

A blue ballpoint pen with a silver tip is positioned diagonally on the left side of the image. The background is a light blue document with a grid and several blue bars of varying heights, resembling a bar chart. The text is centered on the right side of the image.

NYSERDA Multifamily Low Carbon Capital Planning

June 17th, 2021



NYSERDA

Agenda

- > **Low Carbon Capital Planning Studies Objectives**
- > **Program Overview**
- > **New Final Report Supplement Walkthrough**
- > **Final Meeting**
- > **Questions/Next steps**

Objectives

- > **Support building/portfolio owners in developing:**
 - Portfolio-level plans to help owners prioritize projects across their portfolio and/or
 - Building-specific plans to scope out specific projects and create implementation plans
- > **Identify ways to leverage existing capital improvement points and phase in low carbon retrofits over time**
- > **Provide a more comprehensive framework for cost-benefit analysis**
 - Incremental cost of deeper retrofits
 - Avoided costs (e.g. reduced maintenance costs, compliance with local laws, fines)
 - Additional benefits like higher resident satisfaction (e.g. through reduced noise, improved indoor air quality)

Eligibility

- > **Must meet existing FlexTech eligibility requirements**
- > **Additional Requirements:**
 - > **Studies must focus on electrification or electrification-readiness building improvement measures**
 - Transition at least one heating/cooling or DHW system to a high-performance electric technology
 - OR significantly reduce heating/cooling load that can enable future electrification (e.g. envelope improvements, ventilation improvements, building electrical infrastructure, etc.)
 - **All participants required to work with a FlexTech Consultant**

Portfolio-level vs. Building-specific Studies

Two levels of eligible analysis:

- > **Portfolio-wide planning study: ASHRAE Level 1+ or above**
 - **Plan across an entire portfolio or subset of a portfolio**
 - **Enable building decision-makers to prioritize, target, and phase energy efficiency and electrification improvements within a portfolio**
- > **Building-specific study: ASHRAE Level 2 or above**
 - **More detailed building-level plan**
 - **Identify information needed to enable building decision-makers to implement a retrofit**

Cost-Share Levels

Type	Energy Analysis	Cost-share	Cost-share Cap per project
Portfolio-level Study	ASHRAE Level 1+ or above	Up to 75% of total study cost	2% of total portfolio annual energy expenditure for the buildings in study, up to \$100k
Building-specific Study	ASHRAE Level 2 or above	Up to 75% of total study cost	10% of annual building energy expenditure of buildings in study, up to \$500k

- > Customers can do a portfolio-wide planning study AND building-specific study
- > Some pre-implementation assistance activities (e.g. RFP development, bid review) would be eligible to be included in building-specific study cost-shared scope

Application Process, SOW, and Deliverables

Application Process

- Same application process as existing FlexTech projects
 - Application
 - Scope of Work (SOW) – with the additional content
 - Kick-off/Scoping Call

Scope of Work

- Standard FlexTech SOW requirements (e.g. tasks, schedule, budget, deliverables, draft/final report, and any/all documentation that is currently required for FlexTech)
- Additional Required SOW Content:
 - Explanation of linkage to electrification
 - Required Additional Deliverables (Final Report Supplement, Final meeting)

Deliverables

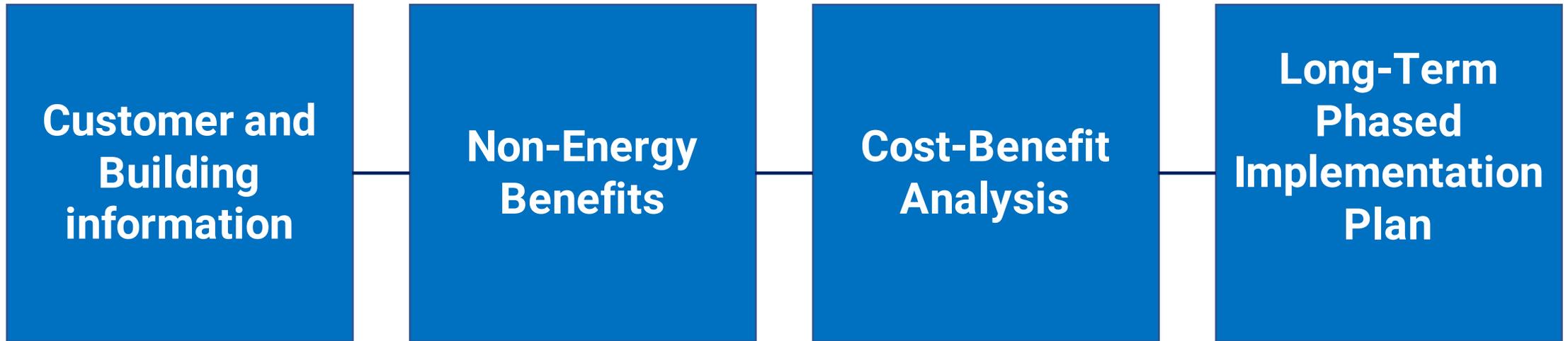
- Standard FlexTech project deliverables (e.g. final/draft report, Project Summary Sheet)
- “Final Report Supplement” spreadsheet: Draft and final versions
- Final meeting with customer, FlexTech Consultant, and NYSERDA
 - Includes presentation of study findings and discussion of next steps

