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Implementation Updates

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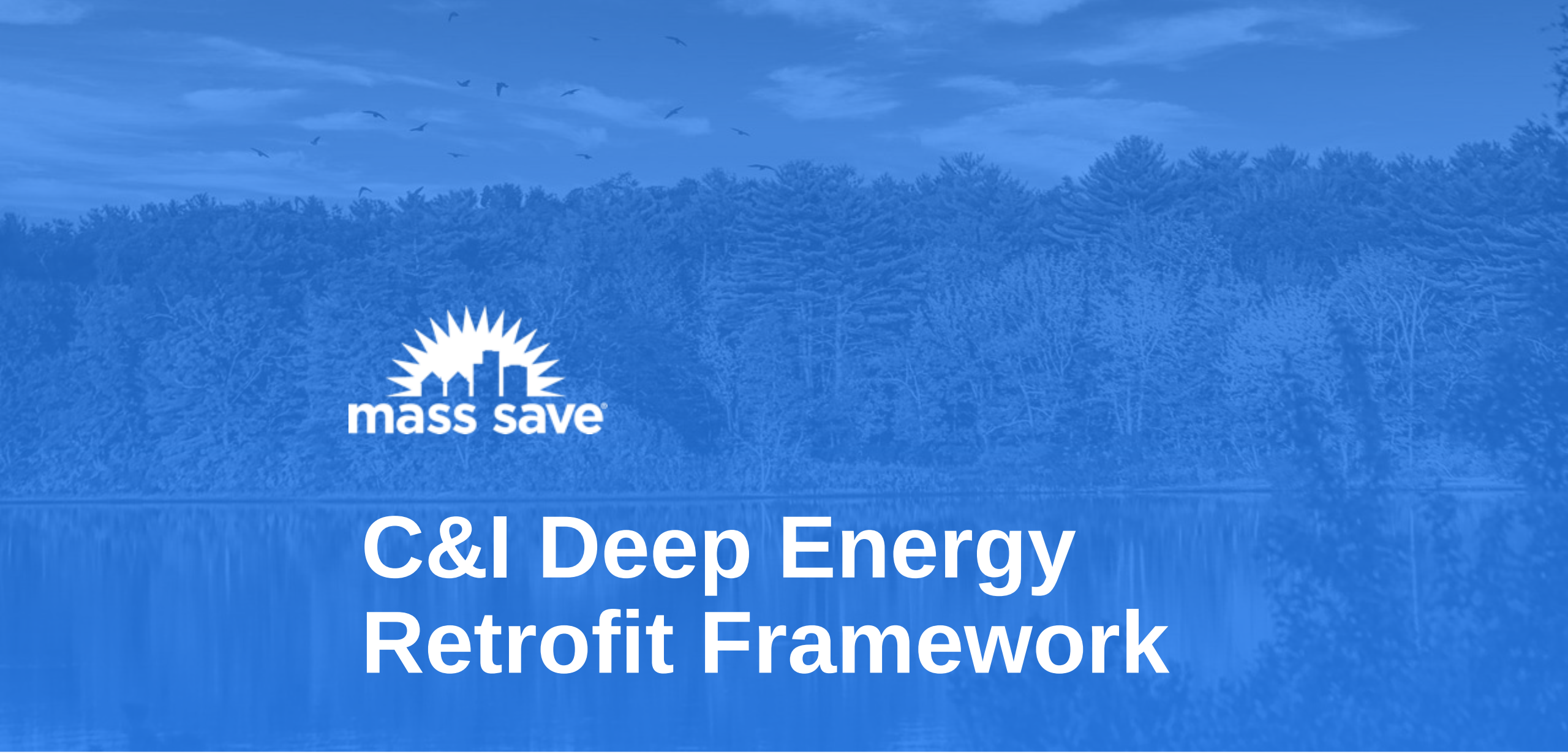

C&I Deep Energy Retrofit Framework

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Target Outcomes

Strategic approach to energy efficiency and electrification

Continuous customer engagement

Substantial decrease in customer energy usage

DER Definition

Two tiers based on GHG reductions relative to existing conditions (excluding renewables)

