

Provider Training: NYSERDA Multifamily Low Carbon Pathways Program

September 28, 2021

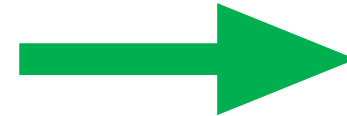


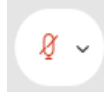
NYSERDA

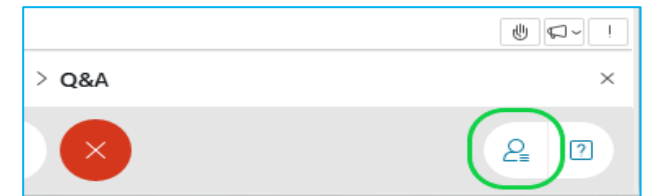
Meeting Procedures

Participation for Members of the Public:

- Members of the public are muted upon entry.
- Questions and comments may be submitted in writing through the Q&A feature at any time during the event.
- Today's materials along with a recording of the webinar will be posted online
- If technical problems arise, please contact Sal.Graven@nyserda.ny.gov



You'll see  when your microphone is muted



Objectives

- > **Help offset the incremental costs of low carbon improvements**
- > **Simplify implementation by breaking down a whole-building retrofit into smaller measure packages that:**
 - Can be implemented over time and independently of each other
 - Leverage existing building capital improvement cycles (e.g., equipment end of life & local law compliance)
- > **Remove uncertainty/risk around funding and implementation requirements by:**
 - Clearly identifying required measures and improvements within each measure package
 - Providing funding based on measure installation (rather than measure performance)

Eligibility

- > **Open to market-rate AND affordable buildings**
- > **Participants required to work with a Multifamily Building Solutions Provider or FlexTech Consultant**
- > **Eligible Participants:**
 - **Portfolio owners/property managers with 10+ buildings OR**
 - **Owners or property managers who are active members in real estate associations (e.g., UHAB, CNYC, REBNY, RSA, etc.)**

Example Scenario: Eligible Participant



- > 120-unit co-op building
- > Only one building included in the co-op
- > Has property manager who manages portfolio of 15 buildings
- ✓ **Property manager is an eligible participant because they manage 10+ buildings**

Example Scenario: Eligible Participant



- > 120-unit co-op building
- > Only one building included in the co-op
- > Has property manager who manages portfolio of 15 buildings
- > Co-op board members are active in CNYC
- ✓ Either the Property manager or the individual co-op can apply as the eligible participant.
- ✓ Property manager can still be main point of contact for day-to-day if the co-op applies individually.

What Is Incentivized?

- > **Four measure packages corresponding to major building systems**
 - Envelope
 - Ventilation
 - Heating/cooling electrification
 - DHW full or partial electrification
- > **Incentives can be stacked if more than one package is implemented**
- > **Required and Recommended Measures**
- > **Participants can choose to implement ANY package**
 - Designed to account for interactive effects, but also generally assume that an owner may only complete one package

Measure Packages and Incentives Overview

	Envelope Package		Ventilation Package		Heating & Cooling Package		Domestic Hot Water (DHW) Package
Required Measures	<p>Meet specified area weighted U-value target based on climate zone and building typology. Owner to select which envelope upgrades to make to reach this goal.</p> <p>Provide code-compliant ventilation for each bathroom and kitchen OR demonstrate existing ventilation system is operational to required specifications.⁴</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"> <input type="checkbox"/> Variable Refrigerant Flow (VRF) <input type="checkbox"/> Low-temperature hydronic with <input type="checkbox"/> Air-to-Water Heat Pump (AWHP) <input type="checkbox"/> Packaged Terminal Heat Pump (PTHP) <input type="checkbox"/> Mini/Multi-split Air-Source Heat Pump (ASHP) <input type="checkbox"/> Water-to-Water Heat and Ground Source Heat Pump 		<ul style="list-style-type: none"> <input type="checkbox"/> Buildings with existing central DHW systems: Use displacement approach to provide at least 30% of annual DHW consumption usage via heat pumps. <li style="text-align: center;">OR <input type="checkbox"/> Buildings with existing unitized DHW systems: Provide 100% DHW load via heat pumps.
Required Measure Incentives	<p>\$3,750/dwelling unit</p> <p>+ Bonus \$1,250/dwelling unit if this is first package implemented and none of the other required measure packages described in this table have been implemented⁵</p>		<p>\$750/dwelling unit</p>		<p>\$750/dwelling unit⁶</p>		<p>\$700/dwelling unit⁶ for buildings with existing central DHW systems</p> <p>\$750/dwelling unit⁶ for buildings with existing unitized DHW systems</p>
Recommended Measure and Bonus Incentives	Air sealing of repeatable penetrations	\$50/dwelling unit	Air sealing of repeatable penetrations	\$50/dwelling unit	Air sealing of repeatable penetrations	\$50/dwelling unit	
	Steam heating system upgrades	\$250/dwelling unit			Convert existing gas stoves to induction stoves	\$100/dwelling unit	

