

Climate Mobilization Act Series:



**be
ex**

building
energy
exchange

Cutting Carbon in Co-Ops & Condos; Local Law 97 Pathways

BE-Ex, with support from NRDC, hosts a presentation and panel event to discuss successful decarbonization strategies, including energy efficiency and electrification, adopted by cooperative and condominium apartment buildings, as well as their planning to prepare for compliance with Local Law 97.

opening remarks

Gina Bocra, Chief Sustainability Officer, NYC Department of Buildings

presentations

Jaime Pereira, Senior Business Development Manager, EcoSystem Energy

William B. Xia, Director, Multifamily, NYSERDA

panelists

Jessica Tusing, Director of Compliance, Argo Management

Thomas M Ostrowski, Co-op Board President, 172 E. 4th Street

Darren Johnson, Account Manager, Bright Power

Laurie Kerr, President, LK Policy Lab

31 Chambers Street
New York, NY

May 9, 2023
9:30 to 11am

1.5 AIA
LU | HSW



• **BE-Ex: Cutting Carbon in Co-Ops & Condos**

• Case Study Presentation

• MAY 09 2023



International Tailoring Company Building

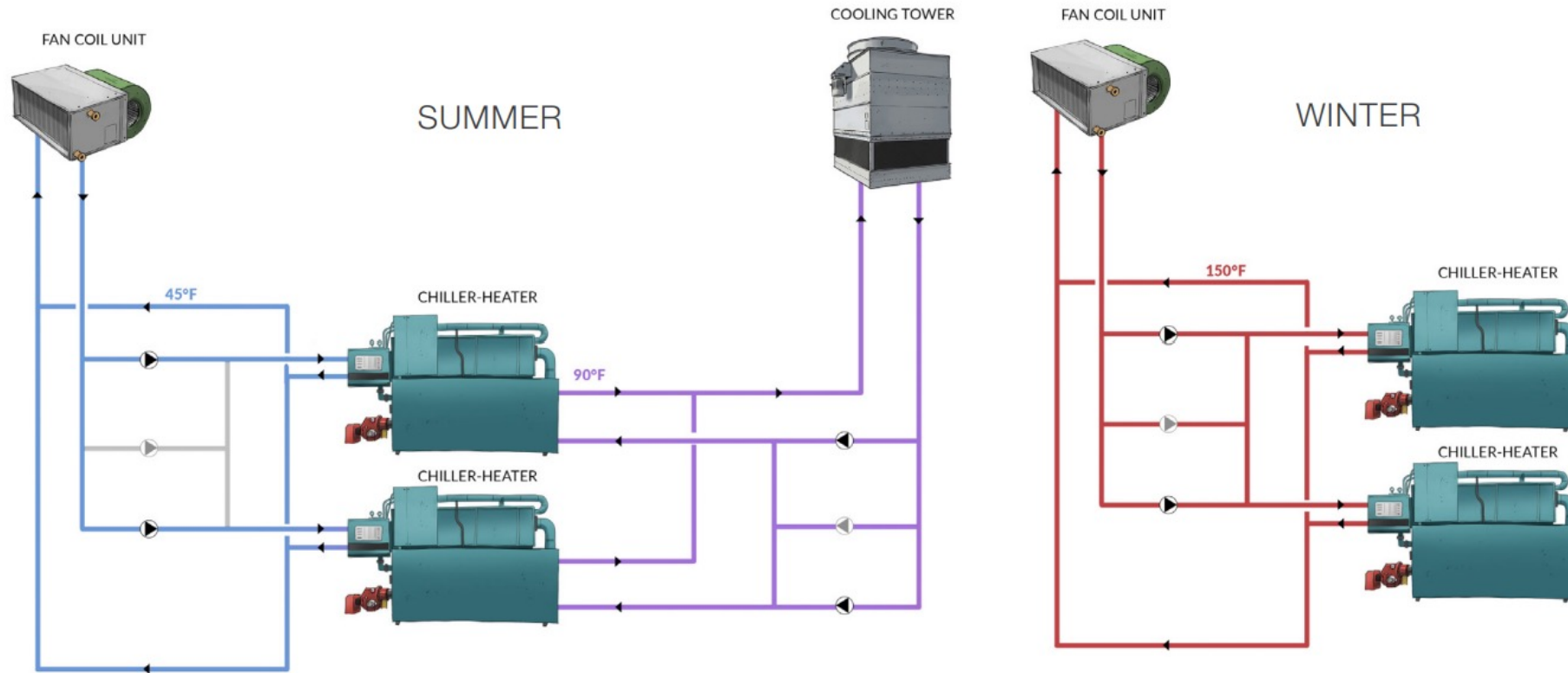
156,000 sqft, 180-unit residential building
near Union Square, Manhattan