- Tier 1: 25%
- Tier 2: 40%

Required measures:

- Electrification
- Weatherization or Ventilation Improvements

Buildings will have a 3 year “DER Term” to meet target energy reductions

DER achievement qualified by verified measure installation

DER is independent from and stacks on top of existing program incentives

Customers participating in the New Construction and Major Renovation program are not eligible for DER

DER Offering

All eligible customers: 50% co-pay of comprehensive site audit and TA study

Upon achievement of Tier 1 qualification:

- Bonus payment of $0.40/sqft
- Payment of 3rd party commissioning up to $10,000 (if required by TA study)

Upon achievement of Tier 2 qualification:

- Bonus payment of additional $0.60/sqft
- Payment of remaining 3rd party commissioning costs up to a building total of $20,000 (if required by TA study)

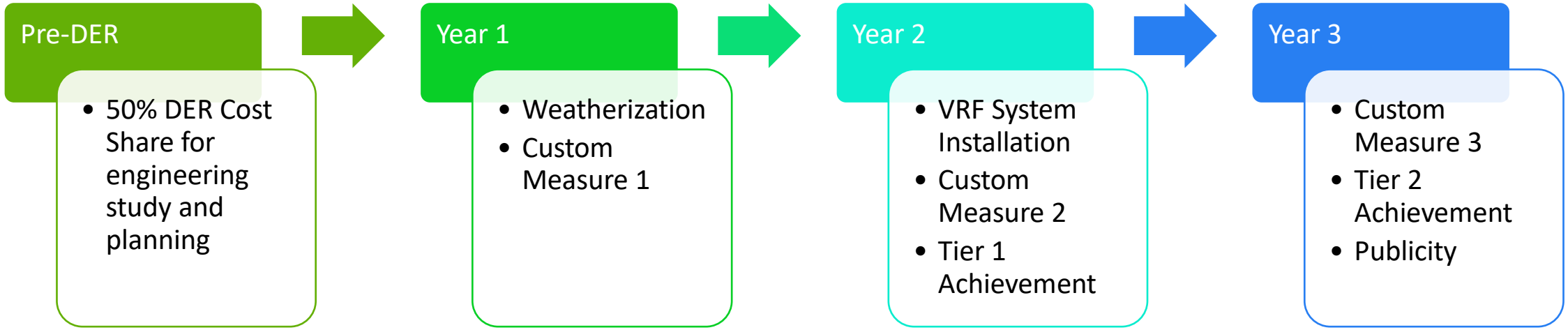
DER Process

- Customer Engagement and Screening
- Engineering Study
- Strategic Implementation Plan
- DER Term – Implement identified measures
- Standard EE and Electrification offerings
  - Continued customer engagement
  - Verification of installation and operation per the Customer Plan
  - Bonus payments for implementing measures that save 25% or 40% of GHG emissions
- Publicity

DER as an Independent Layer

	Baseline	Savings Estimates	Technical and Planning Support	Incentives	Verification
DER	Existing Building Consumption	DER study specifying existing, "ISP", and EE consumption by measure	One on one customer planning session. Plan includes commissioning considerations prior to work starting.	Bonus payments issued as tiers achieved.	3rd party commissioning may be required. Verification required prior to payment.
Standard EE	Measure dependent, may be ISP or Code	Varies from not eligible, prescriptive, or custom. May not be interactive or comprehensive.	Large customers may have MOU/SEMP. Some customers have managed account. Often no ongoing planning or support.	Incentives paid as measures are installed.	Standard program verification and post inspections.