Example Scenario: Multiple Packages and Recommended Measures



- > 70-Unit Building
- > Has NOT previously implemented any of the measures in the required measure packages
- > Installs Envelope Package
 - \$3,750 per-unit – Envelope Package
 - \$1,250 per-unit – Envelope Bonus Incentive
 - \$50 per-unit – Recommended measure: Air-sealing
- > Installs Ventilation Package
 - \$750 per-unit – Ventilation Package

Total Incentive = \$406,000

In-depth: Measure Package Requirements

- > **Attachment A: Measure Package Requirement Details** contains measure details for each package. Including:
 - Required measure(s) for each package
 - E.g. must install xyz with *abc* efficiency
 - Minimum installation standards for each measure
 - E.g. must be installed in accordance with manufacturer specifications
 - Detailed required deliverables, by package and milestone

Attachment A – Envelope Example

> **Required Measure Installation:**

- **Meet specified area weighted U-value target based on climate zone and building typology.**

Building Location ¹	MF Building 1-3 Stories U-value	MF Building 4+ Stories U-value
Climate Zone 4 (A-C)	Target of ≤0.07	Target of ≤0.13
Climate Zone 5 (A-C)	Target of ≤0.06	Target of ≤0.10
Climate Zone 6 (A-B)	Target of ≤0.05	Target of ≤0.09

¹Climate zones are based on the International Energy Conservation Code (IECC). Climate zone by NYS counties can be found in Appendix A

Attachment A – Envelope Example

> Required Measure Installation:

- Provide code-compliant ventilation for each bathroom and kitchen

OR

- Demonstrate existing ventilation system is operational to the specifications indicated in the table.

Existing Ventilation	Required Measure	Operational Test Out Specifications
Central Exhaust System	Clean and seal the ductwork to 5 CFM50/register + 5 CFM50/floor leakage and provide adjustable constant airflow regulator (CAR) to provide code-compliant mechanical exhaust at each terminal.	<ul style="list-style-type: none">• 25 CFM continuous ventilation for each kitchen.• 20 CFM continuous ventilation for each bathroom.
Unitized Exhaust System	<ul style="list-style-type: none">• Provide code-compliant mechanical exhaust of 25 CFM continuous or 100 CFM intermittent ventilation for each kitchen.• Provide code-compliant 20 CFM continuous or 50 CFM intermittent ventilation for each bathroom.	<ul style="list-style-type: none">• 25 CFM continuous or 100 CFM intermittent ventilation for each kitchen.• 20 CFM continuous or 50 CFM intermittent ventilation for each bathroom.
Naturally-ventilated Bathrooms and Kitchens	<ul style="list-style-type: none">• If replacing windows, provide a unitized through-wall exhaust fan in each kitchen and bathroom to provide code-compliant mechanical ventilation.• If not replacing windows, no action required.	N/A

Attachment A – Envelope Example

> Operational Test Out Specifications

Operational Test Out Specifications

If the project chooses the operational test-out pathway for ventilation compliance, then they must follow the below protocol.

1. Central systems – Testing must follow the latest version of the Residential Energy Services Network (RESNET) sampling protocols and must include, at a minimum, the top and bottom floors served by the riser.
2. Unitized systems – Testing must follow the latest version of the RESNET sampling protocols.
3. Testing equipment must be capable of measuring within a ± 1 CFM tolerance at flow rates as low as 20 CFM (e.g., low-flow balometer, powered flow hood). Documentation of equipment to be used must be provided and approved before testing begins.
4. Notify Program staff at least two weeks prior to testing. Program staff will be in attendance when testing occurs.