Same	New

New Final Report Supplement Walkthrough

Final Report Supplement

Overview



Final Report Supplement

Final Report Supplement

Customer Portfolio

- > Provide information about the customer's entire portfolio of multifamily buildings
 - Total # of buildings in portfolio
 - Typical # of units
 - Location
 - Approximate % breakdown:
 - Coop/Condo/Rentals
 - Affordable Vs Market Rate
 - Confirm which utilities (*if any*) are included in rent
- > Customer Goals

Customer Goals	
<i>What are your top 5 goals for this study? Please rank from 1 to 5 (1 being MOST relevant, and 5 is LEAST relevant)</i>	
Reduce operational costs	1
Improve building valuation	
Reduce tenant turnover and vacancy rate	5
Increase tenant satisfaction/ Reduce tenant complaints	4
Reduce future capital needs due to greater longevity of mechanical system, facade and other improvements	3
Achieve compliance with LL/avoidance of penalties	2
Address immediate equipment/system needs	
Other	

Final Report Supplement

Building(s) Information

Building Characteristics Overview

- > **Building Characteristics**
 - **Building name & location**
 - **Year constructed**
 - **Size (sq ft), height (stories) & # of units**
 - **Total Baseline MMBtu**
 - **Typology (*auto calculates*)**
 - **EUI/Energy Use Intensity (*auto calculates*)**
- > **Utility and Metering Information**
 - **Company names & configuration**
- > **Space Heating & Cooling Information**
 - **Fuel type, equipment type, & distribution**



Final Report Supplement

Non-energy Benefits (NEBs)

- > Provide a basic framework for identifying potential NEBs associated with recommended measures
- > Include all potential sources of non-energy benefits and provide a brief explanation to connect with recommended measures

Non-Energy Benefits Analysis						
Building Improvement Category	Potential Non-Energy Benefit (NEB)	Is this benefit likely relevant to the recommended measures for the studied building(s)?	Importance to Owner (Low, Medium, High)	Estimated Financial impact (Low, Medium, High)	For each benefit with a "yes" in Column D, briefly describe how the benefit is relevant to the recommended measures	Please list the street address of each building in this study that correspond to this 'Building Improvement Category'
Envelope	Improved tenant thermal comfort	Yes	Medium	Low	The recommended window replacements and air sealing will likely increase tenant thermal comfort by Insert reasoning	
	Reduced in-unit noise					
	Improved lighting					
	Reduced odors					
	Reduced pests					
	Improved aesthetics					
Other						

Final Report Supplement

Comprehensive Cost Benefit Analysis

Current Expenses

- Gauge the current expenses
- Utilities expenses
 - Repairs and Maintenance
 - Local Law/Compliance-related expenses



Post-retrofit Expenses

- Project the corresponding expenses following installation of recommended measures



Comprehensive Cost Benefit Analysis

- Compares current expenses to post-retrofit expenses
- Considers comprehensive set of costs and benefits to inform financial cost-benefit metrics

Final Report Supplement

Comprehensive Cost Benefit Analysis

Current Annual Operating Expenses						
Utilities						
(Based on weather-normalized typical year - can use figures from Project Summary Sheet)						
Utility Expense Categories	Current Annual Energy Consumption (e.g. MMBtu, kWh, etc.)	Current Annual Expense (\$)	Estimated Annual % Increase in Expenses (e.g. tariff hikes, labor escalation rates, etc.)	What's Driving This Increase?	Expected Annual Expense in 5 years (calculated)	Notes
Electricity – usage (kWh)					\$	
Electricity – demand (kW)					\$	
Oil (gallons)					\$	
Gas (therms or MMBtu)					\$	
Steam (lbs.)					\$	
Propane (gallons)					\$	
Water and Sewer (cubic feet)					\$	
Other (please describe in 'Notes' column)					\$	
Utility Sub-Totals		\$			\$	

Final Report Supplement

Comprehensive Cost Benefit Analysis

Repairs and Maintenance (*Based on typical year budget*)

- > Repairs and Maintenance Expense Categories (*e.g. cleaning, elevator, pest control, grounds maintenance, trash removal, etc.*)
- > Current annual expenses (\$) for relevant categories
- > Estimated Annual % Increase in Expenses (*e.g. labor escalation rates, inflation, etc.*)
- > **Expected Annual Expense in 5 years (*auto calculates*)**

