Synapse
Energy Economics, Inc.

Making Energy More Affordable in New York

Prepared for NRDC and Evergreen Collaborative

March 2026

Pat Knight, Shelley Kwok, Elise Ashley, Aidan Glaser Schoff, Sophie Schadler, Selma Sharaf, Angela Zeng, and Alice Napoleon

Making Energy More Affordable in New York

Energy is becoming increasingly expensive.

Policy solutions can provide savings.

Statewide

As a result of policy solutions deployable in the next four years, we estimate that residential customers with both electric and gas could save at least $341 a year by 2030. Other savings include:

- Downstate electric and gas: $431 in 2030, or $1,108 over four years
- Upstate electric and gas: $341 in 2030, or $494 over four years

These policy solutions include requiring data centers to bring their own new, clean energy; expanding initiatives and incentives for customer-owned power; and more.

Upstate

Electric Savings

- Require data centers to bring their own new, clean energy
- Expand deployment of customer-owned power
- Reduce the return on equity allotted to utilities

Gas Savings

- Reduce the return on equity allotted to utilities

Downstate

Electric Savings

- Require data centers to bring their own new, clean energy
- Expand deployment of customer-owned power
- Reduce the return on equity allotted to utilities

Gas Savings

- Reduce leak-prone pipe replacements
- Avoid large fossil investments
- Reduce the return on equity allotted to utilities

Other Customer Savings

- LIPA customer savings from EE & electrification amortization / **LIPA Customers only**
- Savings for electric resistance customers switching to heat pumps / **Only electric customers**
- Savings for low-income customers from equity-focused efficiency programs / **Only low-income customers**

Note: "Energy consumers" are residential households who both use electricity and heat with gas. "Downstate" consumers are those in New York Independent System Operator zones G-K (roughly all areas south of the Catskills), while "Upstate" consumers are all other consumers. "LIPA" is Long Island Power Authority.

Making Energy More Affordable in New York

Energy is becoming increasingly expensive.

Policy solutions can provide savings.

Other savings

Some customers could save even more:

- LIPA customers could save an additional $27 in 2030, as a result of policies that finance energy efficiency consistent with other New York utilities.
- Customers who switch away from costly electric resistance heating systems to efficient heat pumps could save over $2,200 per year.
- Low-income customers could save an additional $16-$628 per year.

Upstate

Electric Savings

- Require data centers to bring their own new, clean energy
- Expand deployment of customer-owned power
- Reduce the return on equity allotted to utilities

Gas Savings

- Reduce the return on equity allotted to utilities

Downstate

Electric Savings

- Require data centers to bring their own new, clean energy
- Expand deployment of customer-owned power
- Reduce the return on equity allotted to utilities

Gas Savings

- Reduce leak-prone pipe replacements
- Avoid large fossil investments
- Reduce the return on equity allotted to utilities

