BUILDINGENERGY NYC

Decarbonization for Co-ops: NYC's First C-PACE Financing Case Study

Pierre Castillon, 304 West 89th Street Co-op
Will Kalbacker, Steven Winter Associates
Michele Pitale, Counterpointe SRE

Curated by Sunitha Sarveswaran & Karen Yao

Northeast Sustainable Energy Association (NESEA) | October 15, 2026

Presenters

Pierre Castillon

Project Overview

- 304 West 89th Street Co-op President since 2023 (shareholder since 2019)
- Technology Risk Oversight Director in banking industry

Will Kalbacker

Energy Audit

- Building Systems Director at Steven Winter Associates
- Leads decarbonization and implementation support services

Michele Pitale, M.D.

C-PACE Financing

- Head of Commercial Property Assessed Clean Energy (C-PACE) group at Counterpointe Sustainable Real Estate (SRE)

Decarbonizing 304 West 89th Street

Pierre Castillon (304 West 89th Street Co-op President) and Will Kalbacker (Building Systems Director at SWA)

Agenda

- Overview of the building
- Engineering engagement and project timeline
- Energy audit and decarbonization roadmap
- Estimated costs
- Board decision
- Schematic design
- Financing
- Construction timeline and costs

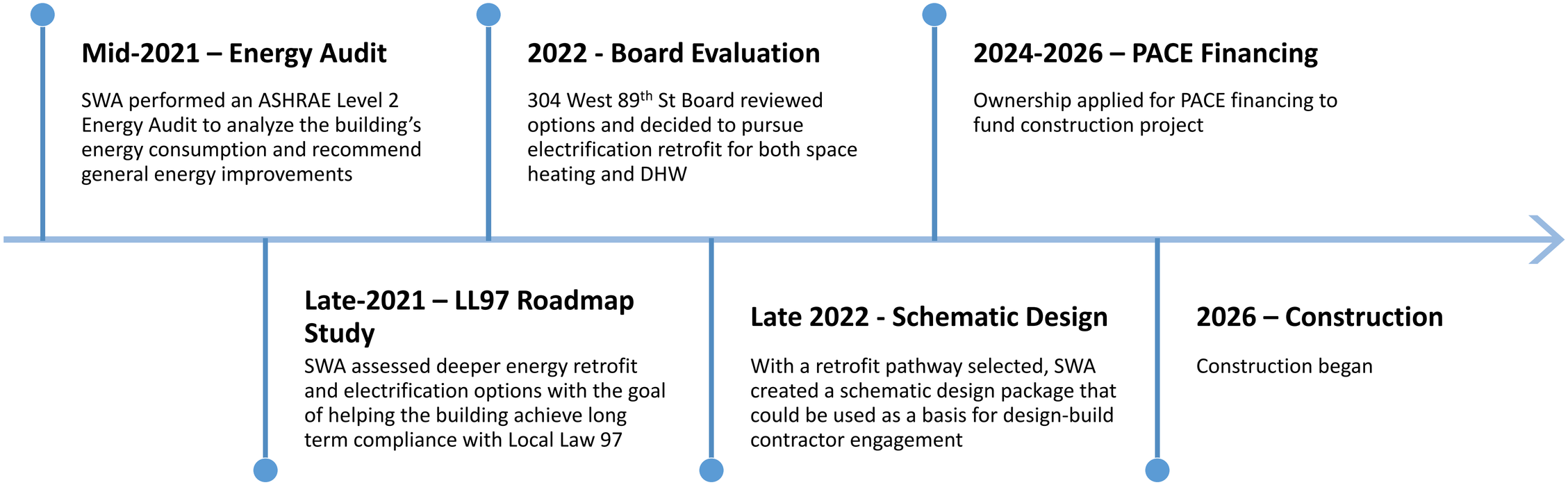
Overview of 304 West 89th Street

- Built in 1923
- In a historic district
- 36 units across 9 stories + roof and basement
- Boiler installed in 1988 for 1-pipe steam and domestic hot water
- Heating system repair costs continually increasing
- #4 to #2 oil switch in 2022
- Electric panels located in each unit unable to supply any additional power
- Potential fine exposure from Local Law 97

A major strategic decision needed to be made by the board regarding the co-op's heating system. This decision would impact the building's finances, attractiveness and shareholder comfort for the next 30 years.

