



# Solutions for Commercial New Construction Program

Michael Loughlin  
February 13, 2024

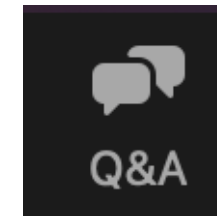
Powered by:





# We look forward to hearing from you

Please put all your questions into the questions section with this icon.



# Agenda

## February 13, 2024

1

NHSaves

2

Commercial New Construction Pathways

3

Multifamily Pathway



# What is NHSaves?

NHSaves is a collaboration of New Hampshire's electric and natural gas utilities working together to provide NH customers with information, incentives, and support designed to save energy, reduce costs, and protect our environment statewide.

Powered by:





**EVERSOURCE**

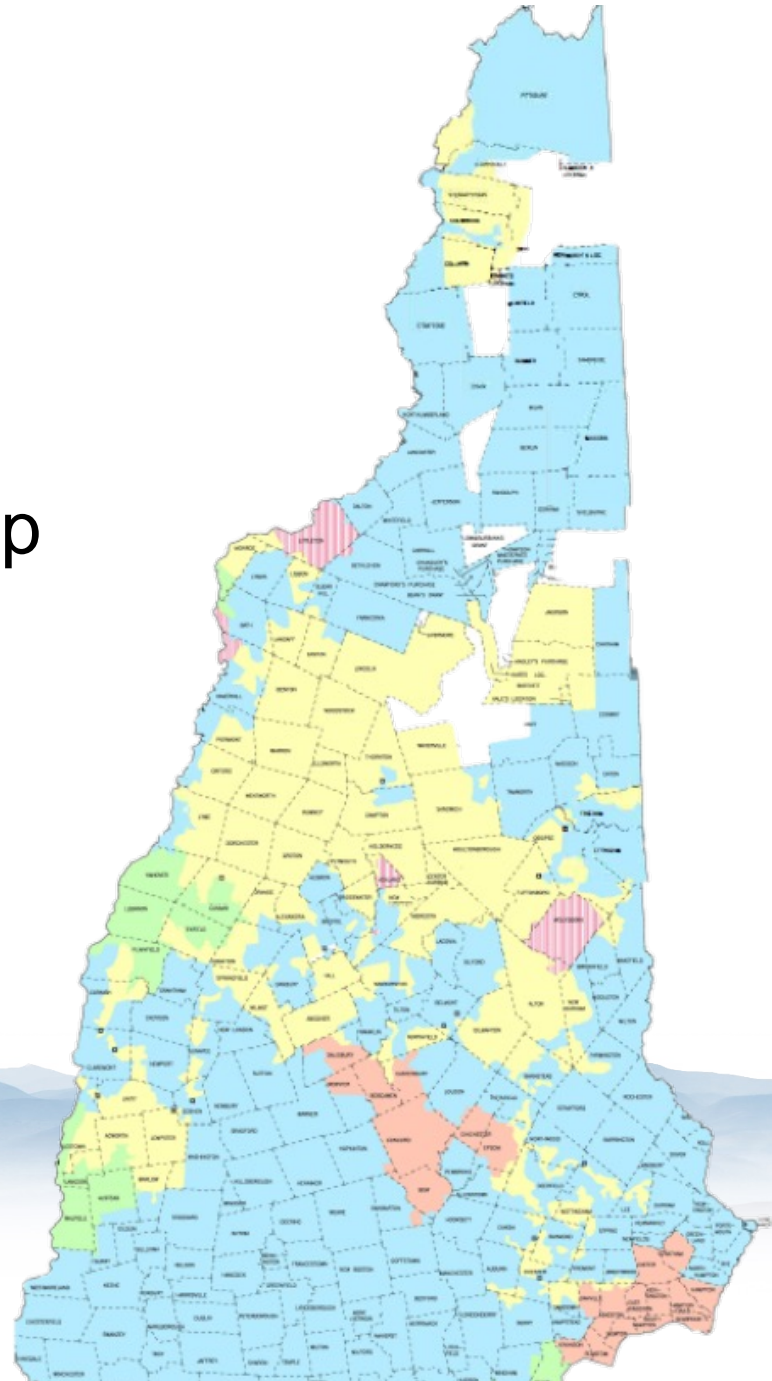
 **Liberty**

*your*  
**NEW HAMPSHIRE**  
Electric Co-op

 **Unitil**


# Electrical Territory Map

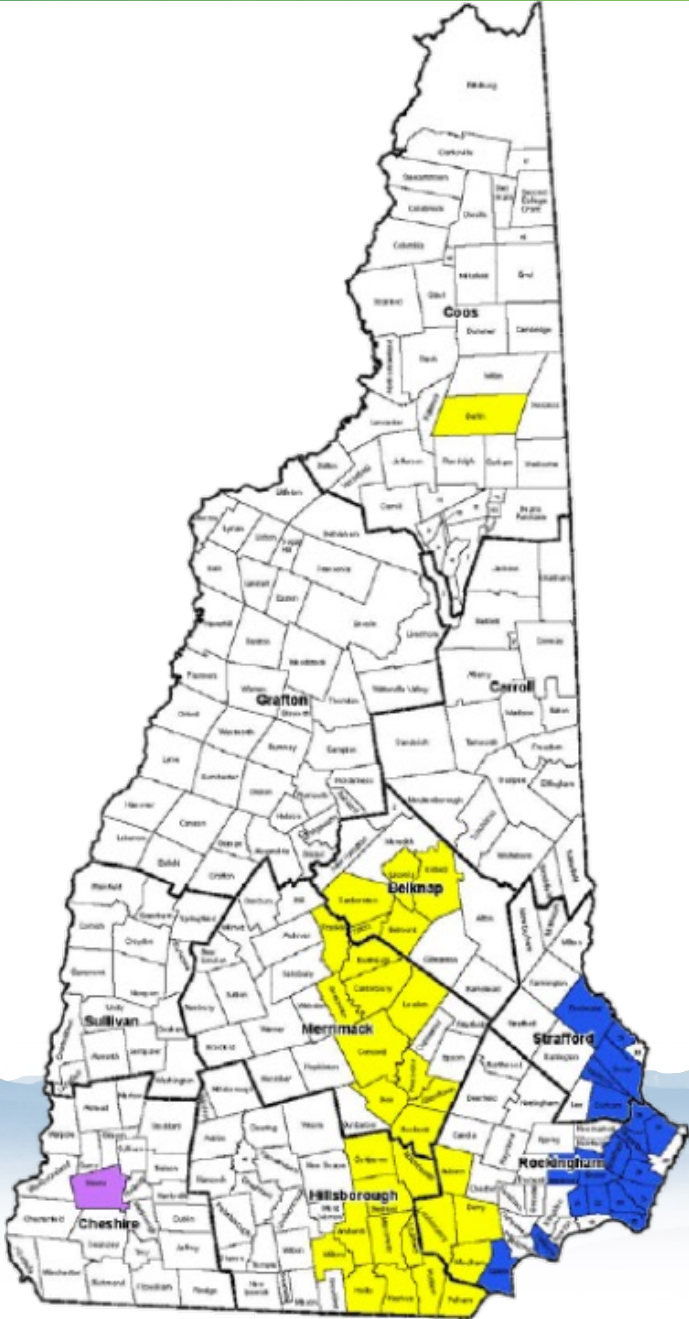
-  = Eversource
-  = Liberty Utilities