Example – 50,000 sqft Building



	Pre-DER	Year 1	Year 2	Year 3	Total
% Reduction		13%	37%	41%	
Standard EE Incentives	-	Wx: $/sqft Custom: $0.26/kWh	VRF: $3,500/ton Custom: $0.26/kWh	Custom: $0.26/kWh	
EE Total	-	$13,600 + $11,400	$437,000 + $7,000	$6,000	$475,000
DER Payments	$15,000	-	$20,000 + $10,000 (Cx)	$30,000+ $10,000 (Cx)	$85,000
Total Incentive	**$15,000**	**$25,000**	**$474,000**	**$46,000**	**$560,000**

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New Construction All-Electric Pathway

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Residential New Construction All Electric

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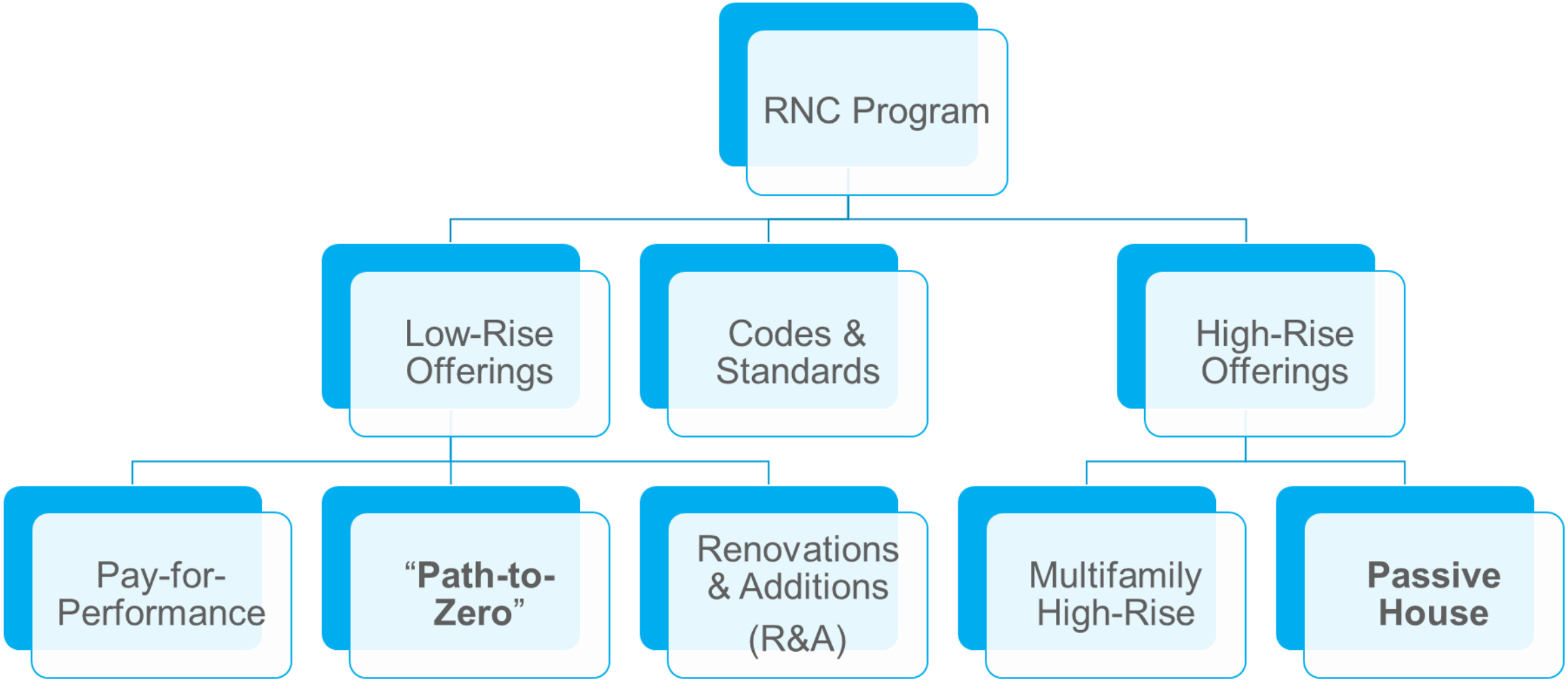
All-Electric Homes