Project Drivers

- Mechanical equipment close to end of life
- Operationally complex system
- Comfort complaints due to switchover system
- Eliminate exposure to LL97 fines



• Existing System



- ▶ Individual apartment-based fan coils units
- ▶ Two-pipe hydronic system
- ▶ Gas-fired absorption chiller/boiler combo units

• Project Design & Evolution

- We evaluated two electrification scenarios.
 - ▶ Full Electrification
 - ▶ Hybrid Electrification

• Full Electrification

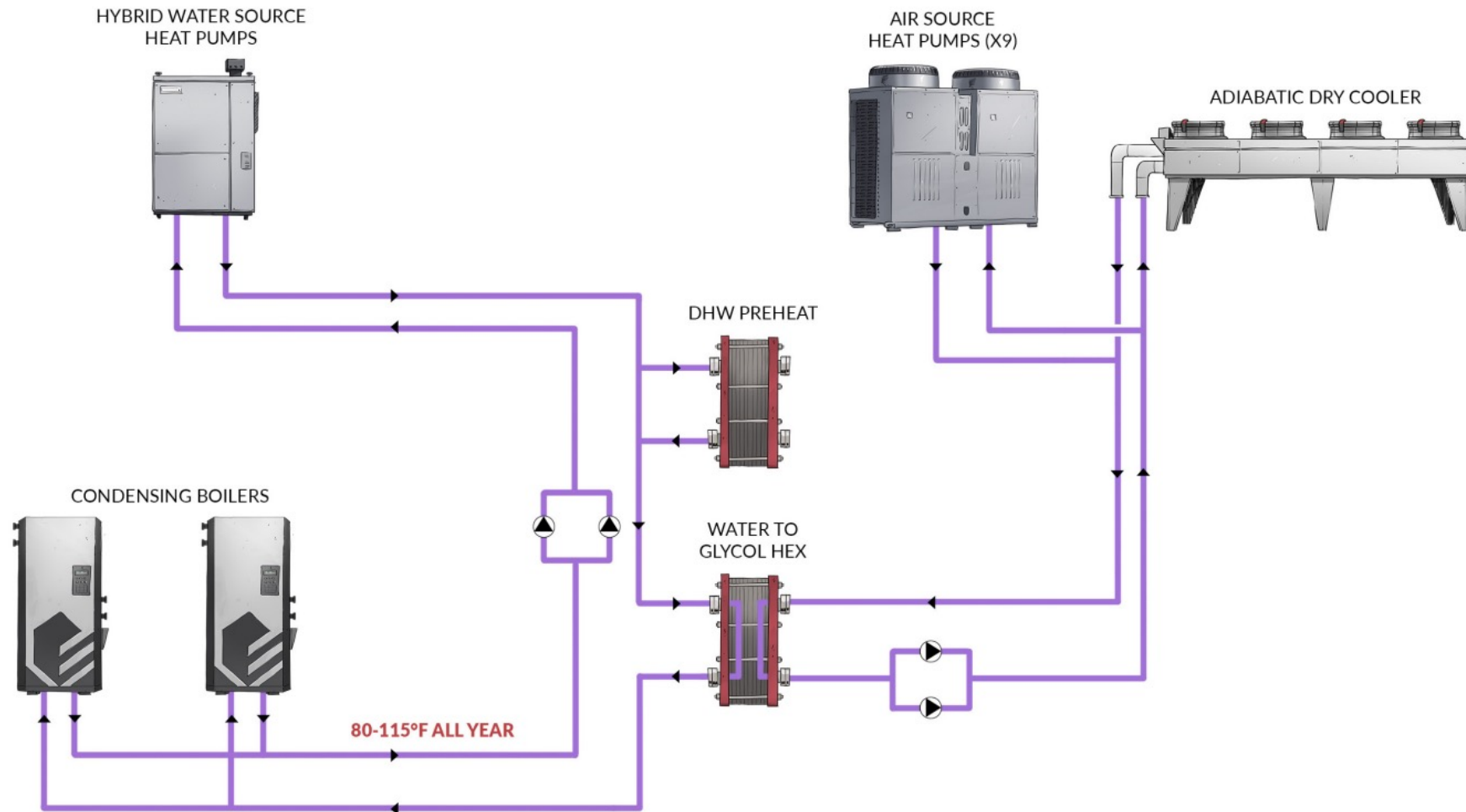
- Low-temperature fan coil terminal units with ASHPs providing heating and cooling
- Challenges
 - ▶ Significantly higher capital and operating costs
 - ▶ Electrical infrastructure of the building required upgrade
 - ▶ Physical space constraints of locating ASHPs on rooftop
 - ▶ Resiliency