Engineering Engagement and Project Timeline

- In 2021, the Board contacted NYC Accelerator, who provided a preview of PACE financing and indicated that 1st step to obtain a PACE loan was to perform an energy audit
- From 2021-22, the Board engaged Steven Winter Associates to perform an energy audit, electrification feasibility study, and provide implementation support services



Energy Audit and Decarbonization Roadmap

The goal of the energy audit is to assess the building's current energy consumption, base building systems, and recommend energy conservation measures.

Major audit findings:

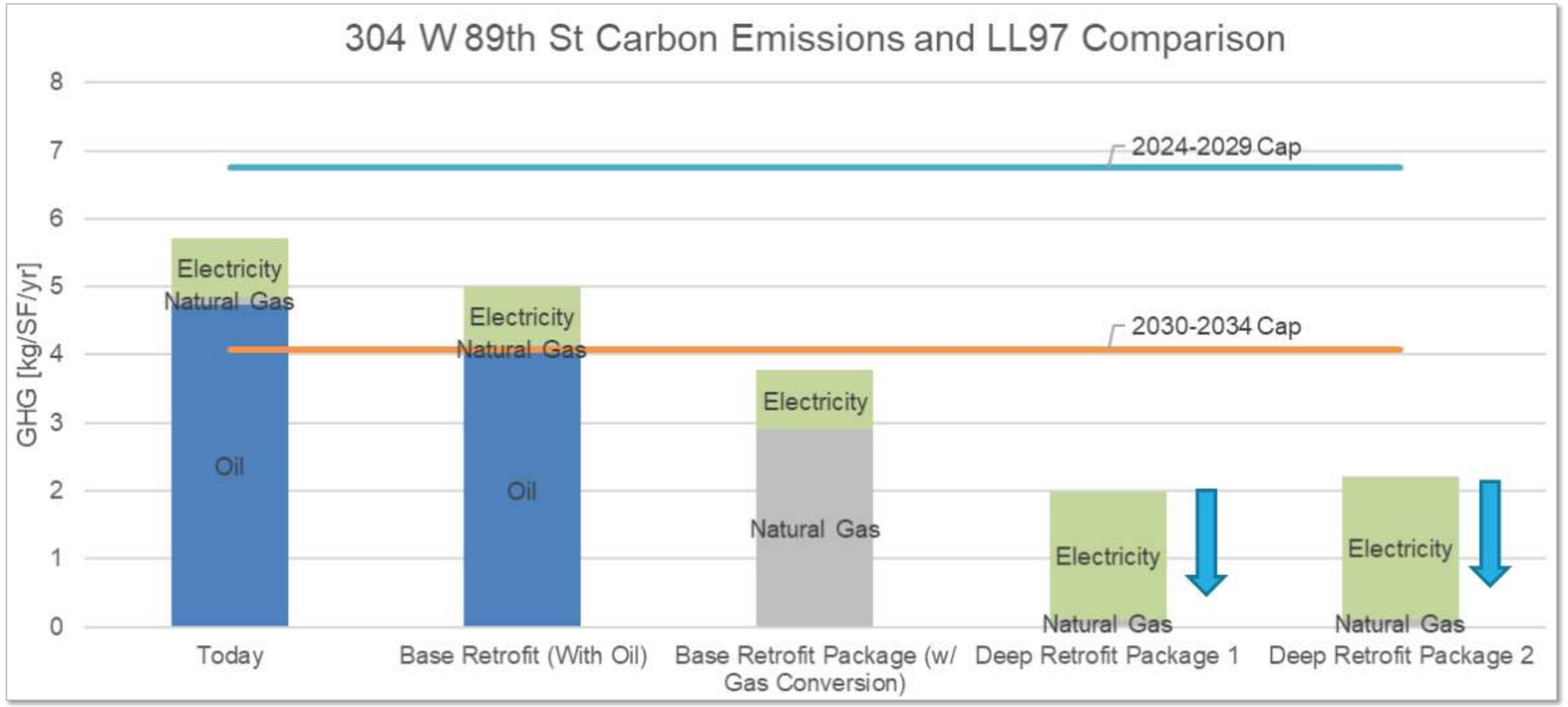
- Vast majority of overall building energy consumption attributable to space heating and DHW production
- Aging infrastructure, poor heating distribution, and resident discomfort