Attachment A – Envelope Example

> Minimum Installation Standards

Minimum Installation Standards

Projects must meet the following program minimum installation standards:

1. System and system components must be installed in accordance with manufacturer specifications and installation requirements, and in compliance with all applicable laws, regulations, codes, licensing and permit requirements including, but not limited to, the New York State Environmental Quality Review, the Statewide Uniform Fire Prevention and Building Code and State Energy Conservation Construction Code, the National Electric Code, Fire Codes, and all applicable State, city, town ordinances or permit requirements.
2. Thermal bridging at major connections must be mitigated. Major connections include slab edges, bulkheads, rim joists, and roof-to-wall connections.
3. Exterior insulation must be continuous. Metal z-girts are not allowed.
Provide a continuous air barrier system.

Incentive Cap

- > **NYSERDA incentives will not exceed 50% of the total costs of eligible measures in an individual project OR \$1.5M in incentives across the corporate parent entity's portfolio, whichever is less.**
- > **Total project costs includes the measure costs (labor and materials) in the workscope tool.**
- > **The following are not included in the total project costs for the purposes of calculating the incentive cap:**
 - **Consulting fees**
 - **Construction management fees**

Example Scenario: Incentive Project Cap



- > Owner submits Project 1 for a calculated incentive total of \$500,000.
- > After submitting the Workscope Tool it is determined that the total eligible project costs equal \$900,000.

Project's incentive capped at \$450,000
(\$900,000*50%)

Example Scenario: Incentive Portfolio Cap



- > Owner submits Project 1 for an incentive total of \$450,000.
- > Owner submits Project 2 months later for an incentive of \$500,000.

Total Incentive Received To Date = \$950,000

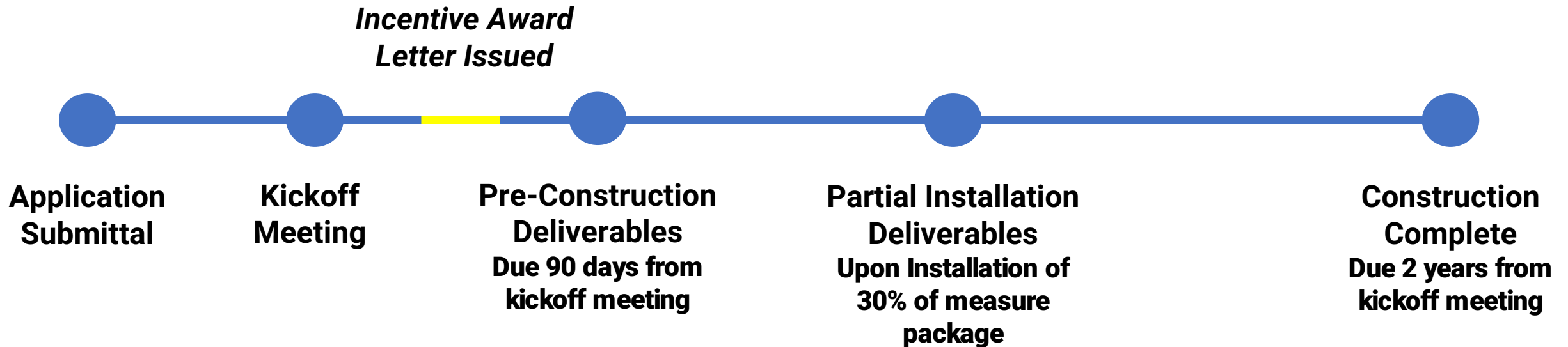
- > Owner submits Project 3 months after that. The calculated incentive would be \$750,000, but that would surpass the total cap of \$1.5M.
- > Therefore, Project 3 is capped at \$550,000 (\$1.5M - \$950,000)