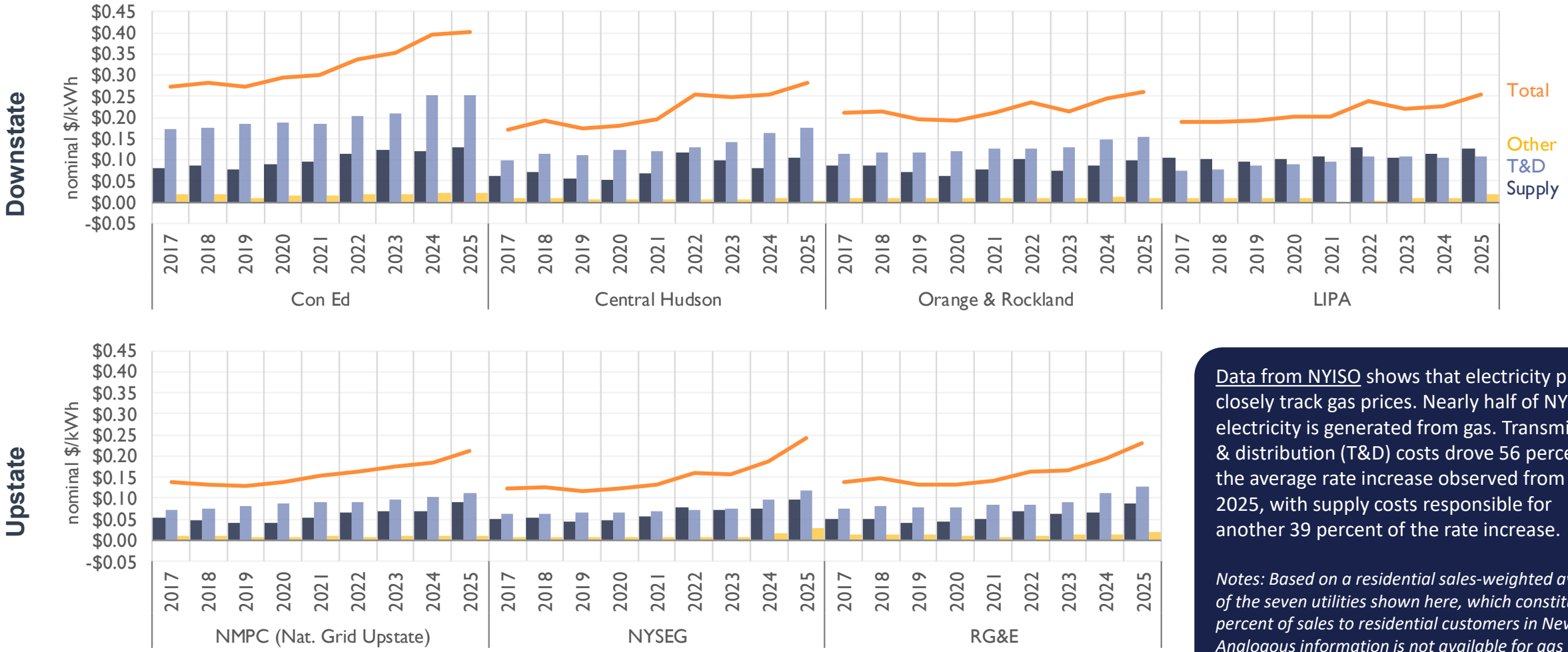
Other Customer Savings

- LIPA customer savings from EE & electrification amortization / **LIPA Customers only**
- Savings for electric resistance customers switching to heat pumps / **Only electric customers**
- Savings for low-income customers from equity-focused efficiency programs / **Only low-income customers**

Note: "Energy consumers" are residential households who both use electricity and heat with gas. "Downstate" consumers are those in New York Independent System Operator zones G-K (roughly all areas south of the Catskills), while "Upstate" consumers are all other consumers. "LIPA" is Long Island Power Authority.

Electricity Rates Have Increased

Average annual residential electricity rates, nominal $/kWh



Data from NYISO shows that electricity prices closely track gas prices. Nearly half of NY's electricity is generated from gas. Transmission & distribution (T&D) costs drove 56 percent of the average rate increase observed from 2017-2025, with supply costs responsible for another 39 percent of the rate increase.

Notes: Based on a residential sales-weighted average of the seven utilities shown here, which constitute 97 percent of sales to residential customers in New York. Analogous information is not available for gas utilities.

Detailed results: Statewide Energy Bill Savings

	Location and/or customer type	2027	2028	2029	2030	Four-Year Cumulative
Electric savings, all residential customers						
Require data centers to bring their own new, clean energy	Downstate	*n/a*	*n/a*	*n/a*	$126	$126
	Upstate	*n/a*	*n/a*	*n/a*	$217	$217
Expand initiatives and incentives for customer-owned power	Downstate	*n/a*	*n/a*	*n/a*	$36	$36
	Upstate	*n/a*	*n/a*	*n/a*	$54	$54
Reduce electric utility return-on-equity (ROE) by 1 percentage point	Downstate	$33	$36	$43	$51	$162
	Upstate	$28	$30	$39	$45	$142
Gas savings, all residential customers						
Reduce gas utility ROE by 1 percentage point	Downstate	$45	$47	$55	$62	$209
	Upstate	$17	$18	$22	$25	$81
Reduce leak-prone pipe replacements	Downstate (ConED and KEDNY only)	$43	$51	$60	$69	$224
Avoid large fossil investments	Downstate (KEDNY and KEDLI only)	$89	$88	$88	$87	$351
Total Downstate		**$209**	**$222**	**$246**	**$431**	**$1,108**
Total Upstate		**$45**	**$48**	**$61**	**$341**	**$494**

Assumptions:

- *Totals assume a customer that is both a gas customer and an electric customer, and illustrate the highest value possible for a consumer.*
- *Savings estimated from data centers bringing their own new, clean energy result from lower energy prices paid by all customers. These savings begin in 2030, as we expect minimal data center additions in the years leading up to that date.*
- *Savings estimated from increased deployment of customer-owned energy include both energy price reductions and avoided costs of capacity, transmission, and distribution. These savings begin in 2030.*
- *Savings estimated from increased deployment of customer-owned energy are gross savings; all customer-owned energy deployed for a cost lower than shown here will yield net benefits to consumers.*
- *Energy price savings from increased deployment of customer-owned energy are incremental to the energy price savings estimated from data centers bringing their own new, clean energy.*
- *Savings from return on equity adjustments, reduced leak-prone pipe investments, and avoiding large fossil investments start in 2027, illustrating a hypothetical where policy interventions are made as soon as possible.*

Detailed results: Additional Energy Bill Savings Available to Some Customers

	Location and/or customer type	2027	2028	2029	2030	Four-Year Cumulative
Other savings for subsets of residential customers						
Amortize energy efficiency and electrification programs	LIPA customers only	*n/a*	$35	$31	$27	$94
Encourage electric resistance customers to switch to heat pumps	Statewide; electric resistance customers only	$2,214	$2,214	$2,214	$2,214	$8,855
Expand investment in equity-focused efficiency programs, including EmPower+ and Weatherization Assistance Program (WAP)	Statewide; EmPower+ electric participants only	$16	$16	$16	$16	$62
	Statewide; EmPower+ delivered fuels participants only	$613	$613	$613	$613	$2,451
	Statewide; WAP gas participants only	$593	$593	$593	$593	$2,372

Assumptions:

- *Each of these savings categories accrue to only a subset of customers, and are not available to all residential customers statewide.*
- *Savings to LIPA customers begin in 2028, assuming that is the earliest this change could be implemented. We note that the savings associated with this policy decrease over time.*
- *Savings associated with electric resistance customers switching to heat pumps are operational only. This does not include costs associated with equipment replacement.*
- *Additional savings associated with EmPower+ and WAP are paid for by taxpayers.*
- *Electric resistance to heat pump switching, EmPower+, and WAP savings start in 2027, illustrating a hypothetical where policy interventions are made as soon as possible. Savings for each of these categories make the simplifying assumption that rates are constant into the future, and do not account for rate impacts resulting from other modeled policies.*

Require data centers to bring their own new, clean energy

Per-household savings: up to $217

Data center loads are poised to increase electricity demand by **27 terawatt-hours** (TWh) by 2030, an amount of load roughly equal to Brooklyn and Queens. Absent similar supply additions, prices are poised to increase for consumers. Requiring data centers to bring their own new, clean energy, thus avoiding energy price impacts, yields 2030 savings of **$126 per household** for downstate customers and **$217 per household** for upstate customers.

- **Approach:** To assess the energy bill impacts of data center loads, we modeled two scenarios:
  1. Business-as-usual (BAU): Load forecast with increased large loads (based on NYISO queue) and base levels of customer-owned power and clean energy
  2. Bring-your-own new, clean energy: Same inputs as BAU, except all incremental load from data centers is removed to simulate bringing their own new, clean energy
- **Methods:** We rely on a Synapse-developed model which estimates energy prices given systemwide loads, based on historical observed relationships between these data points. The model is run for each hour, for each scenario. We compare the energy price changes in each of the two scenarios and multiply these dollar-per-MWh differences by the non-data center load to estimate dollar impacts to non-data center customers. We then repeat this process across 20+ weather years to understand how savings vary in different load conditions.

  We do not estimate savings related to avoiding data center energy consumption; we only estimate savings related to data center impacts on energy *prices*. We do not estimate impacts resulting from lower capacity prices, cost savings from avoiding transmission and distribution investments, or cost changes resulting from additional load placing downward pressure on transmission and distribution rates.

  These savings are relative to a baseline in which limited new electricity supply comes online.
- **Results:** Upstate energy cost savings are larger because upstate consumers use more electricity on a per-household basis.