Highlights from recommendations:

- Roof insulation
- Steam distribution improvements
- Controls upgrade

Energy Audit and Decarbonization Roadmap

- SWA then analyzed two Deep Retrofit Packages aimed at deep energy and resident comfort improvements as well as long term LL97 compliance:
  1. Mini-split heat pumps for space heating and Heat Pump Water Heaters (HPWH) for DHW
  2. VRF heat pumps for space heating and HPWHs for DHW



Costs Estimated in 2021

Pre-incentive costs[1]. Do not include building and apt electricity upgrades and apt finishes.

Base Retrofit Package (Gas Conversion)		
New gas service installation [2]		$0
Boiler replacement		$275,000
Chimney liner		$150,000
New gas piping and pressure booster		$80,000
Gas meter and boiler room work		$20,000
TRVs, venting, and controls work		$69,895
SWA steam upgrades specification		$25,000
	Total hard costs	*$619,895*
Contingency and soft costs (35%)		$154,974
	Total	***$774,869***

Deep Retrofit Package #1 (Mini-splits) [3]		
Mini-split installation		$640,605
Domestic hot water AWHP installation		$170,828
	Total hard costs	*$811,433*
Contingency and soft cost (35%)		$284,002
	Total	***$1,095,435***

Notes:

[1] NYSERDA and ConEd incentives represent 25% of estimated project cost. NYSERDA incentives were applied towards energy audit and owner's rep services.

[2] Gas conversion costs are assumed to be zero; must be confirmed with ConEd ahead of installation

[3] Electric circuit upgrade costs are not included in this estimate. Some residents in the building have upgraded their circuits as part of apartment renovations. The cost for these services should be known to the building.

Board Decision

Considerations

- Safety (in case of switch to gas boiler)
- Long term viability
- Cost and financial impacts
- Benefits of electrification (includes cooling, reduced noise and operating costs, increased resale value, modernized building)

Board's Decision: Deep Retrofit Package #1 (Mini-splits + HPWH)

- Electrical panel upgrade to support additional load from heat pump individually for each apartment, also will allow for additional load in the future if needed
- Installation of heat pump in each bedroom and living space for zoned heating and cooling controlled by shareholder
- Heat pump water heater

Schematic Design

- After the board's decision to pursue mini-split heat pumps, SWA developed a schematic design that included heat pump selections, an electric infrastructure assessment, and service determination
- Equipment selection for a sample apartment:

Type	SF	Calculated Load	Proposed HP Outdoor Model	HP Voltage	HP MCA/Max Breaker	HP Indoor Unit Model	HP Voltage	Current Rated/Max	# of Outdoor Units	# of Indoor Units	# of Apts
Living Room & Kitchen	385	6049				ASUH07LPAS	208/230 V	0.18/ 0.23 A		1	
Bedroom	180	5031				ASUH07LPAS	208/230 V	0.18/ 0.23 A		1	
Total	565	12561	AOU18RLXFZ	208/230	19.7/ 16.4 A				1	2	9

- Electrical assessment:

SERVICE SWITCH				*BASELINE*	*SC1*
NO.	*Load*	*METER BANK*	*AMPACITY (A)*	*LOAD (A)*	*LOAD (A)*
SS#1	House (Elevators)	-	200	100	100
SS#2	House	-	200	100	100
SS#3	Residential	MB	200	232.91	202.91
SS#4	**House**	-	**600**	-	407.21

- Service from ConEd: Upgrade needed!

Financing

Not enough credit through Co-op's existing lender to pay for electrification and other planned projects. As a result, Co-op Board worked with Counterpointe SRE to pursue a PACE loan.