-  = New Hampshire Electric Co-op
-  = Unital



# Gas Territory Map

 = Liberty Utilities

 = Unitil





# Definitions

## Zero Net Energy Building

**Buildings that produce as much energy as they consume over a year**

Heat pumps, LED lighting, improved insulation – lead to lower building energy needs that can be offset by solar energy production

## EUI

(Energy Use Intensity)

**A measure of a building's total annual energy use divided by its square footage  
(Annual kBtu/sf)**

Similar to a miles per gallon metric, but for buildings

# Understanding Zero Net Energy Buildings:

Finding the Right Balance & Optimization

## CONSUMPTION

- Lighting
- Space Cooling
- Space Heating
- Hot Water
- Fans & Pumps
- Appliances & Electronics

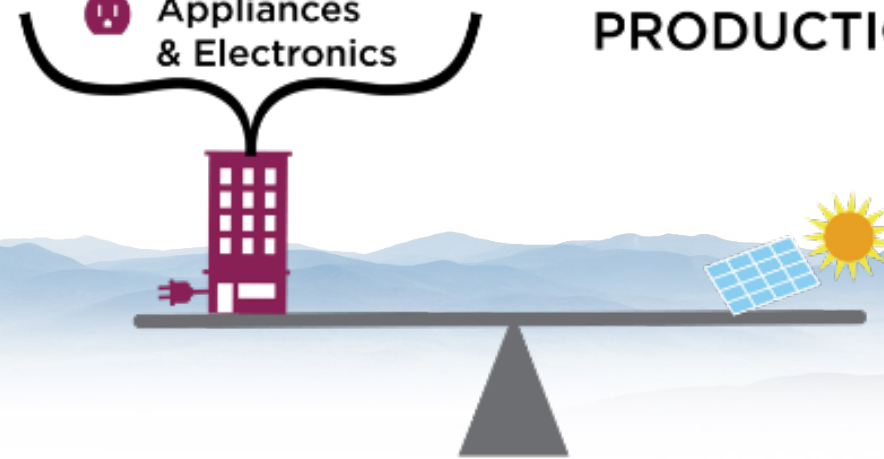
## PRODUCTION



## CONSUMPTION

- Lighting
- Space Cooling
- Space Heating
- Hot Water
- Fans & Pumps
- Appliances & Electronics