• Hybrid Electrification

- Maximize GHG reduction while engineering around existing building constraints



• Hybrid System

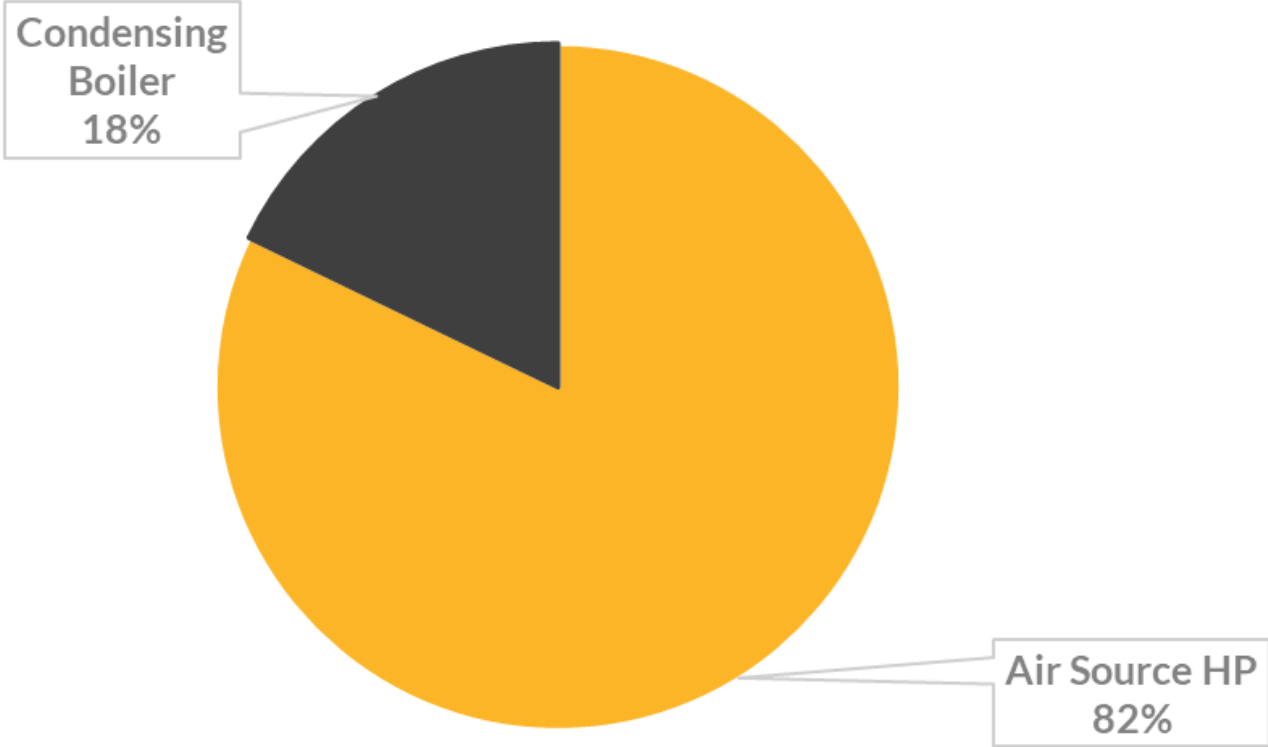


• Hybrid Electrification

- **Rooftop ASHPs + Terminal WSHPs + Condensing boilers**
- **Pros**
 - ▶ Lower capital and operating costs
 - ▶ Internal heat recovery gains
 - ▶ Existing electrical infrastructure could support system
 - ▶ Resiliency
- **Challenges**
 - ▶ Complex system design
 - ▶ In unit construction logistics

Annual Energy Breakdown

IN A 40F HYBRID SYSTEM
Annual Energy Usage



■ Air Source HP ■ Condensing Boiler

• Hybrid Electrification Summary

- There are significant constraints to retrofitting existing NYC buildings to be fully electrified.
- Hybrid Electrification can be designed within those constraints to enable buildings to significantly reduce GHG emissions
 - ▶ Technically feasible today
 - ▶ Improved economics with reduced capital costs
 - ▶ Achieves LL97 compliance

THANK YOU!

