labor, and non-electrical upgrades (\$) | 497,400 |
| Electrical upgrades (\$) ^[2] | 163,500 |
| Incremental Project Cost (\$) | 497,900 |
| Incremental project cost (\$/dwelling unit) | 15,000 |
| Project Economics | |
| IRA tax incentives (\$) ^[3] | 23,000 |
| Annual bill savings (\$, first-year) ^[4] | - |
| Pre-incentive IRR (%) | -16% |
| Target IRR (%) | 16% |
| Missing money to target IRR (\$, NPV) ^[5] | 461,800 |
| Planned Incentive | |
| Planned incentive (\$) | 391,500 |
| Planned incentive (\$/dwelling unit) | 11,800 |
| Planned incentive % of missing money (%) | 85% |
| Planned incentive % of project cost (%) | 59% |
| Unit Cost | |
| Pre-VGS energy savings (MMBtu/year) ^[6] | 1,000 |
| Expected useful life – EUL (years) | 15 |
| Pre-VGS energy savings (LMMBtu) | 15,000 |
| Pre-VGS incentive unit cost (\$/LMMBtu) | 26 |
| Realization Rate (%) ^[7] | 70% |
| Post-VGS incentive unit cost (\$/LMMBtu) | 37 |

⁵⁹ Small multifamily buildings comprise 80% of the 2026 – 2030 ASHP portfolio.

50

- [1] Includes cost of cooling (weighted by buildings with and without AC) and fossil fuel heating (ASHP: hot water buildings with gas boiler (COP: 0.9)).
- [2] See Section 2 of this appendix for details on costs for electrical upgrades.
- [3] IRA tax incentive (179D Commercial Tax Deduction).
- [4] For ASHPs, the increase in electricity bills from heating electrification is typically approximately equal to the decrease in gas bills.
- [5] NPV calculated over the useful life of the equipment (includes lifetime bill savings and avoided fines).
- [6] Mini-splits (COP = 2.7).
- [7] Assumed realization rate, Clean Heat savings currently reported as gross pre-VGS.

Table A-9 — Multifamily Heating Electrification Incentive Unit Costs for Large Multifamily LMI Buildings (≥ 7 stories), 2026-2030 (\$/LMMBtu)⁶⁰

| | ASHP | HPWH |
|--|-----------|---------|
| Building area (square feet) | 76,800 | 76,800 |
| C (CE TE LAL (* 1951) | 411.000 | 167 600 |
| Cost of Fossil Fuel Alternative (\$) ^[1] | 411,800 | 167,600 |
| Electrification project cost (\$) | 1,953,300 | 366,000 |
| Equipment, labor, and non-electrical upgrades (\$) | 1,540,200 | 326,300 |
| Electrical upgrades (\$) ^[2] | 413,100 | 39,700 |
| Incremental Project Cost (\$) | 1,541,600 | 198,400 |
| Incremental project cost (\$/dwelling unit) | 18,400 | 2,400 |
| Project Economics | | |
| IRA tax incentives (\$) ^[3] | 60,400 | - |
| Annual bill savings (\$, first-year) | 19,970 | 2,350 |
| Pre-incentive IRR (%) | -9% | -22% |
| Target IRR (%) | 16% | 16% |
| Missing money to target IRR (\$, NPV) ^[4] | 1,299,700 | 180,500 |
| Planned Incentive | | |
| Planned incentive (\$) | 996,600 | 135,300 |
| Planned incentive (\$/dwelling unit) | 11,900 | 1,600 |
| Planned incentive % of missing money (%) | 77% | 75% |
| Planned incentive % of project cost (%) | 51% | 37% |
| Unit Cost | | |
| Pre-VGS energy savings (MMBtu/year) ^[5] | 2,530 | 470 |
| Expected useful life – EUL (years) | 15 | 10 |
| Pre-VGS energy savings (LMMBtu) | 37,950 | 4,700 |
| Pre-VGS incentive unit cost (\$/LMMBtu) | 26 | 29 |
| Realization Rate (%) ^[6] | 70% | 70% |
| Post-VGS incentive unit cost (\$/LMMBtu) | 38 | 41 |

^[1] Includes cost of cooling (weighted by buildings with and without AC) and fossil fuel heating (ASHP: hot water buildings with gas boiler (COP: 0.9); HPWH: gas conventional water heater (COP: 0.82)).

^[2] See Section 2 of this appendix for details on costs for electrical upgrades.

^[3] IRA tax incentive (179D Commercial Tax Deduction), HPWH savings for the prototypical building do not meet the 25% savings reduction requirement.

⁶⁰ Large multifamily buildings comprise 20 percent of the 2026 – 2030 ASHP portfolio.

- [4] NPV calculated over the useful life of the equipment (includes lifetime bill savings and avoided fines).
- [5] ASHP: VRF (COP = 3.6), HPWH (COP = 3.0).
- [6] Assumed realization rate, Clean Heat savings currently reported as gross pre-VGS.

b. Building Envelope

The Company's Building Envelope offerings account for 57 percent of its expected LMI incentive spend in the period between 2026-2030. Table A-10 breaks down the Company's forecasted spend annually.

Table A-10 — Base Portfolio Plan Expected Building Envelope Incentives, 2026-2030 (Million \$)

| Customer Segment | 2023 | 2026 | 2027 | 2028 | 2029 | 2030 |
|-------------------------|------|------|------|------|------|------|
| Multifamily LMI | 16.2 | 36.7 | 39.0 | 41.4 | 44.0 | 46.7 |

To develop the expected incentives, the Company first estimated the savings it expects to be able to acquire in the period between 2026-2030. These estimates were developed by evaluating current and forecasted market conditions, as well as internal capabilities and capacity across programs (see Table A-11 below).

Table A-11 — Expected Building Envelope Savings, 2026-2030 (Million LMMBtu)

| Customer Segment | 2023 | 2026 | 2027 | 2028 | 2029 | 2030 |
|-------------------------|------|------|------|------|------|------|
| Multifamily LMI | 1.7 | 2.7 | 2.8 | 3.0 | 3.2 | 3.4 |
| Growth vs. 2023 | N/A | 60% | 69% | 79% | 90% | 101% |

The planned savings from above were multiplied with the Company's planned unit costs, on a \$ per LMMBtu-basis (\$/LMMBtu) (see Table A-12 below).

Table A-12 — Building Envelope Incentive Unit Costs, 2026-2030 (\$/LMMBtu)

| Customer Segment | 2023 | 2026 | 2027 | 2028 | 2029 | 2030 |
|-------------------------|------|------|------|------|------|------|
| Multifamily LMI | 9.7 | 13.8 | 13.8 | 13.9 | 13.9 | 13.9 |

Building Envelope Unit Cost Detail

Project costs in the prototypical projects used to develop the unit cost estimates are based on values from Con Edison's building envelope programs, New York City's One City Built to Last Technical Working Group report⁶¹, and interviews with industry experts (such as, engineering firms and architects operating in Con Edison's territory) and contractors.

Energy savings in the prototypical projects used to develop the unit cost estimates are based on Con Edison analysis of various retrofit scenarios and building configurations for ten major building typologies that collectively represent 80 percent of the occupied building area in the Company's service territory. The energy savings values used were developed using weighted averages of energy savings per square foot estimates from relevant building models, with fossil fuel heating baselines scaled to a standardized building size for each segment.

The energy models used to estimate energy savings are intended to reflect the existing conditions, size, and scope of projects that the Company is most likely to incentivize in 2026-2030. In some cases, these models differ from the average project that the Company has incentivized to date. The Company believes that the unit costs below represent adequate incentive levels for types of projects needed to expand building envelope work to targeted levels of energy savings.

54

⁶¹ City of New York. One City Built to Last: Technical Working Group Report: Transforming New York City Buildings for a Low-Carbon Future. 2016.