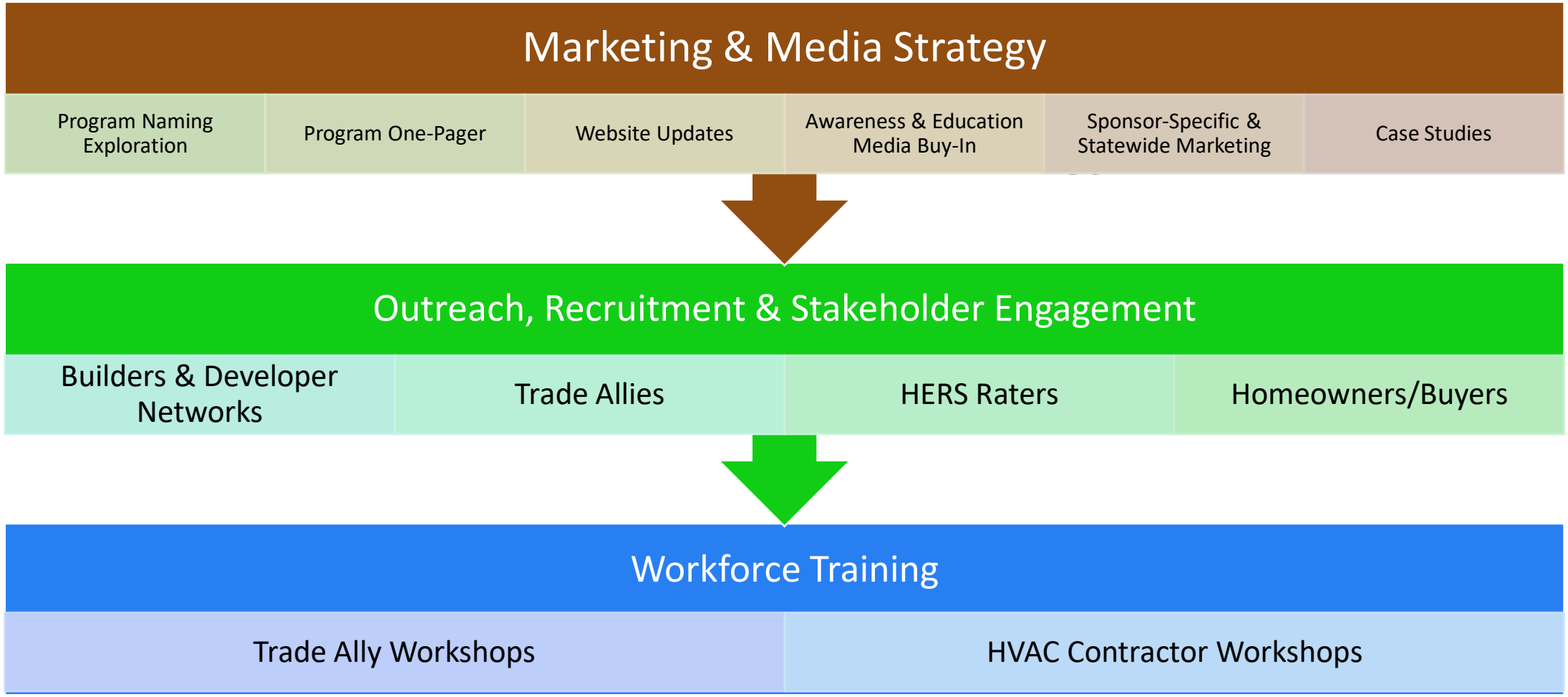
All-Electric Home Specifications

Component	Specifications	
	Tier 1	Tier 2
Percent Savings/HERS Index	>30% savings over baseline or ≤ HERS 45*	>50% savings over baseline or ≤ HERS 35*
Heat Pumps for Space Heating (Required)	Central Heat Pumps: ≥9.5 HSPF and ≥60% Rated Output at 17ºF Multi-Zone & Ducted MSHP: ≥9.5 HSPF and ≥58% Rated Output at 17ºF Single Head & Non-Ducted MSHP: ≥10 HSPF and ≥58% Rated Output at 17ºF	
Heat Pump Water Heater	Optional	Required
All-Electric Cooking	Required	Required
Infiltration Rate & Continuous Insulation	≤1.5 ACH50 Optional CI	≤1.0 ACH50 Required CI
Balanced HRV/ERV	Required	Required
EV-Ready Checklist**	Required	Required
*HERS Index calculated prior to on-site renewable generation		