Final Report Supplement

Comprehensive Cost Benefit Analysis

Repairs and Maintenance (Based on typical year budget)				
Repairs and Maintenance Expense Categories	Current Annual Expense (\$)	Estimated Annual % Increase in Expenses (e.g. labor escalation rates, inflation, etc.)	Expected Annual Expense in 5 years (calculated)	Notes
Cleaning			\$ -	
Elevator			\$ -	
Pest Control			\$ -	
Security			\$ -	
Fire Alarm			\$ -	
Grounds maintenance			\$ -	
Turnover & Unit Prep			\$ -	
Supplies			\$ -	
Trash Removal			\$ -	
Vehicle			\$ -	
Snow Removal			\$ -	
Other Repairs & Maintenance			\$ -	
Contracted Maintenance			\$ -	
Elevator Maintenance			\$ -	
Benchmarking			\$ -	
Other (Please specify)			\$ -	
Other (Please specify)			\$ -	
Other (Please specify)			\$ -	
Maintenance Sub-Totals	\$ -		\$ -	

Final Report Supplement

Comprehensive Cost Benefit Analysis

For NYC Properties Only - Local Law Compliance Expenses (based on costs from last cycle or estimated costs for next cycle)						
Compliance Expense Categories <i>(see dropdown list for options)</i>	Most recent or currently budgeted expense (\$)	Frequency of Expense (# years) <i>(e.g. 1 for annual, 5 for every five years)</i>	Annualized Expense <i>(calculated)</i>	Estimated Annual % Increase in Expenses <i>(e.g. labor escalation rates, inflation, etc.)</i>	Projected Annual Expense in 5 years <i>(calculated)</i>	Notes
LL11 - Façade Improvements						
LL33 - Labeling						
LL84 - Benchmarking						
LL87 - Audits/RCx						
LL97 - Greenhouse Gas Emission Limits						
LL152 - Gas Line Maintenance						
Other (please specify)						
Other (please specify)						
Local Law Compliance Sub-Totals-	\$					

Final Report Supplement

Comprehensive Cost Benefit Analysis

Post Retrofit Expenses

- > **For a post-retrofit scenario, where recommended measures have been implemented**
- > **Provide updated categories of cost information for this post-retrofit scenario:**
 - Post-Retrofit Annual Energy Consumption (e.g. MMBtu, kWh, etc.)**
 - **Post-Retrofit Annual Cost Savings (Estimated %) for utility expenses, repairs & maintenance, & local law compliance**
 - **Methodology for determining post-retrofit annual savings estimate**
 - **Projected Post-Retrofit Annual Savings (\$) – Auto calculates**

Final Report Supplement

Comprehensive Cost Benefit Analysis

Comprehensive Cost-Benefit Analysis		
Total Project Cost <i>(linked to "Post-Retrofit Expenses")-</i>	\$	
	Basic <i>(considering annual energy utility savings only)</i>	Comprehensive <i>(considering annual savings from all categories: utility, repairs & maintenance, local law compliance)</i>
Annual Savings <i>(linked to "Post-Retrofit Expenses")-</i>	\$	

Financial Metrics	Basic <i>(using Basic Annual Savings in C10 above)</i>	Comprehensive <i>(using Comprehensive Annual Savings in D10 above)</i>	Notes <i>(for NPV and IRR, please include discount rate used)</i>
Net Present Value (NPV)*			
Return on Investment (ROI)			
Internal Rate of Return (IRR)			
Simple Payback			
Other Metric <i>(please specify in 'Notes' section)</i>			

*required

Final Report Supplement

Long Term Phased Implementation Plan

- > **High-level 10-year timeline for implementing the main components of a low carbon retrofit over time**
- > **Including the capital improvement milestone/trigger and time horizon**

Ten-Year Horizon: Planned and Potential Capital Planning Milestones		
Building 1		
Year <i>(Please replace placeholder years with relevant Year #)</i>	Major Capital Improvement Milestone(s) <i>(see dropdown for options)</i>	Description
Year 1 <i>(e.g. 2021)</i>	Equipment end of life	
2022	LL97 - Greenhouse Gas Emission Limits	<i>Need to reduce emissions by 2022 to avoid local law compliance fines</i>
2023	Tenant Turnover	
2024	Refinancing	
2025		
2026		
2027		
2028		
2029		
2030		

Final Report Supplement

Long Term Phased Implementation Plan

> **Leverages existing capital improvement points to phase in low carbon retrofits over time**

Long-term Phased Implementation Plan		
Building 1		
Building Improvement Category	Alignment with Capital Planning Milestone	Description
Windows	2024	<i>Planning to replace windows as part of anticipated refinancing in 2024 based on resident request. Refer to FlexTech report for details on recommended window improvements.</i>
Roofs	2022	
Walls	2023	
Ventilation	2028	
Heating/Cooling	2022	
Domestic Hot Water (DHW)	2030	
Other (Please specify in 'Description')		

Final Meeting

Final Meeting

- > Review key takeaways from Low Carbon Capital Plan, including highlights from the “Final Report Supplement”
- > Discuss relevant NYSERDA resources and programs
- > Identify next steps



Next Steps

- > **More information is available on the FlexTech Documents and Resources page [here](#)**
- > **Additional questions contact: MultifamilyInfo@nyserda.ny.gov**
- > **Stay tuned for launch of Multifamily Pathways PON (New Implementation Program for Low Carbon Retrofits)**

Questions?