Table A-10 — LMI Multifamily Building Envelope Incentive Unit Costs, 2026-2030 (\$/LMMBtu)

| | Roof Insulation & Air Sealing ^[1] | Window Replacement ^[2] |
|--|--|--------------------------------------|
| Building area (square feet) | 76,800 | 76,800 |
| Project Cost (\$) | 206,500 | 490,700 |
| Project cost (\$/dwelling unit) | 2,500 | 5,900 |
| Project Economics | | |
| IRA tax incentives (\$) ^[3] | - | - |
| Annual bill savings (\$, first-year) | 10,670 | 16,450 |
| Pre-incentive IRR (%) | 5% | 0% |
| Target IRR (%) | 16% | 16% |
| Missing money to target IRR (\$, NPV) ^[4] | 124,000 | 366,400 |
| Planned Incentive | | |
| Planned incentive (\$) | 124,000 | 201,600 |
| Planned incentive (\$/dwelling unit) | 1,500 | 2,400 |
| Planned incentive % of missing money (%) | 100% | 55% |
| Planned incentive % of project cost (%) | 60% | 41% |
| Unit Cost | | |
| Pre-VGS energy savings (MMBtu/year) ^[5] | 350 | 500 |
| Expected useful life – EUL (years) | 21 | 20 |
| Pre-VGS energy savings (LMMBtu) | 7,350 | 10,000 |
| Pre-VGS incentive unit cost (\$/LMMBtu) | 17 | 20 |
| Realization Rate (%) | 87% | 87% |
| Post-VGS incentive unit cost (\$/LMMBtu) | 19 | 23 |

^[1] Increase roof insulation to R-30 to R-40 depending on building typology and decrease air infiltration by 0.5 ACH@50Pa.

The Company also expects to offer downstream air sealing incentives. The planned unit costs for these measures were determined by extrapolating historical costs and 2023 forecasts. Planned savings and unit costs are shown in Table A-14 below.

^[2] Replace single pane windows with double pane windows

^[3] IRA tax incentive (179D Commercial Tax Deduction) savings for the prototypical building do not meet the 25% savings reduction requirement.

^[4] NPV calculated over the useful life of the equipment (includes lifetime bill savings and avoided fines).

^[5] Based on weighted averages of modeling results from different configurations of Multifamily buildings including Garden Style 1-3 Stories, Pre-War 4-7 Stories, Post-War 4-7 Stories & Post-War 8 or more Stories. Garden styles structures modelled with a flat or cavity roof. Other building typologies modeled with flat roofs.

Table A-11 — LMI Multifamily Air Sealing Envelope Offerings Incentive Unit Costs, 2026-2030 (\$/LMMBtu)

| Measure Category | Savings LMM | (Million IBtu) | Unit Cost (\$/LMMBtu) | | |
|------------------|----------------|-------------------|-----------------------|------|--|
| | 2023 | 2026 | 2023 | 2026 | |
| Air Sealing | 0.38 | 0.63 | 3.60 | 3.87 | |

c. Other Strategic and Neutral Measures

Other Strategic and Neutral measures account for 32 percent of the incentive budget in the Company's plan for 2026-2030. Table A-15 below breaks down the Company's budget between major measure categories, based on the Company's plan.

Table A-15 — Base Portfolio Plan Other Strategic and Neutral Expected Incentives, 2026-2030 (Million \$)

| Measure Category | 2023 | 2026 | 2027 | 2028 | 2029 | 2030 |
|-----------------------------|------|------|------|------|------|------|
| Controls | 1.4 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 |
| Waste Heat Recovery | - | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| Comprehensive AMEEP | 2.2 | 13.9 | 16.0 | 18.4 | 20.2 | 22.2 |
| Gas Heating Equipment | 1.0 | 0.9 | 0.8 | 0.7 | 0.6 | 0.6 |
| Lighting | 1.1 | 0.6 | 0.5 | 0.5 | 0.4 | 0.4 |
| Other Measures ¹ | 5.4 | 2.3 | 2.3 | 2.3 | 1.8 | 1.8 |
| TOTAL | 11.0 | 19.3 | 21.2 | 23.5 | 24.7 | 26.6 |

^[1] Includes pipe insulation, steam trap repair/replacement, efficient chillers, low-flow faucets/showerheads, elevator modernization, orifice plates, and EC motors.

To develop the expected incentives, the Company first estimated the savings it expects to be able to acquire between 2026-2030. These estimates were developed by evaluating the level of growth that can be achieved compared to forecasted levels of savings achievement in 2023 (see Table A-16 below).

Table A-16 — Base Portfolio Plan Other Strategic and Neutral Expected Savings, 2026-2030 (Million LMMBtu)

| Measure Category | 2023 | 2026 | 2027 | 2028 | 2029 | 2030 |
|-----------------------|------|------|------|------|------|------|
| Controls | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 |
| Waste Heat Recovery | - 💥 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Comprehensive AMEEP | 0.1 | 0.6 | 0.7 | 0.8 | 0.9 | 1.0 |
| Gas Heating Equipment | 0.3 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 |
| Lighting | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Other Measures | 1.8 | 1.0 | 1.0 | 1.0 | 0.9 | 0.9 |
| TOTAL | 2.9 | 2.4 | 2.4 | 2.5 | 2.4 | 2.5 |
| Growth vs. 2023 | N/A | -20% | -17% | -15% | -17% | -14% |

The expected savings from above were multiplied with the Company's planned unit costs, on a per LMMBtu of post-VGS savings acquired-basis (\$/LMMBtu) (see Table A-17 below).

Table A-17 — Base Portfolio Plan Other Strategic and Neutral Incentive Unit Costs, 2026-2030 (\$/LMMBtu)

| Measure Category | 2023 | 2026 | 2027 | 2028 | 2029 | 2030 |
|-------------------------|------|------|------|------|------|------|
| Controls | 3.6 | 3.8 | 3.8 | 3.8 | 3.8 | 3.8 |
| Waste Heat Recovery | - | 15.8 | 15.8 | 15.8 | 15.8 | 15.8 |
| Comprehensive AMEEP | 18.5 | 21.8 | 21.8 | 21.8 | 21.8 | 21.8 |
| Gas Heating Equipment | 2.9 | 3.4 | 3.4 | 3.4 | 3.4 | 3.4 |
| Lighting | 3.3 | 39.5 | 39.5 | 39.5 | 39.5 | 39.5 |
| Other Measures | 3.0 | 2.2 | 2.2 | 2.2 | 2.0 | 2.0 |
| TOTAL | 3.8 | 8.2 | 8.8 | 9.4 | 10.1 | 10.6 |

The Company developed estimates for the unit costs for each of the measure categories by extrapolating historical costs, with adjustments to account for changes in the level of targeted savings. Table A-18 below shows a comparison between forecasted unit costs and savings in 2023, compared to 2026 for these measure categories.

Table A-18 — Base Portfolio Plan Other Strategic and Neutral Expected Savings & Incentive Unit Costs, 2026-2030

| Measure Category | Savings (Milli | on LMMBtu) | Unit Cost (\$/LMMBtu) | | |
|-----------------------|----------------|------------|-----------------------|------|--|
| Wieasure Category | 2023 | 2026 | 2023 | 2026 | |
| Controls | 0.4 | 0.4 | 3.6 | 3.8 | |
| Waste Heat Recovery | - | 0.0 | - | 15.8 | |
| Comprehensive AMEEP | 0.1 | 0.6 | 18.5 | 21.8 | |
| Gas Heating Equipment | 0.3 | 0.3 | 2.9 | 3.4 | |
| Lighting | 0.3 | 0.0 | 3.3 | 39.5 | |
| Other Measures | 1.8 | 1.0 | 3.0 | 2.2 | |
| TOTAL | 2.9 | 2.4 | 3.8 | 8.2 | |

d. Key Inputs and Assumptions

When developing the unit costs for its 2026-2030 portfolio, the Company made the below assumptions:

- **Inflation:** Inflation is assumed to be 2%, per the Federal Reserve Bank long-term target.
- Cost Efficiencies: Con Edison assumed 2% annual reduction in unit costs across all offerings between 2026-2030 to account for efficiencies in equipment and labor costs, as well as efficiencies in the Company's program costs.
- Hurdle Rates (IRR): Con Edison used a 16% hurdle rate for multifamily LMI buildings from NYSERDA's Assessment of Energy Efficiency and Electrification Potential in New York State Residential and Commercial Buildings ("Potential Study").
- Effective Useful Life (EUL): Con Edison used EULs from the New York State Technical Resource Manual, Version 10, Appendix P. Where EULs were not available in the Technical Resource Manual, Version 10, Con Edison used conservative values derived from other TRMs and engineering judgement.
- Local Law 97 Fines: The analysis assumes that the prototypical affordable housing units used meet the requirements for exemption from emission limits until 2036 or can comply with the law by undertaking certain prescriptive measures by 2024 rather than comply with emission limits. Therefore, the analysis does not take into account Local Law 97 fines for LMI Multifamily buildings.
- Tax Incentives: Con Edison modeled the impact of the following tax incentives for individuals and real estate companies to electrify heating and/or implement building envelope measures:
 - o *IRA Energy Efficient Commercial Buildings Deduction (179D)*: Accounted for the avoided energy costs for each prototypical building when undertaking these upgrades and assumed that buildings would access the maximum deduction of \$5/ft² for projects using labor with prevailing wage.

- Caps: Con Edison ensured the expected incentives did not exceed the \$400/AMMBtu incentive unit cost cap and/or the project caps on a percentage of project cost basis:
 - o Electrification projects: 85 percent of project cost.
 - o Building Envelope: 75 percent of project cost.
- **Energy Rates:** Con Edison used 2022 average total rates to estimate bill savings. Con Edison assumed the following rates for each customer segment:
 - o SC1 Rate 1 (electric), SC3 (gas)

| Electric (\$/kWh) | Gas (\$/therm) |
|-------------------|----------------|
| 0.3 | 2.4 |

• Energy Rate Escalation: Con Edison assumed that electric and gas rates would grow at 3% and 5% per year respectively. The escalation rates were based upon the three-year averages of the Company's residential electric and gas rate increases, net of inflation, as approved in the 2023-2025 rate case.

2. Incentives for Electrical Upgrades

This section of the appendix includes a description of the costs of the electrical upgrades included in the electrification project costs described in Section 1.

e. Background

Achieving the scale of heating electrification needed to stay on track with the State's policy goals will require the market to overcome multiple barriers, including the need for behind-themeter electrical upgrades when electrifying space and/or water heating in buildings that were not designed to accommodate higher electric loads resulting from electrification.⁶²

The cost of behind-the-meter electrical upgrades is a major barrier for customers looking to electrify space and/or water heating. Costs can be prohibitively high and also vary by project, which is further complicated by the diverse building stock in Con Edison's service territory. Addressing this cost barrier will help make electrification feasible for buildings that would be challenged to complete them otherwise.⁶³

⁶² NYC Mayor's Office of Climate & Environmental Justice. PowerUp NYC. 2023.

⁶³ According to various studies, electrical upgrade costs can make up as much as 10%-30% of the total project cost (Urban Green Council. Going Electric: Retrofitting NYC's Multifamily Buildings. 2020.; Con Ed study conducted by a third-party consultant). The Association for Energy Affordability (AEA) and StopWaste also stated in its 2021 report that in some cases the electrical upgrade costs can even exceed the cost of the equipment (AEA, StopWaste. Accelerating Electrification of California's Multifamily Buildings. 2021.)

f. Case Study

As part of a Joint Energy Efficiency Plan (JEEP)⁶⁴ with the participating customer, the Company is supporting enhanced incentives for cooking electrification measures in a pre-war low-rise Housing Development Fund Corporation (HDFC) multifamily building in Manhattan. The building uses gas for cooking and is looking to install induction stoves as its first effort into electrification.

The project completed the scoping stage and determined that electrical upgrades are necessary to accommodate additional electric load from induction stoves. Major electrical scope items consist of service upgrade (to higher amperage), wiring and installation, and breaker panel and meter pan replacements. These upgrades are estimated to cost approximately \$8/SF, which is about 3.5 times greater than the cost of induction stoves themselves. The significantly high cost of the electrical upgrades is impeding the project from moving forward.

This example illustrates the situation many buildings face in Con Edison's service territory today. Contractors have reported that the costs to upgrade old electrical systems widens the upfront cost gap, making it challenging for electrification projects to move forward. This is especially true for older pre-war buildings, which make up more than 60 percent of total multifamily buildings in Con Edison territory⁶⁵; the high upfront cost of equipment and electrical upgrades combined makes the projects financially infeasible. By offering enhanced incentives as put forth in this proposal, the Company plans to incentivize such costly electrical upgrades to bridge the upfront cost gap for electrification.

g. Cost Estimates

The Company has developed cost estimates for, and incorporated the cost of, electrical upgrades to the total electrification project costs used to derive planned unit costs, as shown in Section 1 of this appendix.

The need for electrical upgrades is more pronounced for multifamily buildings, especially prewar, in New York City that have old electrical systems that cannot accommodate space and water heating electrification.⁶⁶ Wiring costs can vary substantially by project due to building layout (*e.g.*, location of condenser units in relation to entry of electrical service), heat pump system design choices (*e.g.*, multiple distributed units vs. a central heat pump system), and

⁶⁴ JEEP is a collaboration between Con Edison and non-profit agencies that own affordable housing buildings to help identify and support energy efficiency upgrades in their portfolio of buildings, and to provide enhanced incentives and goals.

⁶⁵ NYC Primary Land Use Tax Lot Output (a data file containing extensive land use and geographic data at the tax lot level)

⁶⁶ Urban Green Council. Going Electric: Retrofitting NYC's Multifamily Buildings. 2020.

existing building conditions (*e.g.*, condition of existing wiring). The need for electrical room upgrades and service upgrades are highly variable and will depend on the existing condition of the building. For example, some buildings undergoing electrification will require the costly replacement of electrical panels.

The Company expects that all multifamily and commercial buildings will require one of three levels of electrical upgrade for space and water heating electrification:

- <u>Low upgrade:</u> The building's electrical infrastructure is sufficient to accommodate electrification. Wiring and circuit breaker upgrade required. No need for electric panel upgrades.
- <u>Medium upgrade</u>: Service is adequate, but panel upgrade is required to distribute energy to the new equipment added. All components downstream of the meter need to be upgraded.
- <u>High upgrade</u>: Both service and panel upgrades are required to bring more capacity to the building and distribute energy to the new equipment. All components downstream of the meter need to be upgraded.

Based on the above, the Company estimated electrical upgrade costs, including equipment, materials, labor, design, and permitting fees necessary to upgrade the building's electrical capacity and power new heating equipment. The cost estimates are shown in Table A-23 below and have been included in the Company's analysis to derive unit cost estimates in Section 1 of this appendix. The costs below were developed using input from contractors and engineering firms conducting such work in the Company's territory.

Table A-19 — LMI Multifamily Electrical Upgrade Costs*

| | Upgrade cost per sq. ft. (\$/sq. ft.) | | | Frequency of upgrades required | | | Weighted cost |
|---------------|--|--------|------|--------------------------------|--------|------|---------------|
| Use | Low | Medium | High | Low | Medium | High | \$/sq. ft. |
| Space Heating | 2.90 | 4.80 | 9.10 | 25% | 50% | 25% | 5.40 |
| Water Heating | 0.50 | - | - | 100% | - | 1 | 0.50 |

^{*} Represents average cost of small and large multifamily buildings weighted by number of dwelling units in Con Edison's service territory.

3. Third-Party Implementation Costs

The Company manages many of its programs with the support of third-party implementation contractors. Contractors are chosen via competitive procurement processes and contracts are structured to incentivize contractors to deliver savings needed to meet NENY targets, while focusing their efforts on the highest priority measures. Implementation costs were estimated by applying current contract terms to forecasted levels of achievement.

Table A-20 below shows forecasted implementation costs for each program in the Company's portfolio that is expected to use implementation contractors.