All-Electric Home: Incentive Structure

Home Type	Incentive Structure	
	Tier 1	Tier 2
Single Family	$15,000	$25,000
2-Units	$17,500	$30,000
3-Units	$20,000	$35,000
4-Units	$22,250	$40,000

Go to Market Strategy



All Electric Home Project Status

All-Electric Home Project Pipeline		
Program Administrator	**Projects**	**Units**
Cape Light Compact	18	48
Eversource	25	37
National Grid	50	58
Unitil	1	1

All-Electric Home Project Completions		
Program Administrator	**Tier 1**	**Tier 2**
Cape Light Compact	7	48
Eversource	3	1
National Grid	4	0

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Passive House & Multifamily High-Rise

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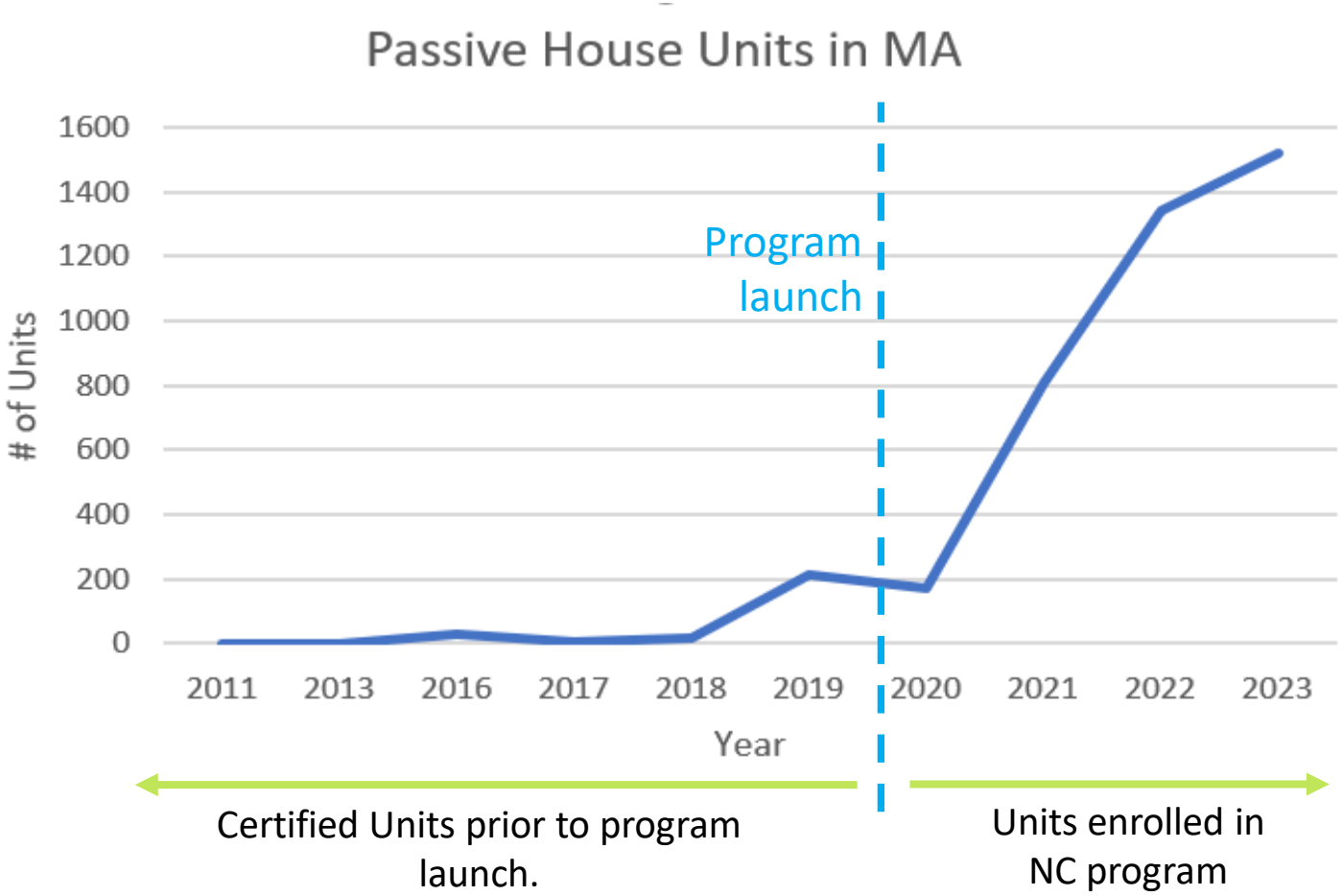
Multi-Family High Rise