Total Incentive Received After 3 Projects = \$1.5M

Incentives Payment Schedule

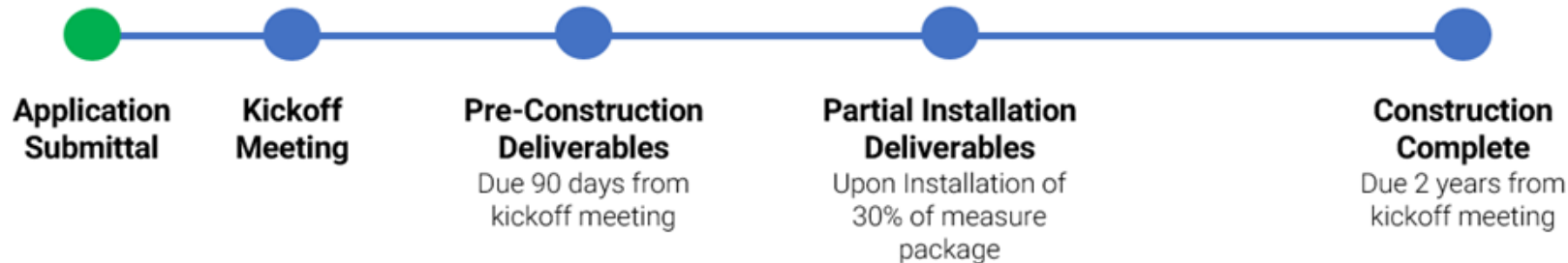
Measure Packages	Pre-Construction	Partial Installation	Construction Complete
Required Measures	10%	40%	50%
Bonus Measures	N/A	N/A	100%

Project Timeline



Application Submittal

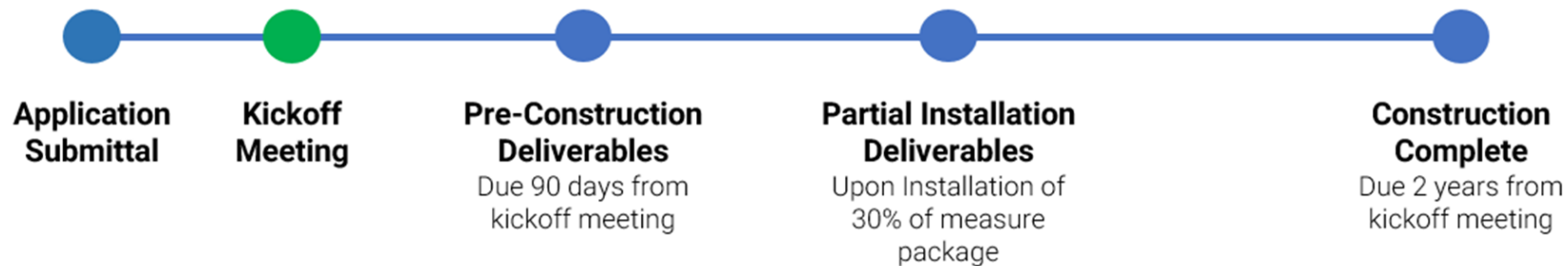
- > Review Terms & Conditions
- > Application documents are submitted via email to MFLowCarbonPathways@nyserda.ny.gov
- > Application Materials:
 - Application form
 - W-9
 - Letter of Commitment



Application Review & Approval

> Kickoff Meeting

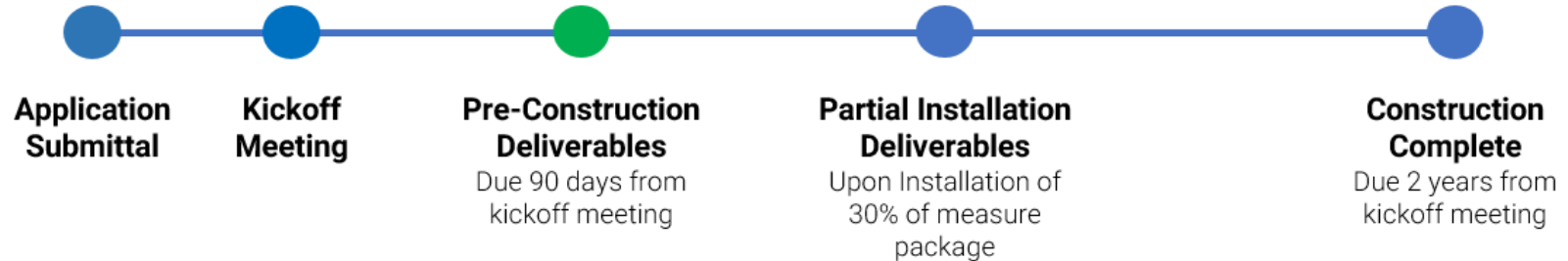
- Meeting with NYSERDA, Applicant representative, and consultant: review scope of work & portfolio information
- After the kickoff meeting, NYSERDA will confirm project eligibility and the project can proceed into pre-construction