Table A-20 — Base Portfolio Plan Third-Party Implementation Costs, 2023 and 2026-2030 (Million \$)

| Program/Customer Segment | 2023 | 2026 | 2027 | 2028 | 2029 | 2030 |
|---------------------------------|------|------|------|------|------|------|
| Residential | 0.4 | - | | 1 | - | 1 |
| Multifamily | 4.5 | 6.4 | 6.8 | 7.3 | 7.3 | 7.7 |
| TOTAL | 4.9 | 6.4 | 6.8 | 7.3 | 7.3 | 7.7 |

4. Portfolio Administration

This section of the appendix includes a description of the Company's expected spend for Evaluation, Measurement, and Verification (EM&V) costs and other administrative costs. Further below this section of the appendix includes a description of the labor costs associated with staff administering its portfolio in the period between 2026-2030.

a. Evaluation, Measurement, and Verification (EM&V)

The Company performs Evaluation, Measurement, and Verification efforts intended to serve all programs consistent with regulatory guidance to continually improve processes and estimates of program impact. The Company's EM&V services includes three core activity types: Quality Assurance/Quality Control ("QA/QC"), Measurement & Verification ("M&V"), and Evaluation. The Company expects these activities to increase in the future due to the increased complexity of the programs being operated and the addition of Steam energy efficiency.

To determine the appropriate costs needed in the 2026-2030 period, the Company reviewed current and planned spending levels and applied a growth rate to account for inflation and the complexity of future work which will lead to longer project lead times. The Company expects that over time and with the transition to larger projects, a higher proportion of projects will require QA/QC and M&V compared to the current portfolio. Table A-21 below shows forecasted EM&V costs for each portfolio in the Company's base plan.

Table A-21 — Base Portfolio Plan Evaluation, Measurement, and Verification Costs, 2023 and 2026-2030 (Million \$)

| Portfolio | 2023 | 2026 | 2027 | 2028 | 2029 | 2030 |
|-----------|------|------|------|------|------|------|
| Electric | 0.1 | 0.3 | 0.3 | 0.4 | 0.4 | 0.4 |
| Gas | 0.3 | 1.1 | 1.1 | 1.2 | 1.3 | 1.4 |
| TOTAL | 0.4 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 |

b.Non-Labor Administrative Expenditures

The Company performs many other administrative functions, most notably marketing efforts designed to promote its programs. Aside from marketing the Company has contractors who perform engineering and inspection work. Other administrative functions are smaller in scale but include market research, strategy and training.

To determine the appropriate costs needed in the 2026-2030 period, the Company reviewed current and planned spending levels and applied a growth rate to account for inflation. The Company expects it will need additional marketing in order to reach the growing Electrification and Envelope targets in the Company's base plan. The growth planned will necessitate going beyond early adopters who have previously participate in these programs and marketing to a harder to reach segment of customers. Table 26 below shows forecasted Non-Labor Administrative Expenditures for each portfolio in the Company's base plan.

Table A-22 — Base Portfolio Plan Non-Labor Administrative Expenditures, 2023 and 2026-2030 (Million \$)

| Portfolio | 2023 | 2026 | 2027 | 2028 | 2029 | 2030 |
|-----------|------|------|------|------|------|------|
| Electric | 0.7 | 0.5 | 0.5 | 0.6 | 0.6 | 0.7 |
| Gas | 0.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.0 |
| TOTAL | 1.2 | 2.1 | 2.2 | 2.4 | 2.5 | 2.7 |

c. Labor

To deliver on the EE BE program portfolios' growth and shift to strategic measures, the Company will need to add new FTEs and Labor cost during 2026-2030. Table A-23 summarizes the Labor needs for the Base Portfolio.

Table A-23 — Base Portfolio Plan FTEs and Labor Costs, 2026-2030 (FTEs and Million \$)

| Category | 2023 | 2026 | 2027 | 2028 | 2029 | 2030 |
|----------------------|--------|--------|--------|--------------|--------------|--------|
| Total FTEs | 140 | 163 | 167 | 169 | 171 | 171 |
| Total Labor Costs | \$20.4 | \$25.7 | \$26.9 | \$27.9 | \$28.9 | \$29.6 |
| | | | | | | |
| -Non-LMI FTEs | 117 | 132 | 134 | 135 | 135 | 134 |
| -Non-LMI Labor Costs | \$17.1 | 20.9 | 21.7 | 22.3 | 22.9 | 23.2 |
| IMIETE. | | 21 | 22 | 24 | 26 | 27 |
| LMI FTEs | 23 | 31 | 33 | 34 | 36 | 37 |
| LMI Labor Costs | \$3.3 | \$4.8 | \$5.3 | \$5.7 | \$6.0 | \$6.4 |

Approach Summary

For both the Base Portfolio, the Company first developed an integrated view of the Company Labor needed to deliver its proposed 2026-2030 combined non-LMI and LMI savings targets. This is necessary because the Company structures its EE BE teams to work across non-LMI and LMI programs and across commodity budgets.⁶⁷ The Company took the following steps:

- Identify FTEs in the Company's current rate plan who devote time to non-strategic programs and can be redeployed to strategic programs to meet some of the new 2026-2030 Labor needs;
- After factoring in the redeployment of FTEs from non-strategic programs, quantify the net Labor needs above the current rate plan to manage the portfolio transition required to meet 2026 goals;⁶⁸
- Then, quantify Labor needed to deliver the growth and continuing transformation that the Base and Portfolio targets target for 2026-2030; and
- Translate these FTE requirements into the associated Labor cost.

The Company then allocated the FTEs and Labor expense for the Base Portfolio among the respective individual EE BE budgets (divided into LMI and non-LMI, and then split into Electric, Gas, and Steam as applicable). The Company allocated these costs in proportion to each individual EE BE budget's share of the total.

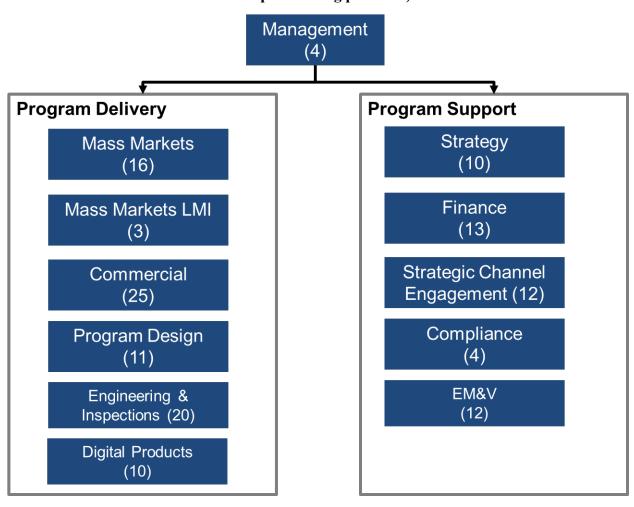
⁶⁸ While the Company's current Rate Plan provided Labor funding for the Company to replace its residential lighting offerings with more labor-intensive programs, it did not anticipate or provide funding for the wholesale transition to strategic measures the EE BE Order requires.

⁶⁷ For instance, the same groups develop, process, and measure and verify both non-LMI and LMI large multifamily envelope projects.

FTEs That will be Redeployed Before 2026

The Company's EE BE department currently employs 140 FTEs compared to the 136⁶⁹ in the current Rate Plan for 2023. A high-level overview of the Company's EE BE department organization chart as of 2023 is shown in Figure A-1 below.

Figure A-1 CECONY Energy Efficiency Department Organization Chart (current FTEs and open existing positions)



⁶⁹ The Con Edison Rate Plan approved 168 FTE for EE BE and Demand Management (NWA, NPA, DR) in 2023. 136 is calculated by removing the 32 FTE running and supporting Demand Management. See, Case 22-E-0064, Proceeding on Motion of the Commission as to the Rates, Charges, Rules and Regulations of Consolidated Edison Company of New York, Inc. for Electric Service, Order Adopting Terms of Joint Proposal and Establishing Electric and Gas Rate Plans with Additional Requirements (issued July 20, 2023), Appendix A, p. 79.