- **Multi-Family High-Rise**
  - All multi-family with master-metered heat
  - 4+ stories and 5+ units with residential-metered heat
  - New construction and ≥ 50% rehab projects
  - Incentive Range:
    - **~$100 to $1,500 per unit**

Passive House – National Leader in Multifamily New Construction Market Transformation



2018-2020

- 33% of enrolled MFHR projects initially pursue PH tract

2021

- 44% of enrolled MFHR projects pursue PH tract

Innovation: The leading Passive House Multi-family incentive program in the nation. Publishing results with ACEEE.

Passive House:
Incentives & Resources

Modeling Incentives

Performance Incentives

Certification Incentives

Lunch & Learns

Seminar & Classroom

Exam Reimbursement

Passive House:
Incentive Structure

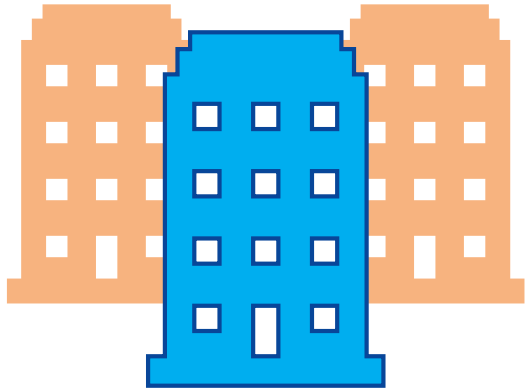
Pre-Certification Incentives		
Offer	**Amount**	**Max. Incentive**
Feasibility Study	100% of Feasibility Costs	$5,000
Energy Modeling	75% of Energy Modeling Costs	$500/Unit, Max. $20,000
Pre-Certification	$500/Unit	N/A

Post-Certification Incentives		
Offer	**Amount**	**Max. Incentive**
Certification	$2,500/Unit	N/A
Net Performance Bonus	$0.75/kWh	N/A
	$7.50/Therm	N/A

Zero Net Energy Building and Passive House

Zero Energy Building

Heat pumps, LED, improved insulation, and solar to build a path to zero energy. Easier to build in infrastructure for DR and EV.



Passive House

A path to Zero Net Energy that focuses on the envelope, insulation, windows, air tightness and simplified mechanical systems

C&I New Construction Path 1

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New Building/Major Renovation Participation Pathways

Path 1	Path 2	Path 3	Path 4
Net Zero & Low EUI Buildings	Whole Building EUI Reduction	Whole Building Streamlined	Systems - Prescriptive and limited Custom

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Low EUI Pathways

To Be Merged

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Net Zero/Low EUI Buildings: Path 1

Incentives/Savings based on post occupancy ***performance***

Simplified Process

Establish target EUI early in design

Mass Save Sponsors use design team's energy model

Technical Assistance

Net zero expert assists with:

- Load reduction analysis
- HVAC system selection support
- Lifecycle cost analysis
- Other project specific support

Path 1 Incentives

Require low design-based predicted EUIs

- Incentive rates have increased from 2020 launch
- Now more than 1 incentive tier available
- Clear EUI targets published for various building types