Existing mortgage was refinanced in Feb 2022:

- Lender: Citizens Bank
- Rate: 2.95% fixed for 10 years (6 years remaining)
- Line of credit: $500,000 at 8.5% (prime plus 1.00%)

Citizens imposed additional constraints to allow PACE Loan (to sign the consent letter):

- Reduced amount initially requested
- Imposed annual fee, audit of coop accounting, 10% budget surplus, and to escrow taxes and PACE payment with no interest paid escrow

PACE terms (closed March 26, 2026):

- 7.5% fixed over 25 years for $1M loan

Construction Timeline and Costs

Timeline:

- Oct 2023 – May 2024: Obtained quotes from Contractors
- Oct 2024: Signed contract with selected Contractor and finalized design
- Sep 2025: Onboarded Owner's Rep through NYSERDA incentive (should have hired earlier)
- Nov 2025: Finalized shareholder choices for individual design variables
- Q1 2026: Building and apt electric upgrades, heat pump installation in apts and communal space
- Q4 2026: Start all units, install piping and DHW

Project cost

- Initial 2024 contract was $1,636,840
- $60,500 change order to upgrade to R-32 equipment (resulting in $1,697,340 total cost)
- Apt finishes (e.g., drop ceiling, soffits) make up about 10% of project cost ($170,000)
- 2021 SWA estimate for HPs and DHW only (no electric upgrades or apt finishes) was $1,095,435

Commercial Property Assessed Clean Energy (C-PACE)

100% Financing of Eligible Measures enabled as LL96 (Climate Mobilization Act)

C-PACE is a Public Private Partnership

- Private capital provides financing through property taxes
- Municipality places voluntary property tax assessment on property
- Financing collected with regular local real estate taxes
- Allows commercial property owners to finance 100% of the costs of energy upgrades and repay as OPEX on property tax bill. Off balance sheet

Why C-PACE?

- 100% Financing of Projects : hard, soft and related costs of eligible construction and equipment including design, permits, and service contracts
- Property Based Financing: Non-recourse to property owner with no personal guarantees. No credit check
- Repayments can transfer to a new property owner without any restrictions - No due on sale clause.
- No financial covenants-no approvals or notifications required upon sale or refinancing of mortgage

NYC Department of Finance

Statement Details

February 18, 2023
Tga 730 Third Avenue Owner LLC
730 3rd Ave.
1-01300-0033
Page 2

Account Overview	Amount
Total amount due by April 3, 2023 if you still have a mortgage	$0.00

Billing Summary	Activity Date	Due Date	Amount
Outstanding charges including interest and payments			$0.00
Total amount due			**$0.00**

Annual Property Tax Detail

	Overall Tax Rate	Taxes
Tax class 4 - Commercial Or Industrial		
Current tax rate	10.6460%	
Estimated Market Value $227,950,000		
Billable Assessed Value	**$98,640,844**	
Taxable Value	$98,640,844 x 10.6460%	
Tax Before Abatements and STAR	$10,501,304.28	**$10,501,304.28**
Annual property tax		**$10,501,304.28**
PACE Assessment		$100,000.00
Total Property Tax		$10,601,304.28

PACE financing is repaid as an additional line item on the property tax bill NYC.

Not on bill and billed by 3rd party in New York state.

Ground Up Decarbonization

$156 million for LL97 2050 Compliance — Lt. Industrial
Film and TV Production Studio | Bklyn

Retrofit Decarbonization

$1 million for LL97 2050 Compliance — Pre-war
Cooperative owned Multifamily | NYC

How C-PACE Works

Standardized and simple tax lien contract

OWNER (Co-op Board) Signs Agreement

PACE CHARGE COLLECTION AGREEMENT

This PACE CHARGE COLLECTION AGREEMENT (this "Agreement") is made and entered into as of this 26th day of March, 2026, by and among **The City of New York,** a municipal corporation organized under the laws of the State of New York, acting by and through the Department of Finance (the "City"), the **New York City Energy Efficiency Corporation** ("NYCEEC"), a not-for-profit corporation incorporated under the laws of the State of New York, acting as Administrator and as Paying Agent, **304 W. 89th St. Owners Corp.**, a New York Corporation (the "Borrower"), and **Counterpointe Sustainable Real Estate II LLC**, a Delaware limited liability company (together with its successors and permitted assigns, the "Lender").