The Rate Plan funds 145 FTEs by 2025 at \$22.9M to deliver on the current NENY targets. ⁷⁰ The Company has identified 5 FTEs in non-strategic offerings that will be redeployed. ⁷¹

Table A-24 — Summary of Redeployments of FTEs Away from Non-Strategic Offerings

| FTE | Role | Responsibilities | Section |
|-----|------------------|--|------------|
| 1 | Lighting & Gas | Manages daily operations of midstream | Commercial |
| | Midstream | program, which is currently comprised heavily | Programs |
| | Program Manager | of lighting and gas devices | |
| 2 | Commercial | Supports operations of residential and | Commercial |
| | Program | commercial lighting program | Programs |
| | Operations | | |
| 1 | Multifamily & | Supports multifamily & residential program | Commercial |
| | Residential | delivery lighting, devices, Home Energy | Programs |
| | Deputy Program | Reports, and Smart Kids energy savings | |
| | Manager | | |
| 1 | Senior Financial | Tracks, reports, and analyzes Retail Lighting, | Finance |
| | Analyst | Instant Lighting, commercial kitchen, | |
| | | Marketplace, Home Energy Reports, Smart | |
| | | Kids, and Multifamily gas programs | |
| 5 | | | |

New FTEs needed by start of 2026

To deliver on the transition to the Strategic portfolio set out in the EE BE Order, the Company will need 158 EE BE FTEs by the end of 2025, compared to the 145 in its rate plan. These 13 net incremental FTEs are comprised of 18 new positions, 5 of which will be filled by the redeployed FTE above.

66

⁷⁰ The Con Edison Rate Plan approved 179 FTE for EE BE and Demand Management for 2025. 145 is calculated by removing the 34 FTE running and supporting Demand Management. See, Case 22-E-0064, Proceeding on Motion of the Commission as to the Rates, Charges, Rules and Regulations of Consolidated Edison Company of New York, Inc. for Electric Service, Order Adopting Terms of Joint Proposal and Establishing Electric and Gas Rate Plans with Additional Requirements (issued July 20, 2023), Appendix A, p. 79.

⁷¹ These FTE will be redeployed to fill new hiring needs described below.

Table A-25 — Summary of New FTEs Needed for Strategic Savings by Start of 2026

| FTE | Role | Responsibilities | Section |
|-----|-------------------|--|----------------|
| 1 | GSHP Section | Lead development and management of | GSHP |
| | Manager | CECONY GSHP savings from ~30k | Program |
| | | LMMBTU in 2023 to ~ 1,200k LMMBTU in | Delivery |
| | | 2026 | |
| 1 | GSHP Program | Develop and grow residential GSHP program | GSHP |
| | Manager | savings from ~30k LMMBtu in 2023 to ~610k | Program |
| | | LMMBTU in 2026 | Delivery |
| 1 | GSHP Program | Roll out and grow non-residential ground | GSHP |
| | Manager | source heat pump savings from 0 in 2023 to | Program |
| | | ~610k LMMBtu by 2026 | Delivery |
| 1 | GSHP Deputy | Support growth in residential GSHP program | GSHP |
| | Program Manager | savings from ~30k LMMBtu in 2023 to ~610k | Program |
| | | LMMBTU in 2026 | Delivery |
| 1 | Multifamily | Support ~3x electrifications savings growth | Mass Market |
| | Deputy Program | between 2023 and 2026 in large Multifamily | Program |
| | Manager | buildings | Delivery |
| 1 | Midstream | Manage midstream programs for windows, | Commercial |
| | Program Manager | electrification, and other strategic measures | Programs |
| 2 | Deputy | Support midstream programs for windows, | Commercial |
| | Midstream | electrification, and other strategic measures | Programs |
| | Program Manager | | |
| 2 | Business | Drive ~2x growth in envelope and | Sales/Business |
| | Development | electrification savings and ~1.5x growth in | Development |
| | Manager | large multifamily and LMI projects | |
| 1 | Engineering | Lead Clean Heat technical analysis within the | Engineering |
| | Project Manager | EE BE organization and manage technical | |
| | | projects across the JMC | _ |
| 1 | Program Design | Lead development of programs and offerings | Program |
| 4 | Section Manager | needed to shift to strategic portfolio | Design |
| 1 | Program Design | Support development of programs and | Program |
| 1 | Senior Specialist | offerings needed to shift to strategic portfolio | Design |
| 1 | Program Design | Lead development of cross-EE BE business | Program |
| | Section Manager | requirements for databases and reporting | Design |
| | D | including new programs | T. |
| 1 | Department | Oversee increasingly complex program | Finance |
| | Manager | portfolio spending to optimize spending and | |
| | | achievement against growth in strategic LMI | |
| 1 | G ' T' ' 1 | and non-LMI offerings | E. |
| 1 | Senior Financial | Track, report, and analyze non-residential | Finance |
| | Analyst | GSHP savings and program spend | |

| 1 | Clean Energy | Manage recruitment, onboarding, engagement, | Clean Energy |
|----|-----------------|--|--------------|
| | Networks | and oversight of new electrification | Networks |
| | Manager | contractors associated with the $\sim 3x$ forecasted | |
| | | portfolio growth of electrification savings | |
| | | between 2023 and 2026 | |
| 1 | Digital Analyst | Deliver data solutions for growing portfolio of | Digital |
| | | programs | |
| 18 | | | |

The table below summarizes the net FTEs that will be needed by the start of 2026 to deliver on the 2026 Base Portfolio Plan.

Table A-26 — EE BE FTEs at End of 2025

| EE BE Rate Plan FTE in 2025 | 145 |
|--|-----|
| EE BE FTE in Non-Strategic Programs | -5 |
| EE BE FTE Needed for New Roles in Strategic Savings by Start of 2026 | +18 |
| EE BE FTE by start of 2026 | 158 |

Base Portfolio Additional FTEs Needed Over 2026-2030

For the Base Portfolio Plan, by 2030 the Company will require an additional 13 FTEs for a total of 171 FTEs. These are needed to deliver the new Steam EE program (7 FTE) and to deliver on the continued growth in electrification, envelope, and comprehensive LMI targeted through 2030.

Table A-27 — New FTE Needed for Strategic Savings by Start of 2026

| FTE | Role | Responsibilities | Section |
|-----|-----------------|---|------------------|
| 1 | LMI BE Program | Manage LMI Multifamily BE programs | Mass Market |
| | Manager | | Program Delivery |
| 1 | LMI Deputy | Support LMI Multifamily portfolio project | Mass Market |
| | Program Manager | management | Program Delivery |
| 1 | GSHP Deputy | Support day to day operations of | GSHP Program |
| | Program Manager | residential GSHP portfolio project | Delivery |
| | | management | |
| 1 | Program Manager | Manage large Commercial and Multifamily | Commercial |
| | | program projects | Program Delivery |
| 1 | QA/QC Manager | Manage and support electrification QA/QC | EM&V |
| 1 | Product Owner | Maintain electrification focused data tools | Digital Products |
| | | and data analysis for electrification | |
| | | portfolio | |

| 1 | Technical | Provide technical support for Steam EE | Sales/Business |
|----|-------------------|---|------------------|
| | Business | portfolio to help customers specify and | Development – |
| | Development | prioritize energy efficiency projects | Steam |
| | Manager | | |
| 1 | Operations | Provide operational and administrative | Commercial |
| | Specialist | support for Steam Program applications | Program Delivery |
| | | | – Steam |
| 2 | Engineering | Review Steam engineering calculations | Engineering & |
| | Specialist | submitted by contractors for accuracy and | Inspection – |
| | | consistency with engineering principles | Steam |
| 1 | Engineering | Inspect Steam Program project sites to | Engineering & |
| | Senior Specialist | confirm baseline and post-installation | Inspection – |
| | | conditions, accuracy of energy savings | Steam |
| | | calculations, and compliance with program | |
| | | rules | |
| 1 | Engineering | Develop and maintain engineering | Engineering & |
| | Manager | workbooks for Steam Program measures | Inspection – |
| | | and work with New York State Technical | Steam |
| | | Resource Manual (TRM) committee to add | |
| | | and update Steam measure calculations to | |
| | | the TRM | |
| 1 | M&V Manager | Lead measurement and verification of | EM&V – Steam |
| | | incremental Steam Program projects | |
| 13 | | | |

Base Portfolio Plan Labor Expense

Labor expense for Company FTE consists of Salaries and Other Labor Costs.⁷²

The Company forecast 2026-2030 Salaries costs by taking the planned total annual FTEs by Band Level and applying the EE BE Department average salary for each band level. These averages are 2023 actuals adjusted up for inflation.