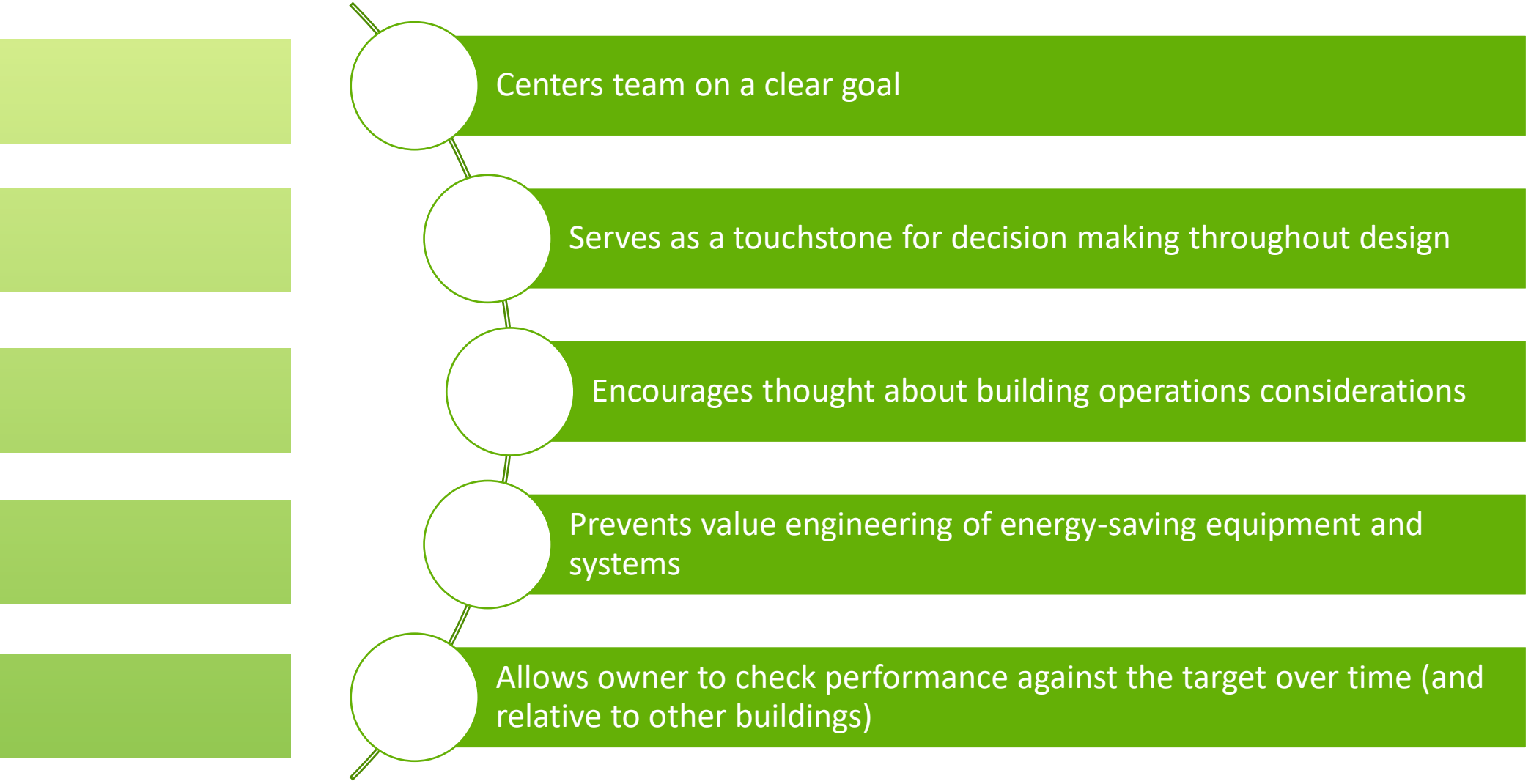
Promote electrification

- Heat pump adders offered on per ton basis

Maintain focus on post occupancy performance and project outcomes

- Additional $1.50/sf available if building performs at the target EUI

Value of Setting Early EUI Target



Path 1 Participants

Path 1 Projects Statewide*	
K-12 Schools	14
Public Safety	3
Libraries	3
College/University	2
Office	2
Other	2
Total	**26**

* Additional projects in development

Thanks for listening.

Thank You

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