- **Jaime Pereira**
- Senior Business Development Manager
- jpereira@ecosystem-energy.com

ecosystem-energy.com

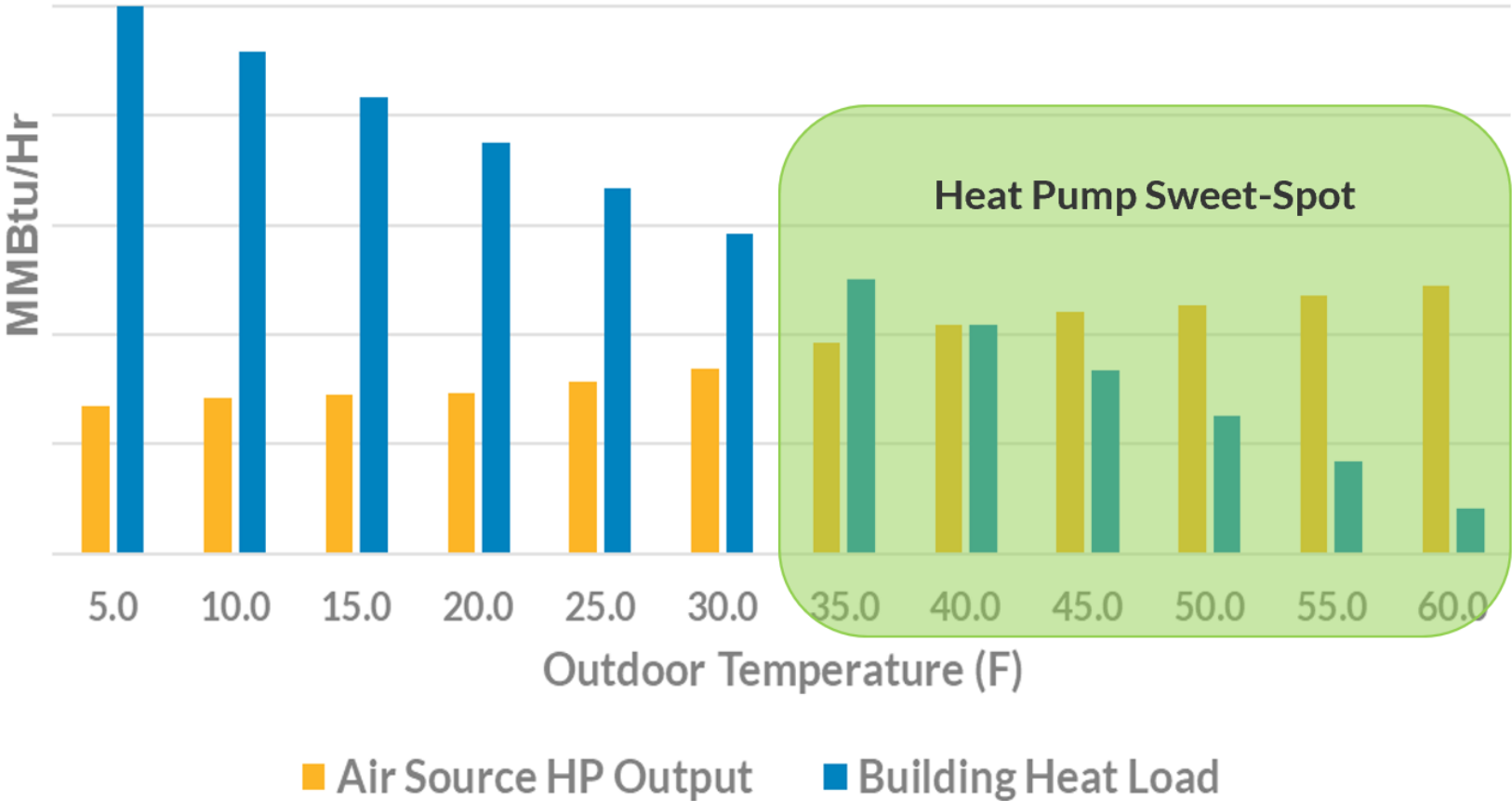
30
years



ecosystem

ASHP vs. Building Heat Load

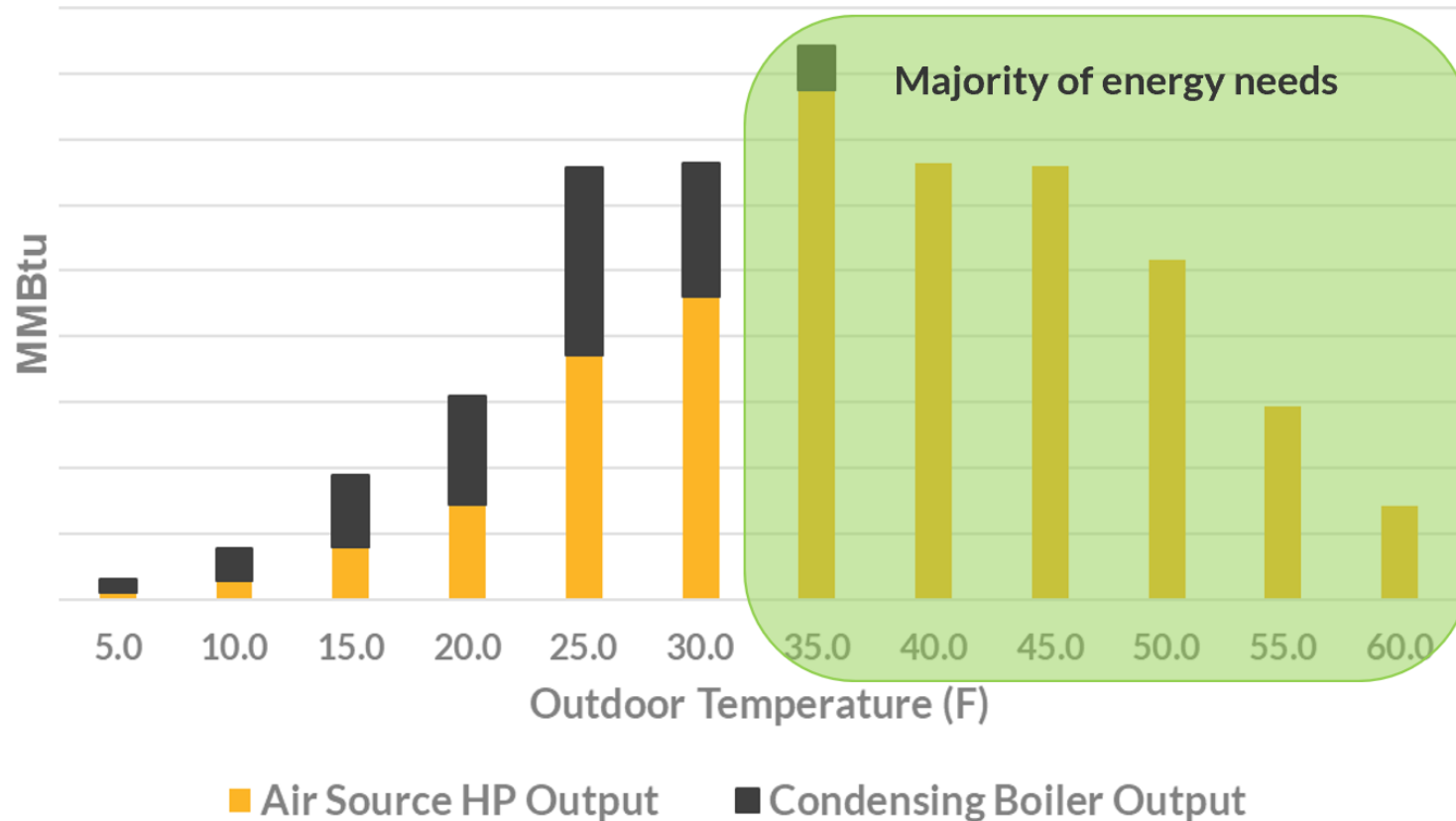
IN A 40F HYBRID SYSTEM



Annual Energy by OA Temp Bin

IN A 40F HYBRID SYSTEM

Annual Energy Usage by Temperature Bin





NYSERDA

NYSERDA decarbonization programs for co-ops and condos

May 8, 2023

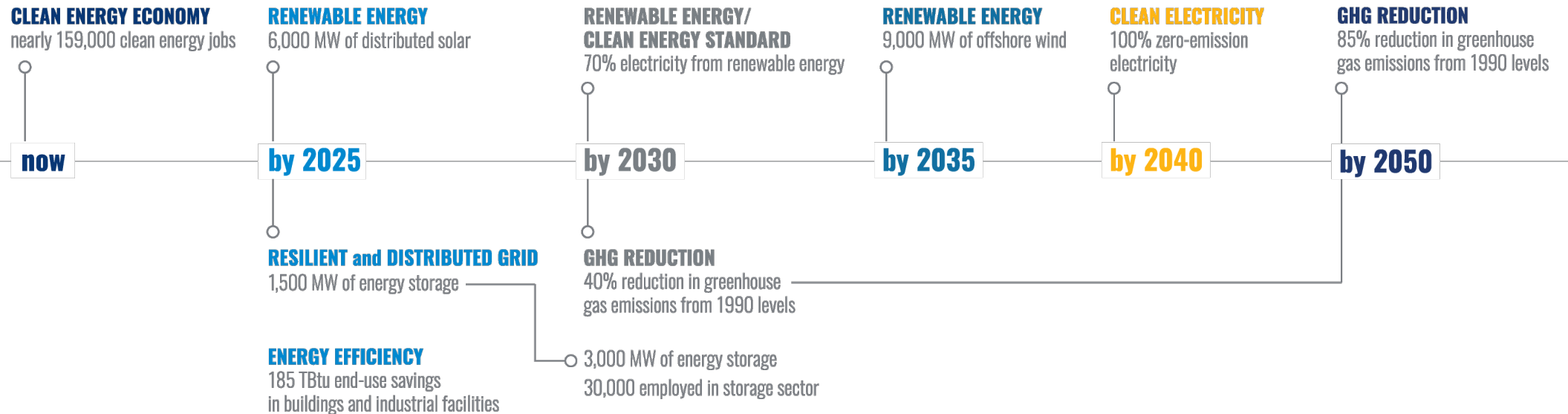


Agenda

- > **Climate Leadership and Community Protection Act (CLCPA)**
- > **Capital planning & technical assistance**
 - Flexible Technical Assistance (FlexTech)
 - Low Carbon Capital Planning Support (LCCP)
- > **Implementation assistance**
 - Low Carbon Pathways (LCP)
- > **Additional resources**

Climate Leadership and Community Protection Act

New York State's Clean Energy Goals



- > Most aggressive greenhouse gas reduction goals of any major economy:
 - > **40%** by 2030, **85%** by 2050