The Company then added a forecast for Other Labor Costs by taking this cost per FTE in 2023,⁷³ escalating it annually at inflation, and applying it to the number of FTEs each year.

⁷² Employee office supplies, travel, training, telecom, etc.

⁷³ \$2,600/FTE a year

Base Portfolio Plan Allocation of Labor to Budgets

The Company allocated Labor expenses to each budget (e.g., LMI-Gas, Non-LMI Electric, etc.) in proportion to each EE BE budget's share of the total annual budget.

Tables A-28 and A-29 summarize the Base Portfolio's individual EE BE budgets, and each of these budgets' share of the total Base Portfolio annual spend.

Table A-28 —Base Portfolio Plan Proposed Budgets (Excluding Labor), Million \$

| Budget | 2023 | 2026 | 2027 | 2028 | 2029 | 2030 |
|--------------------|-------|-------|-------|-------|-------|-------|
| Non LMI – Electric | 143.9 | 239.9 | 246.8 | 254.3 | 259.6 | 266.2 |
| Non LMI – Gas | 46.1 | 52.8 | 52.8 | 53.3 | 53.4 | 54.1 |
| Non LMI – Steam | 0.0 | 19.8 | 20.6 | 21.4 | 22.3 | 23.2 |
| LMI – Electric | 5.5 | 16.6 | 18.2 | 20.0 | 21.7 | 23.4 |
| LMI – Gas | 31.3 | 55.6 | 59.5 | 63.8 | 67.0 | 71.3 |
| Total | 226.9 | 384.7 | 398.0 | 412.9 | 424.0 | 438.2 |

Table A-29 —Base Portfolio Plan Proposed Budgets (excluding Labor) by Share of Total Budget, %

| Budget Share | 2023 | 2026 | 2027 | 2028 | 2029 | 2030 |
|--------------------|------|------|------|------|------|------|
| Non LMI – Electric | 63% | 62% | 62% | 62% | 61% | 61% |
| Non LMI – Gas | 20% | 14% | 13% | 13% | 13% | 12% |
| Non LMI – Steam | 0% | 5% | 5% | 5% | 5% | 5% |
| LMI – Electric | 2% | 4% | 5% | 5% | 5% | 5% |
| LMI – Gas | 14% | 14% | 15% | 15% | 16% | 16% |
| Total | 100% | 100% | 100% | 100% | 100% | 100% |

5. Summary of Overall Portfolio Budgets and Savings

Table A-30 — 2026-2030 Base Portfolio Plan Budget (Million \$)

| Commodity | Category | 2023 | 2026 | 2027 | 2028 | 2029 | 2030 | 2026- 2030 |
|-----------|-----------------|------|------|------|------|------|-------|---------------|
| Electric | Incentives | 4.1 | 14.2 | 15.6 | 17.2 | 18.6 | 20.1 | 85.7 |
| | Implementation | 0.6 | 1.6 | 1.7 | 1.9 | 2.1 | 2.2 | 9.6 |
| | EM&V | 0.1 | 0.3 | 0.3 | 0.4 | 0.4 | 0.4 | 1.9 |
| | Non-Labor Admin | 0.7 | 0.5 | 0.5 | 0.6 | 0.6 | 0.7 | 2.9 |
| | Labor | 0.5 | 1.1 | 1.2 | 1.4 | 1.5 | 1.6 | 6.8 |
| | TOTAL | 6.0 | 17.7 | 19.5 | 21.4 | 23.2 | 25.0 | 106.8 |
| Gas | Incentives | 26.3 | 48.1 | 51.6 | 55.4 | 58.6 | 62.4 | 276.1 |
| | Implementation | 4.3 | 4.8 | 5.1 | 5.3 | 5.2 | 5.5 | 26.0 |
| | EM&V | 0.3 | 1.1 | 1.1 | 1.2 | 1.3 | 1.4 | 6.0 |
| | Non-Labor Admin | 0.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.0 | 9.1 |
| | Labor | 2.8 | 3.7 | 4.0 | 4.3 | 4.6 | 4.8 | 21.4 |
| | TOTAL | 34.2 | 59.3 | 63.5 | 68.1 | 71.5 | 76.1 | 338.6 |
| All | Incentives | 30.3 | 62.4 | 67.2 | 72.6 | 77.1 | 82.5 | 361.8 |
| | Implementation | 4.9 | 6.4 | 6.8 | 7.3 | 7.3 | 7.7 | 35.5 |
| | EM&V | 0.4 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 7.9 |
| | Non-Labor Admin | 1.2 | 2.1 | 2.2 | 2.4 | 2.5 | 2.7 | 11.9 |
| | Labor | 3.3 | 4.8 | 5.3 | 5.7 | 6.0 | 6.4 | 28.2 |
| | TOTAL | 40.2 | 77.1 | 83.0 | 89.5 | 94.7 | 101.1 | 445.4 |

Please also refer to tables included in separate work paper in MS Excel (CECONY LMI 2026-2030 EE BE Plan $_{\rm v1}$ _ 11_01_2023.xlsx).

Appendix B – Analysis Supporting Expanded Portfolio Plan

This appendix describes the differences in the Company's approach to developing the budget and targets in the Expanded Portfolio Plan relative to the Base Portfolio Plan.

1. Incentives and Energy Savings

In the Base Portfolio Plan, the Company limited spending on many strategic measure categories to remain within the electric and gas budget authorized in the EE BE Order (with incremental addition of a steam budget). The Expanded Portfolio Plan demonstrates what the Company could achieve if it scaled its programs and their achievement at a level higher than the budget authorized in the EE BE Order, in support of the State's ambitious policy goals. In the Expanded Portfolio Plan, growth comes primarily from heating electrification and building envelope offerings, with modest growth in other strategic and neutral measure categories.

To develop the expanded portfolio the Company estimated achievable levels of growth by examining both the available market opportunity and its own programmatic capabilities. The Company examined the market opportunity by assessing market size, market saturation, and the capacity of contractors to expand installations. The Company also considered current program limitations and strategies for addressing those limitations. The Company also considered differences in customer requirements for the incremental projects needed to meet targets in the Expanded Portfolio plan and identified changes to incentives needed to serve those incremental customers.

In the Expanded Portfolio Plan for LMI Multifamily customers, heating electrification and building envelope offerings account for approximately 68 percent of the Company's incentive budget (see Table B-1 below). Growth is concentrated in the latter parts of the decade, ramping up to 78 percent higher budget in 2030 for the Expanded Portfolio Plan compared to 2026 (see Table B-2 below).