Majority owned by MassMutual

Recorded Notice of New Charge

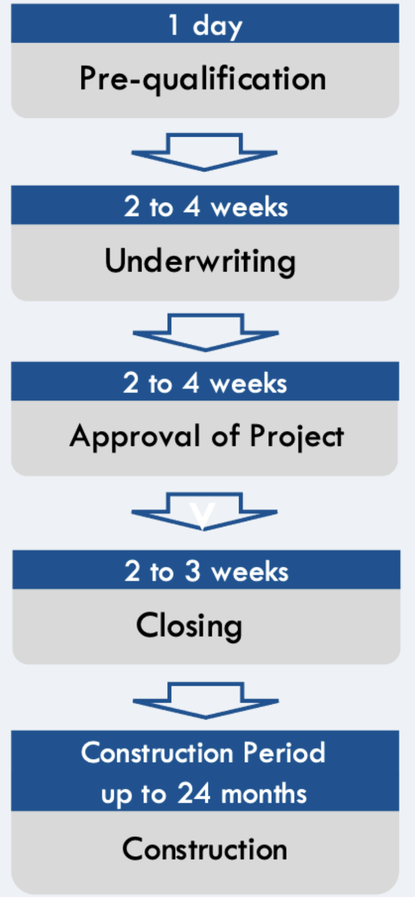
NOTICE OF NEW YORK CITY SUSTAINABLE ENERGY LOAN PROGRAM PACE OBLIGATION

NOTICE is hereby given that the real property located at Block 1250 and Lot 40 in the Borough of Manhattan, commonly referred to as 304 West 89th Street, New York, NY 10024 (the "Property"), is participating in the New York City Sustainable Energy Loan Program (the "Program"). See Gen. Mun. L. § 119-ee, et seq.; NYC Admin. Code § 11-3001, et seq. Through the Program, the Property is subject to a Property Assessed Clean Energy ("PACE") payment obligation via a charge on each of its New York City property tax bills in the semi-annual amount listed in Schedule A attached hereto. This notice, by its own terms and by the delivery and the recording hereof, is not intended, and should not be construed, to create a lien on the Property.

Payment Date	Total PACE Charge
1/1/2027	$45,628.55
7/1/2027	$45,624.99
1/1/2028	$45,621.29
7/1/2028	$45,617.45
1/1/2029	$45,613.48
7/1/2029	$45,609.35
1/1/2030	$45,605.07
7/1/2030	$45,600.63
1/1/2031	$45,596.03
7/1/2031	$45,591.25
1/1/2032	$45,586.30
7/1/2032	$45,581.16
1/1/2033	$45,575.83
7/1/2033	$45,570.30
1/1/2034	$45,564.57
7/1/2034	$45,558.62
1/1/2035	$45,552.45
7/1/2035	$45,546.05
1/1/2036	$45,539.42
7/1/2036	$45,532.53
1/1/2037	$45,525.39
7/1/2037	$45,517.98
1/1/2038	$45,510.30
7/1/2038	$45,502.33
1/1/2039	$45,494.07
7/1/2039	$45,485.49
1/1/2040	$45,476.60
7/1/2040	$45,467.37
1/1/2041	$45,457.81
7/1/2041	$45,447.88
1/1/2042	$45,437.59
7/1/2042	$45,426.91
1/1/2043	$45,415.83
7/1/2043	$45,404.35
1/1/2044	$45,392.43
7/1/2044	$45,380.07
1/1/2045	$45,367.25
7/1/2045	$45,353.95
1/1/2046	$45,340.16
7/1/2046	$45,325.85
1/1/2047	$45,311.01
7/1/2047	$45,295.62
1/1/2048	$45,279.66
7/1/2048	$45,263.10
1/1/2049	$45,245.92
7/1/2049	$45,228.10
1/1/2050	$45,209.62
7/1/2050	$45,190.45
1/1/2051	$45,170.57
7/1/2051	$45,149.25