- > **70%** renewable energy by 2030
- > **100%** zero-emission electricity by 2040
- > Codifies clean energy targets
- > Makes commitments to environmental justice, disadvantaged communities (DACs), and just transition
- > **40%** of overall benefits of clean energy investments to DACs

NYSERDA programs for existing MF buildings

75%+ of existing buildings will still be here in 2050

General program eligibility requirements

- Pay into electric System Benefits Charge or Clean Energy Fund
- Buildings must have 5 or more dwelling units
- At least 50% of the gross heated square footage is residential space



Technical Assistance: FlexTech

- > **50% cost share** for technical assistance
- > **Funding** available through **2025** on first-come, first-served basis
- > **Providers:** Use a FlexTech Consultant OR Independent Service Provider
- > **Eligibility:** Limited to existing affordable multifamily housing
- > **75% cost share** for technical assistance when combined with utility Affordable Multifamily Energy Efficiency Program (AMEEP)
- > **Learn More:**
 - Visit [FlexTech funding opportunity page](#)
 - Questions and submit completed application to FlexTech@nyserda.ny.gov

Technical Assistance: Low Carbon Capital Planning Support (LCCP)

- > **75% cost share** for energy studies focused on [electrification](#) or [electrification-readiness](#) building improvements
- > **Identify potential benefits linked to recommended improvements:**
 - Ways to reduce utility & operating costs
 - Compliance with low carbon building regulations & avoid fines (e.g., LL97)
 - Non-Energy Benefits
- > **Services:** Portfolio-level Studies and/or Building-specific Studies
- > **Providers:** Must work with FlexTech Consultant or Multifamily Building Solutions Provider
- > **Eligibility:** Open to both affordable & market-rate buildings
- > **Learn More:**
 - Visit [Low Carbon Capital Planning Support](#)
 - Questions and submit completed application to FlexTech@nyserda.ny.gov