Pre-Construction Submittal Development

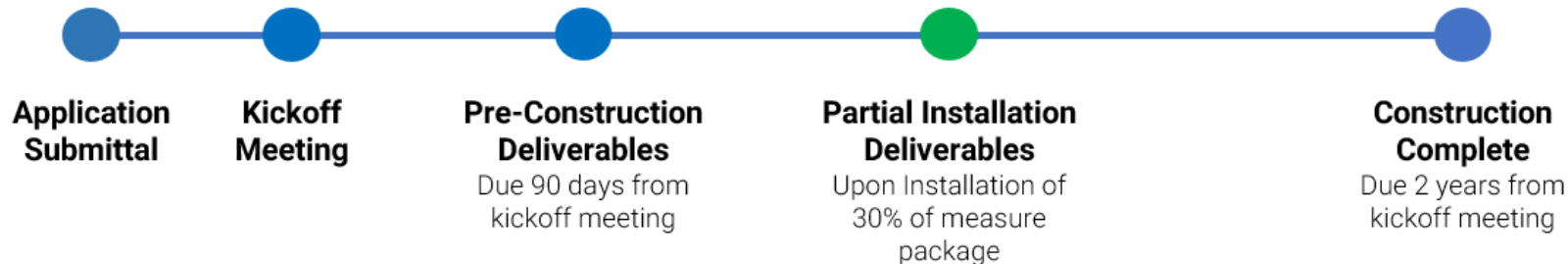
- > 10% of total incentive amount
- > The following deliverables are required at this stage:

- Resident DRAFTs
- Owner DRAFTs
- Photo template
- Tenant Survey (*pre-construction*)
- Design Documents
- Cut sheets (*not required for envelope*)
- Workscope tool



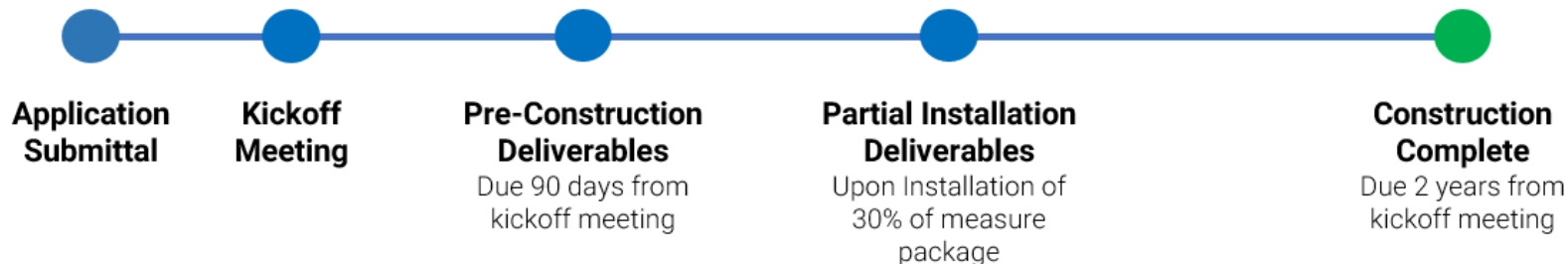
Partial Construction Payment

- > Required for Envelope Package; Optional for all other packages
- > 40% of total incentive amount
- > The following deliverables are required at this stage:
 - Updated Workscope Tool
 - Photo Template
 - Cut Sheets



Construction Completion Incentive

- > Remaining 50% of total incentive amount + 100% of bonus incentives *(if applicable)*
- > The following deliverables are required at this stage:
 - Updated workscope tool
 - Photo template
 - Cut sheets
 - Final invoices
 - Tenant Survey (construction complete)
- > NYSERDA will review the deliverables and schedule an inspection



What is the Workscope Tool?

- > Spreadsheet workbook that standardizes information, documentation, and data
- > Captures general project information, pertinent existing conditions, and workscope details
- > During construction stages, the same workbook is used to collect information on what was installed
- > Inputs are collected to ensure project meets all program minimum measure requirements
- > A single tool is completed for all buildings within the project.