PACE Process

	Process
1	Submit project info and address to determine eligibility
2	Collect documents for underwriting
3	CounterpointeSRE obtains all approvals for project
4	Contracts executed, assessment recorded and funded
5	Owner reimbursed for expenses
6	Disbursements wired directly to contractor



New York Underwriting and Closing Checklist

Substantially less documents required than other forms of financing

	New Construction	Existing Building
1	Appraisal & Environmental Reports	Appraisal & Environmental Reports
2	Pro forma financials and Development Budget	3 Years of verified financials
3	If applicable: lender consent and mortgage documents	If applicable: lender consent and mortgage documents
4	Organizational documents and EIN	Organizational documents and EIN
5	Executed Construction Contract(s) and draw schedule, permits	Executed Construction Contract(s) and draw schedule, permits
6	Energy report/Feasibility study	Energy report/Feasibility study
7	Technical Certification & Workbook	Technical Certification & Workbook

PACE Cost Benefit Analysis

Analysis is impact of capital projects to **Operating Budget** instead of Capital Budget

This is a cost benefit analysis of a proposed NY project
$4.77 million project with projected annual impact to OPEX as $78,708

Recommendation: Add additional measure(s) to reduce annual cost and offset $2.4MM cost of roof replacement

Energy Control Measure	ECM1	ECM2	ECM3	ECM4	ECM5	ECM6	ECM7	ECM8	ECM9	TOTALs
	Wall Insulation	Fin Tube Radiator	Ductwork and Insulation	Demand Control Vent	Roof Replacement	Window Replacement	AHU 302 Replacement	Indoor Lighing & Controls	Site Lighting & Controls	
TOTAL Cost	$108,500.00	$125,000	$125,000	$25,000	$2,400,000	$750,000	$550,000	$565,000	$125,000	$4,773,500.00
Annual Cost (PACE)	$9,000.00	$10,317.00	$10,317.00	$2,500.00	$186,000.00	$59,000.00	$43,500.00	$44,300.00	$10,317.00	$375,251.00
Est. Annual Utility Savings	$2,440.00	tbd	tbd	$4,017.00	$10,739.00	$28,422.00	$78,312.00	$129,917.00	$42,696.00	$296,543.00

Annual Cost	$78,708.00

Weighted average by cost EUL determines maximum financing term of assessment in multi-measure projects

C-PACE Eligible Projects

New Construction, Completed Projects, and Renovations are eligible

Energy Efficiency

HVAC, lighting, elevators, generators, controls and building automation systems, building envelope, windows, doors, commercial equipment, and co-generation

Renewable Energy Generation

Solar, wind, geothermal, fuel cells, RNG, and battery storage systems

Enabled by state law-waiting on NYSERDA Guidance before can be eligible

Water Conservation

Resiliency

Seismic, flood, fire, wind, stormwater

* Measures available in most states

$8.5 Million HVAC upgrades for equipment at end of EUL

TECHNICAL WORKBOOK AND CERTIFICATION

Certified and Completed by Professional who prepared the Energy Report (or Feasibility Study)

ESTIMATED ENERGY AND COST SAVINGS				
	Before Project (Baseline)	After Project	Savings	% Savings Over Baseline
Est. Annual Energy Consumption (kBtu)	3,533,067	1,210,227	2,322,839	66%
Est. Annual Energy Cost ($)	$100,131	$79,809	$20,322	20%
Projected Financial Savings				
				$ Savings
Projected Annual Savings (energy cost savings and additional financial benefits)				$20,322
Projected Annual Savings 2024-2029 (also including avoided fines under LL97)[1]				$20,322
Projected Annual Savings 2030-2034 (also including avoided fines under LL97)				$50,400
Projected Annual Savings 2035-2039 (also including avoided fines under LL97)				$57,535
Projected Annual Savings 2040-2049 (also including avoided fines under LL97)				$64,506

[1] **C-PACE ADMIN**: Emissions coefficients past the 2030-2034 compliance period will be determined by the City at a later date. Penalties for 2035 and beyond are estimated based on values the City has already published for the prior compliance period and are highly variable and likely to change.