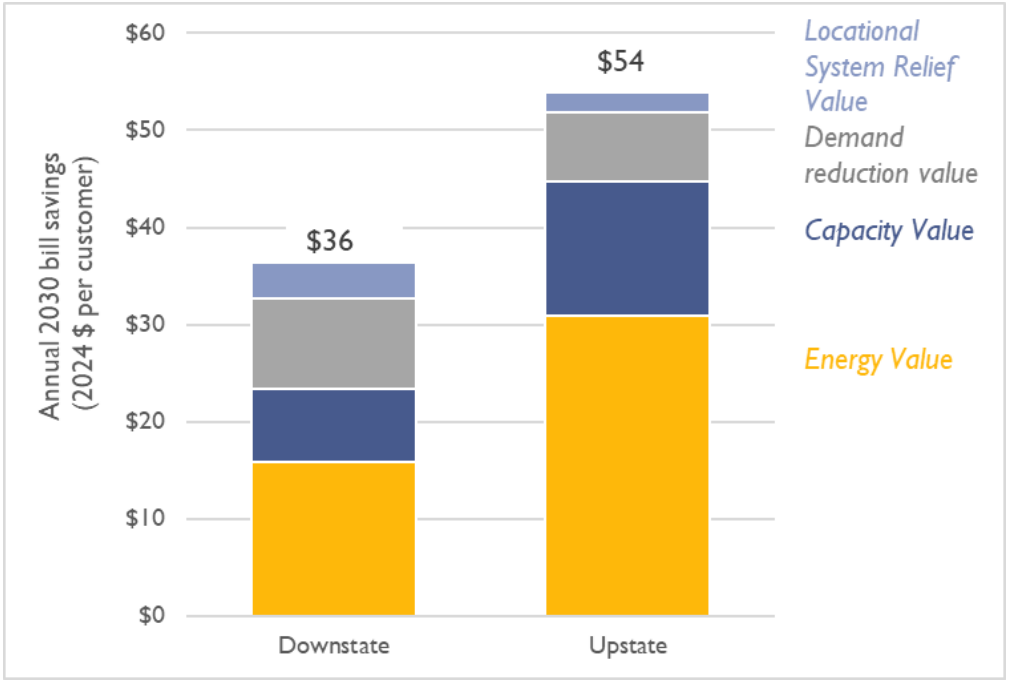
Expand initiatives and incentives for customer-owned power

Per-household savings: up to $54

Installing additional customer-owned power will reduce load and lower energy prices for all customers. Deploying more customer-owned power yields 2030 savings of **$36 per household** for downstate residential customers and **$54 per household** for upstate residential customers.

- **Approach:** In this analysis, we define customer-owned power to include traditional energy efficiency measures, switching from electric resistance to heat pumps, distributed solar, distributed storage, and demand response. Installing additional customer-owned power will reduce load and lower energy prices for all customers. Customer-owned power also reduces the need for firm capacity and avoids investments in the transmission and distribution system.
- **Methods:** We use the model described on the previous slide to estimate the impacts of changes in load on wholesale energy prices and avoided energy. All energy savings in this policy are described as incremental to the "Bring-your-own new, clean energy" scenario. We use New York's VDER Calculator to estimate the benefits of avoided capacity and T&D investments. All savings are gross savings and do not include program costs; resources modeled here will still yield customer savings as long as program costs are lower than estimated savings. Our analysis does not account for changes to retail revenue and resulting impacts on bills. Savings from additional customer-owned energy deployment are likely possible before 2030, although those have not been calculated. See Appendix for more on methods.
- **Results:** Upstate energy cost savings per customer are greater because they are spread across a smaller number of customers, and because we assume more of these resources to be sited upstate (based on Open NY data). Downstate customer benefits are largely driven by increased amounts of demand response. Upstate customer benefits are primarily driven by increased energy efficiency.

Figure 1. Residential bill savings from increased customer-owned power



Note: Energy benefits are calculated incremental to those accruing from data center data centers bringing their own new, clean energy (energy benefits would be roughly 2X what is shown here, if these measures were performed absent data centers bringing their own new, clean energy). All other benefits are shown as incremental to a business-as-usual case.

Lower Utility Return-on-Equity (ROE)

Per-household savings: up to $97

Utility pre-tax ROEs will impose costs of **$616 per year** on residential gas and electric customers in New York in 2027. For example, lowering post-tax ROEs by 1 percentage point could save a customer **$66 per year in 2027, and $97 per year in 2030**.