Implementation: Low Carbon Pathways

- > **Install one or more of up to four building system upgrade packages:**
 - Envelope
 - Ventilation
 - Heating/cooling electrification
 - DHW full or partial electrification
- > **Packages designed to be modular**
 - can implement one at a time
- > **Providers:** Must work with FlexTech Consultant or Multifamily Building Solutions Provider
- > **Eligibility:** Targeting for replication
 - Portfolio owners/managers with 10+ buildings OR
 - Owners who are active members in real estate associations (e.g. REBNY, UHAB, RHC, etc.)
- > **Learn More:** Visit [website](#) or reach out to MFLowCarbonPathways@nyserda.ny.gov

Implementation: Low Carbon Pathways – Incentive Overview

	Envelope Package		Ventilation Package		Heating & Cooling Package*		Domestic Hot Water Package
Required Measures	<p>Meet specified U-value target in program guidelines Owner to select which envelope upgrades to make to reach this goal.</p> <p>Provide code-compliant ventilation for each bathroom & kitchen OR demonstrate existing ventilation meets requirements</p>		<p>Provide balanced ventilation with heat/energy recovery to each apartment.</p>		<p>Installation of heat pump technology for in-unit heating and cooling, including:</p> <ul style="list-style-type: none"> • Variable Refrigerant Flow (VRF) • Low-temperature hydronic with • Air-to-Water Heat Pump (AWHP) • Packaged Terminal Heat Pump(PTHP) • Mini/Multi-split Air-Source HeatPump (ASHP) • Water-to-Water and Ground Source Heat Pump • Single Package Vertical Heat Pump (SPVHP) 		<p>Buildings with existing central DHW systems: Use displacement approach to provide at least 30% of annual DHW consumption usage via heat pumps.</p> <p>Buildings with existing unitized DHW systems: Provide 100% DHW load via heat pumps.</p>
Required Measure Incentives	<p>\$5,000/dwelling unit</p> <p><i>(\$3,750/dwelling unit (base incentive) + \$1,250/dwelling unit (bonus) if 1st package installed and none of the other packages have already been installed.</i></p>		<p>\$750/dwelling unit</p>		<p>\$750/dwelling unit*</p>		<p>\$700/dwelling unit* for buildings with existing central DHW systems</p> <p>\$750/dwelling unit* for buildings with existing unitized DHW systems</p>
Recommended Measure & Bonus Incentives	Air sealing	\$50/dwelling unit	Air sealing	\$50/ dwelling unit	Air sealing	\$50/dwelling unit	N/A
	Steam Heating System Upgrades	\$250/dwelling unit			Convert existing gas stoves to induction stoves	\$100/dwelling unit	

* Can be layered with NY Clean Heat incentives

How to participate

1) Talk to a provider

- a) You can access NYSERDA's network of qualified [Multifamily Building Solutions Providers](#) or [FlexTech Consultants](#)

2) Review program documentation with your provider

- ## 3) Work with your provider to submit your application to
- flextech@nyserda.ny.gov and/or MFLowCarbonPathways@nyserda.ny.gov

Additional resources

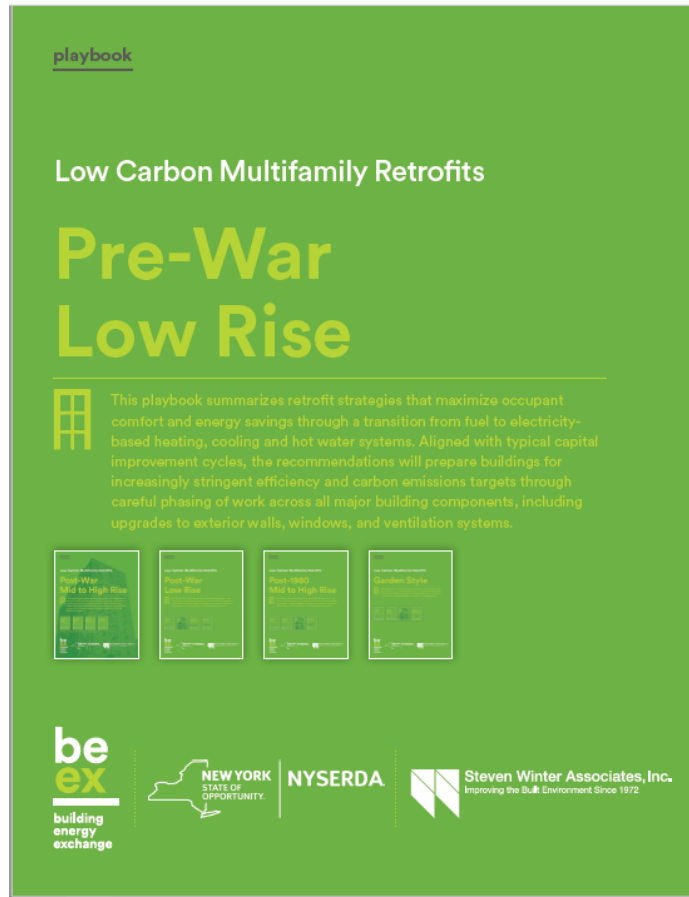
- > [Multifamily Programs Webpage](#)
- > [Energy Service Providers lists](#)