NYC ACCELERATOR PACE FINANCING

Please fill out all applicable fields as indicated (white). Grey cells are locked.

					2024 - 2029		2030 - 2034		2035-2039[1]		2040 - 2049[1]	
Fuel Type	**Unit**	**Annual Consumption** *Baseline*	**Utility Blended Rate** *$/unit*	**Annual Consumption** *kbtu*	**LL97 Emissions Coefficient** *tCO2e/kWh or /kbtu*	**Annual Emissions** *tCO2e*	**LL97 Emissions Coefficient**	**Annual Emissions** *tCO2e*	**LL97 Emissions Coefficient**	**Annual Emissions** *tCO2e*	**LL97 Emissions Coefficient**	**Annual Emissions** *tCO2e*
Electricity	kWh	121,477	$0.230	414,497	0.000288962	35.10	0.000145000	17.61	0.000145000	17.61	0.000145000	17.61
Natural Gas	Therms	322	$1.24	32,200	0.000053110	1.71	0.000053110	1.71	0.000053110	1.71	0.000053110	1.71
#2 Fuel Oil	gal	22,365	$3.21	3,086,370	0.000074210	229.04	0.000074210	229.04	0.000074210	229.04	0.000074210	229.04
#4 Fuel Oil	gal			0	0.000075290	0.00	0.000075290	0.00	0.000075290	0.00	0.000075290	0.00
District Steam	Mlbs			0	0.000044930	0.00	0.000043200	0.00	0.000043200	0.00	0.000043200	0.00
Totals				**3,533,067**		**265.85**		**248.36**		**248.36**		**248.36**
Totals net of Annual Projected Savings				***1,210,227***		***101.47***		***51.77***		***51.77***		***51.77***

Is this Data Weather Normalized? (Y/N)	Yes

						Annual Proje						
						Note: renewable energy systems' electric or the						
Construction Scope Measure Type *From tab 4*	**Assigned Measure Description** *From tab 4*	**Total Cost** *From tab 4*	**Total Savings** *$/year*	**Simple Payback Period** *years*	**Electricity** *kWh*	**Natural Gas** *Therms*	**#2 Fuel Oil** *gal*	**#4 Fuel Oil** *gal*	**District Steam** *Mlbs*	**Total Projected Energy Savings** *kbtu*	**2024-2029 Projected Emissions Savings** *tCO2e*	
1 Prequalified Measure	Install air source heat pumps	$ 277,140.00	$ 2,530.33	109.5	(35,725)		3,348			340,125	24	
2 Prequalified Measure	Install air source heat pumps	$ 818,420.00	$ 8,895.73	92.0	(94,032)		9,509			991,357	70	
3 Prequalified Measure	Install air source heat pumps	$ 818,420.00	$ 8,895.73	92.0	(94,032)		9,509			991,357	70	

TECHNICAL CERTIFICATION

Date: March 12, 2026
(month, day and year)

To: The Borrower and Lender referenced in Table 1 below; the New York City Energy Efficiency Corporation (in its capacity as Administrator and in its capacity as Paying Agent); and the City of New York.

Re: Technical Review of Potential C-PACE Project.

Table 1

"Certifier"	Steven Winter Associates, Inc. *(full legal name of firm)*	**"Lender"**	Counterpointe Sustainable Real Estate II LLC *(full legal name of Lender)*
"Building"	304 West 89th Street New York, NY 10024 *(insert address)*	**"Borrower"**	304 W. 89TH ST. OWNERS CORP. *(full legal name of Building owner/ Borrower)*
Certifier certified/qualified by: William Kalbracker *(name of NYSERDA-approved "commercial PACE Certifier")*			
Weighted average useful life (estimated) of the Project improvements, measures and/or systems: 25 *(number of years)*		SIR (estimated), if applicable: N/A *(insert number)*	
Date of energy audit report: October 8, 2025 *(month, day and year)*		Date of feasibility study: October 8, 2025 *(month, day and year)*	

Lender Consent

Required from Lender to Co-op, not from Lenders to Shareholders

Sampling of Lenders that have approved C-PACE

Citizens Bank

AIG

JPMorganChase

WELLS FARGO

U.S. Department of Housing and Urban Development

Bank of America

usbank

STARWOOD PROPERTY TRUST

Prudential

citi

Northwestern Mutual

M&T Bank

Berkshire Hathaway Inc.