Table B-12 — Expected Incentive Spend, Expanded Portfolio Plan, 2026-2030 (Million \$)

| Category | 2023 | 2026 | 2027 | 2028 | 2029 | 2030 |
|-------------------------|------|------|------|------|------|-------|
| Heating Electrification | - | 6.4 | 7.4 | 8.7 | 11.6 | 16.0 |
| Building Envelope | 16.2 | 37.2 | 41.3 | 46.5 | 52.3 | 58.8 |
| Other Strategic | 5.6 | 17.3 | 20.6 | 24.6 | 29.4 | 35.3 |
| Neutral | 5.4 | 2.0 | 1.9 | 1.8 | 1.6 | 1.5 |
| TOTAL | 27.2 | 62.4 | 71.2 | 81.5 | 95.0 | 111.6 |

Table B-13 — Comparison with Base Portfolio Plan, 2026-2030 (Million \$)

| | Base | e Portfolio l | Plan | Expanded Portfolio Plan | | | |
|-------------------------|------|---------------|-----------------------|-------------------------|-------|-----------------------|--|
| Category | 2026 | 2030 | 2026-2030 Growth % | 2026 | 2030 | 2026-2030 Growth % | |
| Heating Electrification | 6.4 | 9.2 | 44% | 6.4 | 16.0 | 150% | |
| Building Envelope | 36.7 | 46.7 | 27% | 36.7 | 58.8 | 60% | |
| Other Strategic | 17.3 | 25.7 | 48% | 17.3 | 35.3 | 104% | |
| Neutral | 2.0 | 1.0 | -50% | 2.0 | 1.5 | -23% | |
| TOTAL | 62.4 | 82.5 | 32% | 62.4 | 111.6 | 79% | |

In the Expanded Portfolio Plan, strategic measure categories were targeted to grow as market conditions and program capabilities would allow with reasonable unit costs. Heating electrification and building envelope offerings grew the most, with 150 percent and 60 percent growth respectively in 2030 compared to 2026 (see Table 3 below).

Table B-14 — Expected Savings, Expanded Portfolio Plan (2026-2030, Million LMMBtu, Post-VGS)

| Category | 2023 | 2026 | 2027 | 2028 | 2029 | 2030 |
|-------------------------|------|------|------|------|------|------|
| Heating Electrification | - | 0.2 | 0.2 | 0.2 | 0.3 | 0.4 |
| Building Envelope | 1.7 | 2.7 | 3.0 | 3.3 | 3.7 | 4.2 |
| Other Strategic | 1.6 | 1.9 | 2.1 | 2.4 | 2.6 | 2.9 |
| Neutral | 1.3 | 0.4 | 0.4 | 0.4 | 0.3 | 0.3 |
| TOTAL | 4.6 | 5.2 | 5.7 | 6.3 | 7.0 | 7.8 |

Table B-15 — Comparison with Base Portfolio Plan (2026-2030, Million LMMBtu, Post-VGS)

| | Base | e Portfolio l | Plan | Expanded Portfolio Plan | | | |
|-------------------------|------|---------------|-----------------------|--------------------------------|------|-----------------------|--|
| Category | 2026 | 2030 | 2026-2030 Growth % | 2026 | 2030 | 2026-2030 Growth % | |
| Heating Electrification | 0.2 | 0.2 | 43% | 0.2 | 0.4 | 133% | |
| Building Envelope | 2.7 | 3.4 | 26% | 2.7 | 4.2 | 57% | |
| Other Strategic | 1.9 | 2.3 | 20% | 1.9 | 2.9 | 49% | |
| Neutral | 0.4 | 0.2 | -56% | 0.4 | 0.3 | -21% | |
| TOTAL | 5.2 | 6.1 | 18% | 5.2 | 7.8 | 50% | |

To achieve the savings shown above, which are meaningfully higher than the Base Portfolio Plan, the Company will need to target a broader pool of customers with its incentives. In certain cases, the Company may need to increase incentives to create a compelling offering for customers with different characteristics than those targeted in the Base Portfolio Plan.

The Company conducted preliminary analysis to assess the market size for the largest offerings in its Base Portfolio Plan. This market sizing exercise took into account specifically the characteristics of the customers that the Company will target with its offerings (e.g., customers with heating at the end of its useful life). Based on this assessment, the Company identified a subset of offerings for which it may need to target a broader pool of customers, and increased unit costs accordingly:

- *Multifamily ASHP*: the Company will increase incentives to be able to offer a compelling offering to a wider pool of customers.
- *Multifamily Roof Insulation and Air Sealing*: the Company will pursue gas-heated postwar 8+ story buildings with double pane windows; incentive levels in the Base Portfolio Plan don't meet the needs of this large segment.
- *Comprehensive AMEEP*: the Company will aim to reach a meaningfully larger pool of customers. Some of the customers needed to meet the growth targets will be even more capital constrained and will require shorter payback periods.

Table B-16 — Expected Incentive Unit Costs (2026-2030, \$/LMMBtu)

| Category | 2023 | 2026 | 2027 | 2028 | 2029 | 2030 |
|-------------------------|------|------|------|------|------|------|
| Heating Electrification | - { | 38.2 | 38.9 | 39.6 | 40.3 | 41.0 |
| Building Envelope | 9.7 | 13.8 | 13.9 | 13.9 | 14.0 | 14.1 |
| Other Strategic | 3.5 | 8.9 | 9.6 | 10.4 | 11.3 | 12.2 |
| Neutral | 4.1 | 4.8 | 4.8 | 4.8 | 4.8 | 4.7 |
| Non-Strategic | - } | - | - | ı | ı | - |
| TOTAL | 5.9 | 12.0 | 12.5 | 13.0 | 13.6 | 14.3 |

Table B-6 — Comparison with Base Portfolio Plan (2026-2030), \$/LMMBtu

| | Base | e Portfolio l | Plan | Expanded Portfolio Plan | | | |
|-------------------------|------|---------------|-----------------------|-------------------------|------|-----------------------|--|
| Category | 2026 | 2030 | 2026-2030 Growth % | 2026 | 2030 | 2026-2030 Growth % | |
| Heating Electrification | 38.2 | 38.3 | 0% | 38.2 | 41.0 | 7% | |
| Building Envelope | 13.8 | 13.9 | 1% | 13.8 | 14.1 | 2% | |
| Other Strategic | 8.9 | 11.0 | 24% | 8.9 | 12.2 | 37% | |
| Neutral | 4.8 | 5.5 | 13% | 4.8 | 4.7 | -2% | |
| Non-Strategic | | - | N/A | - | - | N/A | |
| TOTAL | 12.0 | 12.4 | 3% | 12.0 | 14.3 | 19% | |

2. Incentives for Electrical Upgrades

The Company followed the same approach as the Base Portfolio Plan to estimate costs of electrical upgrades in heating electrification projects.

3. Third-Party Implementation Costs

Table 7 below shows forecasted implementation costs for each program in the Company's portfolio that is expected to use implementation contractors. As of today, the Company's commercial program is delivered in-house.

Table B-7 — Expanded Portfolio Plan Third-Party Implementation Costs, 2026-2030 (Million \$)

| Program/Customer Segment | 2023 | 2026 | 2027 | 2028 | 2029 | 2030 |
|---------------------------------|------|------|------|------|------|------|
| Residential | 0.4 | - | | - | - | - |
| Multifamily | 4.5 | 6.4 | 7.2 | 8.1 | 9.2 | 10.6 |
| TOTAL | 4.9 | 6.4 | 7.2 | 8.1 | 9.2 | 10.6 |

4. Portfolio Administration

This section of the appendix includes a description of the Company's expected spend for Evaluation, Measurement, and Verification (EM&V) costs and other administrative costs. Further below this section of the appendix includes a description of the labor costs associated with staff administering its portfolio in the period between 2026-2030.

a. Evaluation, Measurement, and Verification (EM&V)

Table 8 below shows forecasted EM&V costs for each portfolio in the Company's Expanded Portfolio Plan.

Table B-17 — Expanded Portfolio Plan Evaluation, Measurement, and Verification Costs, 2026-2030 (Million \$)

| Portfolio | 2023 | 2026 | 2027 | 2028 | 2029 | 2030 |
|-----------|------|------|------|------|------|------|
| Electric | 0.1 | 0.3 | 0.4 | 0.4 | 0.5 | 0.7 |
| Gas | 0.3 | 1.1 | 1.2 | 1.4 | 1.5 | 1.8 |
| TOTAL | 0.4 | 1.4 | 1.6 | 1.8 | 2.1 | 2.4 |

b. Non-Labor Administrative Expenditures

Table B-9 below shows forecasted Non-Labor Administrative Expenditures for each portfolio in the Company's Expanded Portfolio Plan.