Workscope Tool – Essential Tabs

- > **Each package has its own Workscope Tool** that also includes the pertinent bonus package information
- > **All Workscope Tools contain at least the following:**
 - Instructions tab – For reference
 - General Project Info tab - Completed during Pre-construction
 - Pre-const tab –Completed during Pre-construction
 - Const tab – Completed during Partial and Construction Complete
 - QC Feedback – Completed during each stage

Workscope Tool – General Project Info tab

- > Basic project information such as number of units, heating system, utility information.
- > Information is used for internal M&V and potential case studies.

commercial/retail spaces and conditioned garages)	
Gross floor area for commercial/retail spaces, if any	
Gross floor area of conditioned garage, if any	
Dwelling Units and Occupancy	
Number of studio units	
Number of 1-bedroom units	
Number of 2-bedroom units	
Number of 3-bedroom units	
Number of 4-bedroom units	
Number of 5-bedroom units	
Total number of units	0
Total number of bedrooms	0
Primary residential demographic	
Full-year average vacancy rate for most recent 12 months	
Full-year average vacancy rate for the year before last (24-12 months ago)	
Utility Information	
Electric Utility Company	
Gas Utility Company	
Other Utility (if not mentioned in list)	
Electric Metering Configuration	
Are 100% of the apartments metered for electricity as described above? If not, how many are not?	
Instructions	General Project Info
Vent Pre-const	Vent Const

Workscope Tool – Pre-const tab

- > Existing conditions of the system to be replaced
- > Proposed upgrade information to confirm compliance with Program requirements

Ventilation Pre-Construction Information								
Instructions								
Complete the blue cells as applicable.								
Ventilation Existing Cond								
Ventilation	Equipment Type	System Type	Qty.	Location of Equipment	Total CFM	Method for Total CFM Calculation	Annual Hours	C
Supply Location								
Corridors								
Apartments								
Whole Building								
(other)								
List Location								

Workscope Tool – Construction tab

- > **Aggregates information from partial and construction complete**
- > **Aligns with sampling and other Program installation guidelines**
- > **Contains section for Program staff to complete during inspection**

Building Address	Location	Equipment Type	Manufacturer	Model #
	(Apt #, Room, Floor, Space)			
Partial Installation				
Partial Installation - PROGRAM STAFF COMPLETES				

Workscope Tool – QC Feedback tab

- > Separate tabs for Pre-construction and Construction
- > Program reviewer will enter comments
- > Provider is expected to respond to comments and update tool as requested

Pre-construction QC Review Feedback Form		
Reviewer Name:		
Review Date:		
Approval Status:		
Program Approval Notes:		
	Reviewer Comments (Rev0)	Provider Comments
en submitted?		
complete and, if applicable,		
complete for all building types?		
staff be able to set a utility		
Sealing Const	Pre-const QC Feedback	Const QC Feedback

LCP Coordination with Other Programs

Planning

- Low Carbon Capital Planning
- FlexTech



Implementation

- NY-Sun
- NYS Clean Heat*
- Utility programs – for other measures
- Financing opportunities
 - Green Bank RFP 18
 - PACE
 - And other loans



O&M/M&V

- RTEM

**NYS Clean Heat category 4a incentives cannot be layered at this time.*

> Additional notes:

- With the exception of the NYS Clean Heat* program, a project shall not receive incentives for the same measures as those incentivized by LCP.

Where can I find LCP program documents?

> **Links included throughout this presentation**

> **PON 4701 Website**

- **PON 4701 - Summary**
- **Attachment A: Measure Package Requirement Details**
- **Attachment B: Low Carbon Pathways Application Form**
- **Attachment C: Letter of Commitment**
- **Attachment D: Terms and Conditions**

> **Low Carbon Pathways Program: Docs & Resources for Providers**

- **Owner and Resident DRAFTs**
- **Photo Template and Sampling Instructions**
- **Workscope tools – for all packages**

Additional Multifamily Low Carbon Retrofit Resources and Programs

**Multifamily
Low Carbon
Playbooks**

**Low Carbon
Capital Planning
Support**

**Low Carbon
Pathways for
Multifamily
Buildings**

Planning

Implementation

Where can I find more information?

> Multifamily Low Carbon Retrofit Playbooks

- More information available [here](#)

> Low Carbon Capital Planning

- More information available [here](#)

> Low Carbon Pathways for Multifamily Buildings Program

- More information available [here](#)

Questions?

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

Jesse Patterson, Jesse.Patterson@nyserda.ny.gov

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Simona Li, Simonne.Li@nyserda.ny.gov

Thank you!



NYSERDA