Deutsche Bank

BMO Harris Bank

Freddie Mac

ELLIOTT

BANK OF THE WEST
BNP PARIBAS

STERLING NATIONAL BANK

Source: PACENation

Property Eligibility

Condominiums

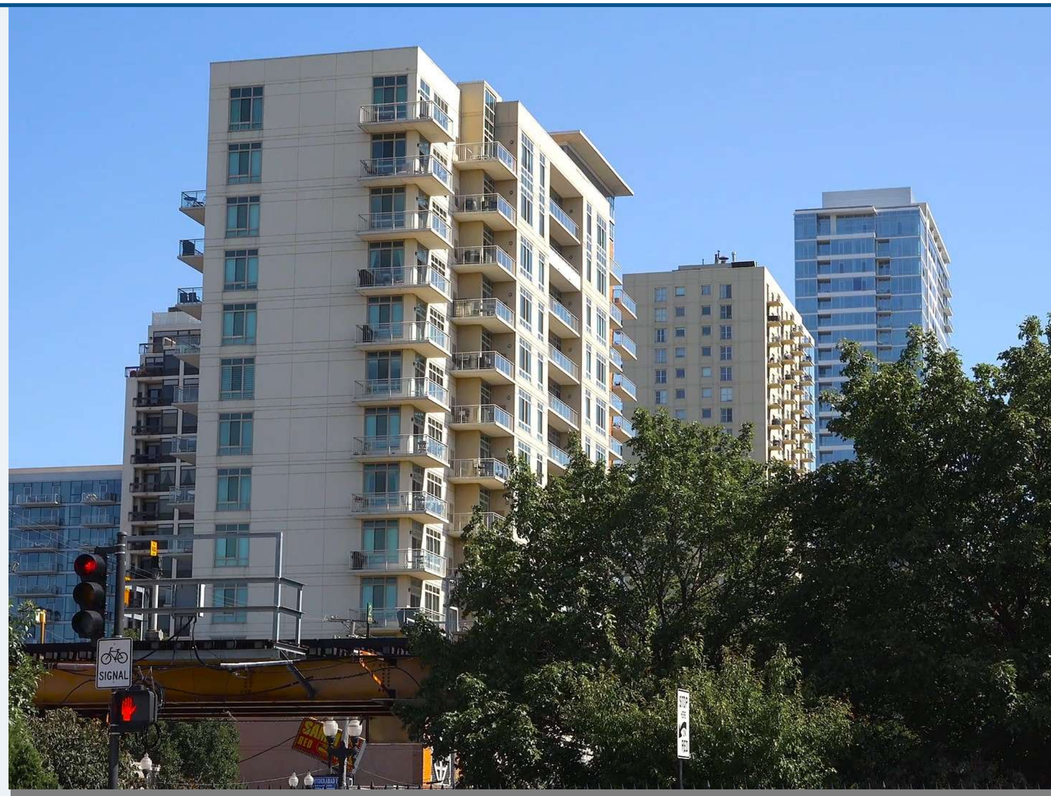
- Complicated with solutions being sought to enforce collection if HOA signs docs

Property Types

- Office
- Multifamily
- Mixed Use
- Retail
- Healthcare
- Private Schools
- Industrial
- Self-Storage
- Affordable Housing
- Others

Ownership

- Public buildings are not eligible
- Leased properties are eligible
- Not for profit owned properties are eligible
- Co-op properties are eligible
- Condominiums are not eligible unless commercially owned



All Private Commercial Properties are Eligible

For more information,
please visit our website at

www.counterpointesre.com

---

(855) 431-4400 | inquiry@counterpointesre.com

BUILDINGENERGY NYC

Please fill out an evaluation for this session

or: *nesea.org/eval*

Northeast Sustainable Energy Association (NESEA)