- **Background:** Utilities in New York have an opportunity to earn a Return on Equity (ROE) for every dollar spent on utility infrastructure. Typical post-tax ROEs in New York are around 9.5 percent. Recent policy proposals in New York have sought to decrease utility ROEs, producing savings to New York ratepayers. The one percentage point reduction to 8.5 percent is illustrative and is not related to the exact cost of capital for each utility.
- **Methods:** For each electric and gas utility in New York, we examined the most recent New York PSC-approved rate base, equity ratio, and ROE to determine how much of a return all ratepayers currently pay, and how that return would decrease if ROE were lower. We escalated revenue and rate base by the rate base compound annual growth rate (CAGR) from the multi-year rate plan (MYRP). The ROE reduction policy reduces ROE in 2027 and every year thereafter. In the policy case, we reduced incremental rate base growth after the ROE reduction occurred (Dunkel Werner, Jarvis 2025). We allocated savings based on revenue responsibility for the residential class. Savings are compared to the total bill, and representative of heating customers for gas.
- **Results:** Table 1 summarizes the annual residential bill impacts by utility. Savings tend to be larger for utilities that have higher delivery bills and a larger amount of total rate base per customer, exemplified by the downstate gas utilities. Note that the estimated values scale linearly; a two-percentage-point reduction would yield two times the savings estimated here.

Table 1. Residential savings achievable by reducing ROE by 1 percentage point (2024 $ per year, percent reductions of bills)

		2027		2030	
Electric	*Orange & Rockland*	$31	*-1.9%*	$61	*-2.7%*
	Central Hudson	$33	*-1.6%*	$41	*-1.8%*
	RG&E	$29	*-1.9%*	$40	*-2.3%*
	NYSEG	$29	*-1.7%*	$50	*-2.3%*
	NMPC (Nat. Grid Upstate)	$27	*-1.6%*	$44	*-2.1%*
	Con Ed	$33	*-1.5%*	$51	*-1.9%*
	Average	$30	*-1.7%*	$48	*-2.1%*
Gas	*Orange & Rockland*	$35	*-1.7%*	$56	*-2.2%*
	Central Hudson	$41	*-1.5%*	$52	*-1.7%*
	RG&E	$14	*-0.9%*	$20	*-1.1%*
	NYSEG	$17	*-0.9%*	$24	*-1.1%*
	National Fuel	$15	*-1.3%*	$19	*-1.6%*
	NMPC (Nat. Grid Upstate)	$21	*-1.6%*	$33	*-2.0%*
	Keyspan (Nat. Grid Down)	$46	*-1.8%*	$71	*-2.3%*
	Brooklyn Union (NG Down)	$33	*-1.1%*	$51	*-1.5%*
	Con Ed	$61	*-2.1%*	$73	*-2.3%*
	Average	$35	*-1.5%*	$50	*-1.8%*

Note: Averages are weighted based on the number of residential customers, ordered by number of residential customers.

Reduce Leak-Prone Pipe Replacement

Per-household savings: up to $94

Avoiding half of the planned 700 miles of leak-prone gas main replacement in New York City could save residential gas customers between **$165 and $301 over the next four years**.

- **Background:** Gas utilities across New York are rapidly replacing nearly 7,000 miles of aging gas mains that remain in the state. Pipes made of cast iron and unprotected steel, and some pre-1970 pipelines, are aging and prone to leakage; the utilities call these leak-prone pipe (LPP) due to concerns about safety and emissions. The four major gas utilities that possess 97 percent of the state's LPP plan to replace all LPP in the next two decades, costing ratepayers $150 billion in aggregate over the next century. There are other, potentially more cost-effective, options for addressing LPP besides replacement including pipe repair, relining, and non-pipeline alternatives (NPAs) such as electrification.

Table 2. Residential gas customer annual bill savings from avoided leak-prone pipe replacement

Company	2027	2028	2029	2030
Con Edison	$57	$69	$81	$94
Brooklyn Union (National Grid)	$32	$38	$44	$51

- **Methods:** We calculated annual bill savings from avoiding 50 percent of NYC leak-prone pipe replacement by implementing alternative solutions including relining (for 20 percent of the pipe) and NPAs (for 30 percent of the pipe). We used values for the revenue requirements of total LPP replacement from a 2023 Synapse analysis. We then calculated a new revenue requirement for a scenario with 50 percent replacement, 20 percent relining, and 30 percent NPAs using pipe relining cost data from vendor literature and NPA cost data (dollars per foot of pipe abandoned) from Con Edison's NPA program which covers all upfront costs to electrify customer space heating. We used the average residential cost allocation from four NY utilities' recent gas rate cases to calculate the residential share of revenue requirement, and we then used EIA-176 residential sales and customer count data to determine bill impacts. We calculated residential savings as the difference between the all-replacement scenario and the replacement with alternatives scenario.
- **Detailed results:** Table 2 shows annual residential bill savings for ConEd and Brooklyn Union gas customers from partially avoided leak-prone pipe replacement.