Table B-9 — Expanded Portfolio Plan Non-Labor Administrative Expenditures, 2026-2030 (Million \$)

| Portfolio | 2023 | 2026 | 2027 | 2028 | 2029 | 2030 |
|-----------|------|------|------|------|------|------|
| Electric | 0.7 | 0.5 | 0.6 | 0.6 | 0.8 | 1.0 |
| Gas | 0.5 | 1.6 | 1.8 | 2.0 | 2.3 | 2.7 |
| TOTAL | 1.2 | 2.1 | 2.4 | 2.7 | 3.1 | 3.7 |

c. Labor

Table B-10 — Expanded Portfolio Plan FTEs and Labor Costs, 2026-2030 (Million \$)

| Category | 2023 | 2026 | 2027 | 2028 | 2029 | 2030 |
|----------------------|--------|---------|--------|--------|--------|--------|
| Total FTEs | 140 | 163 | 179 | 194 | 226 | 256 |
| Total Labor Costs | \$20.4 | \$ 25.7 | \$28.9 | \$32.1 | \$38.1 | \$44.4 |
| -Non-LMI FTEs | 117 | 132 | 144 | 156 | 182 | 206 |
| -Non-LMI Labor Costs | \$17.1 | \$20.9 | \$23.3 | \$25.8 | \$30.7 | \$35.8 |
| LMI FTEs | 23 | 31 | 35 | 39 | 44 | 50 |
| LMI Labor Costs | \$3.3 | \$4.8 | \$5.6 | \$6.4 | \$7.5 | \$8.7 |

Approach Summary

To forecast the additional FTEs to deliver on the Expanded Portfolio, the Company scaled up its Base Portfolio Plan FTE and expense in proportion to the increase in proposed program budgets.

Table B-11 — Increase in Expanded Portfolio Plan Budget vs. Base Portfolio Plan Budget (excluding Labor), Million \$ and %

| Budget | 2026 | 2027 | 2028 | 2029 | 2030 |
|------------|-------|-------|-------|-------|-------|
| Base | 384.7 | 398.0 | 412.9 | 424.0 | 438.2 |
| Expanded | 384.7 | 426.2 | 475.2 | 559.5 | 657.0 |
| % Increase | 0% | 7% | 15% | 32% | 50% |

For the allocation of Expanded Labor across budgets, Table 46 and Table 47 summarize the Expanded Portfolio's individual EE BE budgets, and each of these budgets' share of the total spend.

Table B-12 — Expanded Portfolio Plan Proposed Budgets (excluding Labor), Million \$

| Budget | 2023 | 2026 | 2027 | 2028 | 2029 | 2030 |
|--------------------|-------|-------|-------|-------|-------|-------|
| Non LMI – Electric | 143.9 | 239.9 | 264.6 | 294.2 | 354.8 | 424.2 |
| Non LMI – Gas | 46.1 | 52.8 | 57.8 | 63.5 | 69.7 | 76.7 |
| Non LMI - Steam | 0.0 | 19.8 | 21.5 | 23.4 | 25.5 | 27.8 |
| LMI – Electric | 5.5 | 16.6 | 19.3 | 22.6 | 28.1 | 35.6 |
| LMI – Gas | 31.3 | 55.6 | 63.0 | 71.5 | 81.3 | 92.7 |
| Total | 226.9 | 384.7 | 426.2 | 475.2 | 559.5 | 657.0 |

Table B-13 – EE BE Expanded Portfolio Plan Proposed Budgets (excluding Labor) by Share of Total Budget, %

| Budget Share | 2023 | 2026 | 2027 | 2028 | 2029 | 2030 |
|--------------------|------|------|------|------|------|------|
| Non LMI – Electric | 63% | 62% | 62% | 62% | 63% | 65% |
| Non LMI – Gas | 20% | 14% | 14% | 13% | 12% | 12% |
| Non LMI - Steam | 0% | 5% | 5% | 5% | 5% | 4% |
| LMI – Electric | 2% | 4% | 5% | 5% | 5% | 5% |
| LMI – Gas | 14% | 14% | 15% | 15% | 15% | 14% |
| Total | 100% | 100% | 100% | 100% | 100% | 100% |

5. Summary of Overall Portfolio Budgets and Savings

Table B-14 – 2026-2030 Expanded Portfolio Plan Budget (Million \$)

| Commodity | Category | 2023 | 2026 | 2027 | 2028 | 2029 | 2030 | 2026- 2030 |
|-----------|-----------------|------|------|------|-------|-------|-------|---------------|
| Electric | Incentives | 4.1 | 14.2 | 16.5 | 19.3 | 24.1 | 30.6 | 104.8 |
| | Implementation | 0.6 | 1.6 | 1.8 | 2.2 | 2.6 | 3.3 | 11.5 |
| | EM&V | 0.1 | 0.3 | 0.4 | 0.4 | 0.5 | 0.7 | 2.3 |
| | Non-Labor Admin | 0.7 | 0.5 | 0.6 | 0.6 | 0.8 | 1.0 | 3.5 |
| | Labor | 0.5 | 1.1 | 1.3 | 1.5 | 1.9 | 2.4 | 8.3 |
| | TOTAL | 6.0 | 17.7 | 20.6 | 24.1 | 30.0 | 38.0 | 130.4 |
| Gas | Incentives | 26.3 | 48.1 | 54.6 | 62.2 | 70.9 | 81.0 | 316.8 |
| | Implementation | 4.3 | 4.8 | 5.3 | 5.9 | 6.6 | 7.3 | 30.0 |
| | EM&V | 0.3 | 1.1 | 1.2 | 1.4 | 1.5 | 1.8 | 6.9 |
| | Non-Labor Admin | 0.5 | 1.6 | 1.8 | 2.0 | 2.3 | 2.6 | 10.4 |
| | Labor | 2.8 | 3.7 | 4.3 | 4.8 | 5.5 | 6.3 | 24.6 |
| | TOTAL | 34.2 | 59.3 | 67.3 | 76.4 | 86.9 | 99.0 | 388.8 |
| All | Incentives | 30.3 | 62.4 | 71.2 | 81.5 | 95.0 | 111.6 | 421.6 |
| | Implementation | 4.9 | 6.4 | 7.2 | 8.1 | 9.2 | 10.6 | 41.5 |
| | EM&V | 0.4 | 1.4 | 1.6 | 1.8 | 2.1 | 2.4 | 9.3 |
| | Non-Labor Admin | 1.2 | 2.1 | 2.4 | 2.7 | 3.1 | 3.7 | 13.9 |
| | Labor | 3.3 | 4.8 | 5.6 | 6.4 | 7.5 | 8.7 | 32.9 |
| | TOTAL | 40.2 | 77.1 | 87.9 | 100.5 | 116.8 | 137.0 | 519.2 |

Please also refer to tables included in separate work paper in MS Excel (CECONY LMI 2026-2030 EE BE Plan $_{\rm v1}$ _ 11_01_2023.xlsx).

Appendix C – Portfolio Budgets with Alternate Building Envelope Cost Recovery

Approach

The tables below summarize portfolio budgets when building envelope costs allocated 50 percent to electric and 50 percent to the gas portfolio budgets.

Base Portfolio Plan

| Commodity | 2026 | 2027 | 2028 | 2029 | 2030 |
|-----------|------|------|------|------|-------|
| Electric | 36.2 | 39.2 | 42.3 | 45.3 | 48.6 |
| Gas | 40.8 | 43.9 | 47.2 | 49.3 | 52.6 |
| TOTAL | 77.1 | 83.0 | 89.5 | 94.7 | 101.1 |

Expanded Portfolio Plan

| Commodity | 2026 | 2027 | 2028 | 2029 | 2030 |
|-----------|------|------|-------|-------|-------|
| Electric | 36.2 | 41.4 | 47.5 | 56.4 | 67.6 |
| Gas | 40.8 | 46.4 | 52.9 | 60.5 | 69.3 |
| TOTAL | 77.1 | 87.9 | 100.5 | 116.8 | 137.0 |