	FlexTech Consultant Network	Multifamily Building Solutions Network
Staff	PE required	CEM, CEA, PE, MFBA, RA
Experience	5 years in clean energy	5 years in multifamily
Industry	Industrial, Agriculture, Commercial, Multifamily	Multifamily
Numbers	93 Providers	59 Providers
Websites	Link	Link

Additional resources

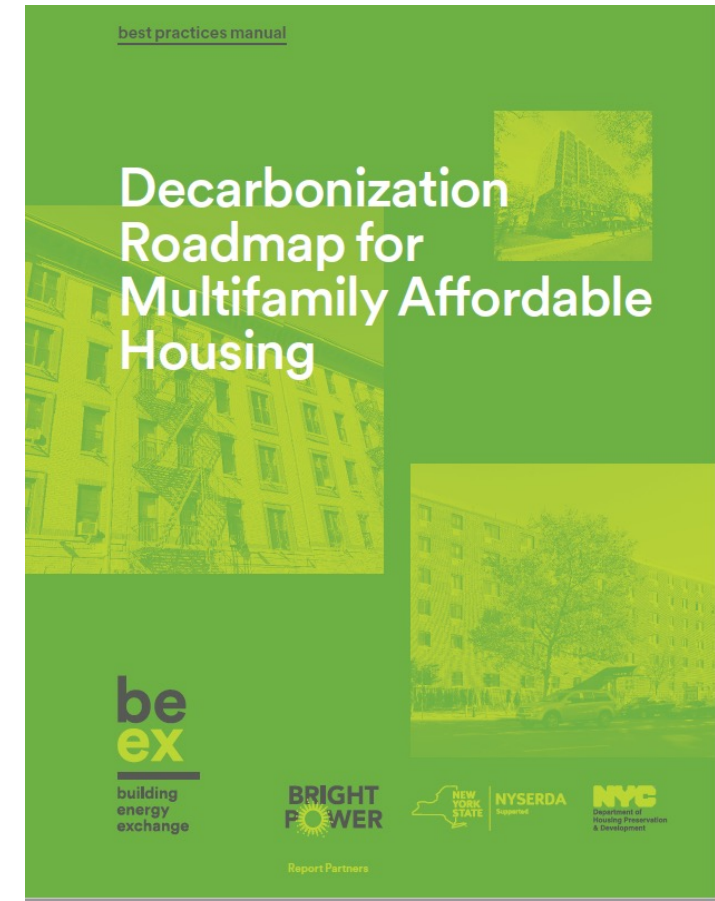
> Low Carbon Multifamily Retrofit Playbooks

- Covers most common building types in NYS
- Identify retrofit pathway for implementation over time
- <https://be-exchange.org/lowcarbonmultifamily-main/>



> Low Carbon Multifamily Retrofit Playbooks

- This manual provides a decarbonization roadmap for various affordable housing building typologies in NYC
- <https://be-exchange.org/report/hpd-1197-decarbonization-roadmap/>



Questions?

Please email
MultifamilyInfo@nyserda.ny.gov for
additional questions or reach out to:

Will Xia, William.Xia@nyserda.ny.gov

Thank you!

Program Webpage



Questions?

Climate Mobilization Act Series: Cutting Carbon in Co-Ops & Condos

Panel Discussion

Moderator

Jessica Tusing, Director of Compliance, Argo Real Estate

Panelists

Thomas M Ostrowski, Co-op Board President, 172 E. 4th Street

Darren Johnson, Account Manager, Bright Power
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Thank you