Avoid New Gas System Investments

Per-household savings: up to $89

Investing in the Northeastern Supply Enhancement (NESE) gas transmission pipeline to expand gas capacity could cost National Grid downstate residential gas customers an additional **$85 to $89 per year** through 2030 and beyond.

- **Background:** In 2025, National Grid requested the Commission's approval to support the construction of a new major gas transmission pipeline (NESE). National Grid claims that the pipeline will resolve reliability concerns and put downward pressure on electric rates. National Grid proposes to recover the costs of NESE and associated infrastructure upgrades entirely through its downstate gas ratepayers, resulting in a $7.50 monthly bill increase for residential customers (based on 2025 values).

Table 3. Residential gas heating customer annual bill impacts from NESE pipeline

	2027	2028	2029	2030
National Grid – KEDNY	$89	$88	$87	$87
National Grid – KEDLI	$87	$87	$86	$85

- **Methods:** National Grid calculates NESE rate and bill impacts for 2025. We used National Grid's calculations to project bill impacts into the future using the utilities' projected sales and customer counts. This method assumes that the customer class cost allocations remain the same in the future. These calculations do not account for changes to gas commodity costs due to increased supply.
- **Results:** Table 3 shows annual bill increases from NESE for National Grid downstate residential gas heating customers from 2027-2030. NESE costs will make up ~3.5 percent of residential customers' average monthly bills, based on 2025 bills.

Modernize LIPA cost recovery rules for energy efficiency and electrification

Per-household savings: up to $18

Aligning LIPA cost recovery for energy efficiency and electrification programs with statewide best practices could save electric customers on Long Island **$18 per year** over the next 10 years and deferring cost recovery to the future.

- **Background:** When recovering costs for energy efficiency and electrification programs, all utilities in New York except LIPA amortize costs over a period of time. Meanwhile, in LIPA's service territory, customers pay for these programs entirely up front. This misaligns costs with savings (which accrue over many years). Financing these costs and spreading them out over time will reduce costs to customers over the next 10 years.
- **Methods:** We assume that LIPA's most recently filed plans continue at the same level for the next 10 years. These plans total $86 million (in 2024 dollars), with $73 million assumed to be allocated to the residential sector. We compare two scenarios: in Scenario A, we assume that LIPA front-loads the costs of these programs, per business as usual. In Scenario B, we assume that starting in 2027, these costs are financed over a 15-year period at a 4 percent interest rate (consistent with other New York and regional utilities). This reduces the cost of each year's residential program to $7 million per year.
- **Results:** Savings are highest in the first year, leading to residential bill savings of over $35 per year for each of the 1 million residential customers in LIPA's service territory. Savings continue at a diminished rate over the next 10 years as more and more programs are financed. From 2027 to 2036, average monthly bill savings for residential customers total $18 per year.

Replace Electric Resistance Heating with Heat Pumps

Per-household savings: up to $2,214

Switching customers with electric resistance primary heating to heat pumps ("Switch to Save") could save residential electric customers who install heat pumps **$2,214 per year in heating operation cost savings**.*

- **Background:** More than one in 10 of the roughly 7.5 million single-family and multifamily households in New York rely on electric resistance heating. Replacing these systems with heat pumps would guarantee lower electric heating bills for these customers.
- **Methods:** We use Synapse's Hourly Energy Assessment Tool (HEAT) to estimate energy and CO_2 savings separately for single-family and multifamily households for each climate zone in New York, averaging results for 10 years of weather data (2011-2020). We assume standard-efficiency heat pump performance, and typical New York housing characteristics from NREL's ResStock database. We calculate bill impacts by multiplying energy savings results by weighted average 2024 incremental electric rates for Con Edison and National Grid, with fixed charges removed. Finally, we apply de-rating factors to estimate achievable potential savings from the technical potential results, based on factors derived from NYSERDA's 2023 EE and Electrification Potential Study.
- **Results:** Table 4 shows Switch to Save average annual per-customer impacts for single-family and multifamily heating customers who currently rely on electric resistance heating. Under an implementation plan beginning in 2026, Switch to Save could serve nearly 100,000 households by 2030, or 13 percent of all households currently relying on electric resistance heating (Table 5). This translates to $220 million per year in heating operating cost savings, and a reduction in winter peak demand by 405 MW, helping to defer a change to a winter heating system and freeing up grid capacity.

** $2,214 is the weighted average of single family and multifamily per-household average annual heating operational cost savings.*

Table 4. Residential heating customer impacts from Switch to Save

	Per-household annual average		
	Single Family	Multifamily	Weighted Avg
Heating energy savings (kWh)	17,266	9,087	10,517
Winter peak demand reduction (kW)	6.52	3.56	4.07
Heating operating cost savings ($)	$3,634	$1,913	$2,214
CO_2 savings (metric tons)	8.21	4.32	5.00

Table 5. Total statewide annual potential savings from Switch to Save

	Technical Potential	Achievable Potential	
		2026	2030
Number of households	772,000	31,523	99,349
Heating energy savings (TWh)	8.1	0.3	1.0
Winter peak demand reduction (MW)	3,146	128	405
Heating operating cost savings ($B)	$1.71	$0.07	$0.22
CO_2 savings (million metric tons)	3.86	0.16	0.50

Note: We assume that systemwide peak demand in the winter is coincident with the peak hour for electric heating load.

Expand Efficiency Programs for Low-Income Consumers

Help an additional 23,300 New Yorkers

Investing an additional $250 million in EmPower+ and the Weatherization Assistance Program (WAP) could allow these programs to reach an **additional 23,300 low- and moderate-income (LMI) New Yorkers**.

- **Background:** EmPower+ supports LMI households in one- to four-unit residential buildings with energy efficiency and electrification upgrades, including weatherization, air sealing, and heat pump equipment for heating and hot water. The NYS WAP program assists households with incomes at or below 60 percent of the state median income, reducing heating and cooling costs through weatherization measures, and addressing health and safety issues.
- **Methods:** We relied on the most recently available EmPower+ and WAP state plans (2026-2030 LMI EE/BE State Plan, WAP PY2025 State Plan) to estimate average expected electric, gas and delivered fuels per-household energy savings. We used average New York retail rates to convert these savings estimates into annual bill impacts. We also used these reports to derive average program investment per participant, to ultimately estimate the number of participants that could be served with additional funding for each program.
- **Results:** These programs expect to save customers $26-$628 per year. Investing an additional $200 million in EmPower+ could allow the program to serve an additional 18,300 households, with average bill savings of $16 per year in electric bill savings and $613 per year in delivered fuel savings ($628* total). Investing an additional $50 million in WAP could allow the program to serve an additional 5,000 gas households, each expected to save $593 per year on average.

** Numbers do not sum due to rounding.*

Table 6. Average per-household savings from LMI EE programs

	EmPower+ (electric)	EmPower+ (delivered fuels)	WAP (gas)
Annual energy savings	73.9 kWh	19.2 MMBtu	29.3 MMBtu
Annual bill savings	$16	$613	$593
Program cost invested per participant	$9,450		$8,331
Additional program funding proposed	$200 million		$50 million
Participants served by additional funding	18,308		4,973

Notes: Costs invested per participant reflect program costs only, and exclude non-program costs. We assume 10 percent of any additional EmPower+ funds and 15 percent of additional WAP funds are reserved for non-program costs (e.g., admin, EM&V, etc.), in line with the latest program plans.

Contact us

Pat Knight, Senior Principal
pknight@synapse-energy.com | 617.453.7051

Appendix

Additional Assumptions

2030 Resource quantity assumptions for energy regression model

		BAU		Bring-your-own new, clean energy		More Customer-Owned Power	
		Quantity	*Source*	*Quantity*	*Source*	*Quantity*	*Source*
Data centers bringing their own new, clean energy	*TWh*	-	-	27.4	Data center subset of large load forecast based on NYISO interconnection queue, assuming 41% success rate and 86% load factor	27.4	Same as Bring-your-own new, clean energy
Distributed solar	*GW*	11.0	Based on 2025 Gold Book	11.0	Same as BAU	13.5	Interpolating proposed 20 GW by 2035 target (SB S6570A)
Distributed storage	*GW*	1.0	Based on 2025 Gold Book	1.0	Same as BAU	2.0	NY 2030 Energy Storage Goal (retail and residential)
Energy efficiency	*TWh*	11.6	Based on 2025 Gold Book	11.6	Same as BAU	13.9	NYSERDA Potential Study (Scenario 2), Synapse electric resistance to HP research
Demand response	*GW*	1.3	Brattle's New York Grid Flexibility Potential Report – 2024 levels	1.3	Same as BAU	2.9	Brattle's New York Grid Flexibility Potential Report – 2030 potential
Other resources expected to come online between 2026 and 2030 – present in all scenarios							
Large-scale solar	*GW*	4.6	Based on Open NY NYSERDA dataset ("Large-scale Renewable Projects Reported by NYSERDA: Beginning 2004")	*Same as BAU*			
Large-scale storage	*GW*	3.0	NY 2030 Energy Storage Goal (bulk)				
Onshore wind	*GW*	1.8	Based on Open NY NYSERDA dataset				
Offshore wind	*GW*	1.7	Based on Open NY NYSERDA dataset (Sunrise Wind, Empire Wind 1)				
Hydro	*TWh*	10.4	Champlain Hudson Power Express				

Note that these resource quantities are based on a Clean Energy Standard (CES) complying with the quantity of 2030 load projected in the 2025 Gold Book. They do not consider additional clean energy needed to address the CES for additional modeled large load.

Additional Assumptions

Summary of avoided cost methodologies

Benefit	Source/Methodology
Avoided energy costs + wholesale energy market price impact	Synapse regression model
Avoided capacity cost	VDER Calculator 3.2, using 36-month average data
Avoided transmission and distribution cost	VDER Calculator 3.2, using updated LSRV and DRV estimates per Staff proposal on LSRV and DRV from December 2025

Note that the customer-owned power quantities modeled in the VDER calculator are estimated based on the quantities of customer-owned power sited at residential locations. All customer-owned power (including that sited at commercial and industrial locations) was used to estimate energy price impacts.

Summary of avoided energy cost modeling tasks

Modeling task	Assumptions
Load forecast	Based on NYISO's 2025 Gold Book load forecast, which includes electric vehicles and building electrification. For large loads, we use the NYISO large load interconnection queue, assuming a 41% success rate (adapted from NYISO) and 86% load factor (from E3). We model 2030 at an hourly level over 23 weather years to reflect varying weather and load conditions.
Capacity factors	From PowerGEM Strategic Energy & Risk Valuation Model (SERVM) database.
Electricity price regression	We perform regression analyses using historical data from 2022 to 2025 to estimate electricity prices in the region based on electricity demand, gas prices, and Regional Greenhouse Gas Initiative (RGGI) prices. We conduct this analysis for each month of the year, for "on-peak" and "off-peak" periods. We use historical loads and weather data from the SERVM database and historical loads and electricity prices from NYISO. For gas prices, we use historical data and short-term futures from Natural Gas Intelligence and the long-term price forecast from the U.S. Energy Information Administration's 2025 Annual Energy Outlook. We use variation in daily heating degree days to translate monthly gas prices to hourly values. RGGI prices are from RGGI, Inc. (forecasted prices from Case B Policy scenario).
Storage dispatch	Daily charging and discharging profiles for each month are based on our analysis of electricity prices with only solar. We align charging hours with solar generation profiles to capture the benefits of solar's zero variable cost and assume a percentage breakdown of paired vs. standalone solar and storage based on data from NYSERDA. We assume average storage duration of 4 hours. For other parameters, we adopt defaults from EPA's AVoided Emissions and geneRation Tool (AVERT): lithium-ion batteries with 80% depth of discharge, 85% round-trip efficiency, and 150 maximum allowable discharge cycles per year (on the 150 highest load days).
Bill impacts	We estimate the number of upstate/downstate residential customers in 2030 by scaling U.S. Energy Information Administration Form 861 by the conventional load forecast. We assume the retail price is equal to the wholesale price / [(1-TD) x (1-WRP)], where the transmission and distribution losses (TD) are 9% and the wholesale risk premiums (WRP) are 8%. These rates are based on the *Avoided Energy Supply Components (AESC) in New England 2024 Report* assumptions.