## PRODUCTION

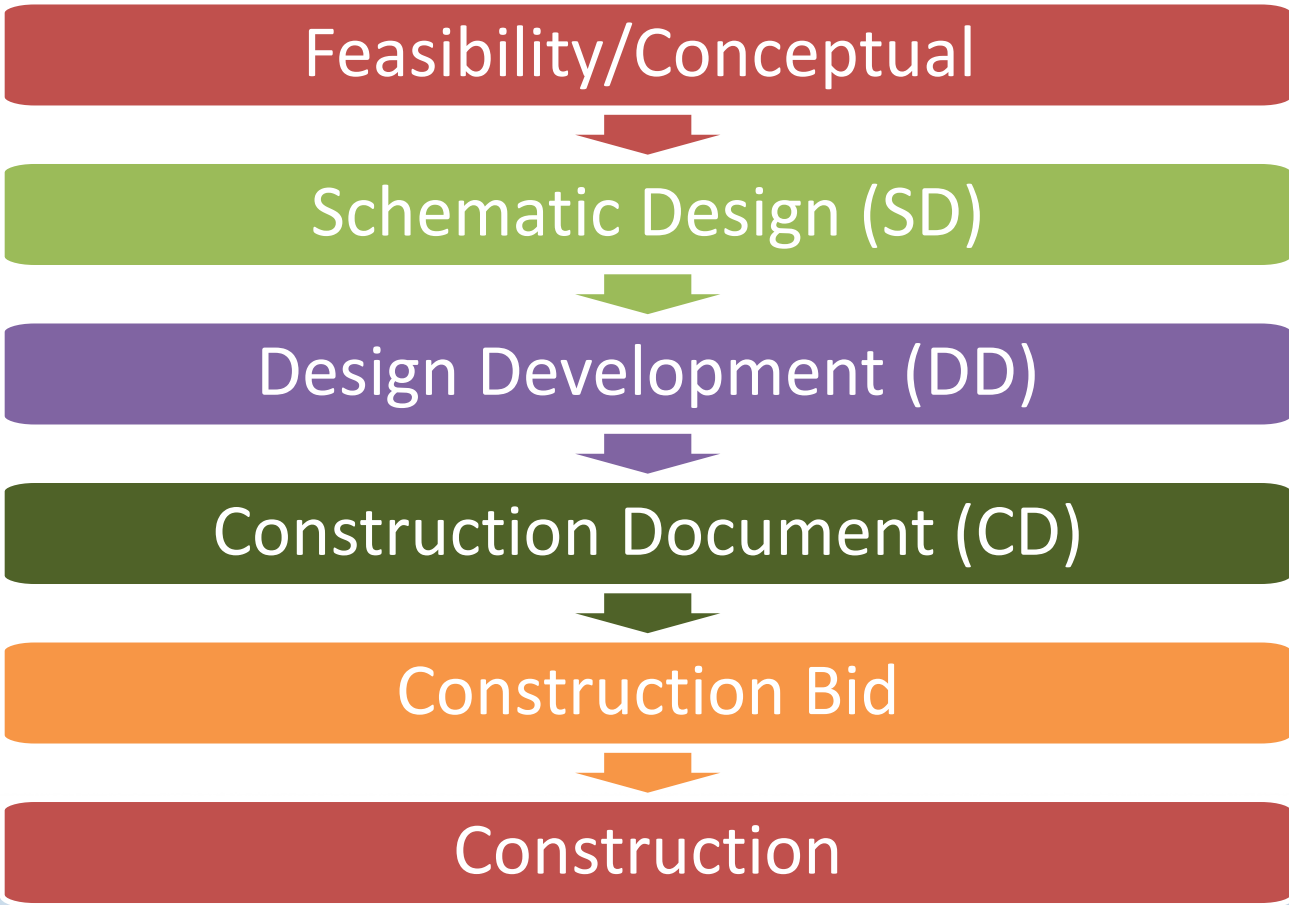




# 2024 New Building Major Renovation Participation Pathways

Net Zero & Low EUI Buildings	High Performance Buildings	Prescriptive Systems Projects
		

# When Should Customers/Design Teams Reach out?



Early in Design Process

# Zero Net Energy & Low EUI Buildings

## Intent

- Drive projects toward ZNE and low EUI in operation

## Requirements

- Engage utility ideally during the project's feasibility or conceptual design phases but before 50% Schematic Design
- ZNE, Zero Net Ready
- Minimum 10,000 sf heated and cooled space
- Achieve Target EUI or lower
- Year-round occupancy



# Zero Net Energy & Low EUI Buildings

## Post occupancy

- Participation required through 1 year post-occupancy period
- Final incentives based on *performance*

## Technical Assistance

- ZNE expert provided – participates from feasibility through design development

## Incentives

- Pre-approval at end of design based on design team's model
  - Construction incentives: paid at end of construction
- Post-occupancy incentives: paid after post-occupancy period





# Zero Net Energy & Low EUI Buildings

EUI by Building Type	
Building Type	Net Zero Site EUI Target
Hotel	35
K-12	25
Library	30
Office	30
Fire/Police Station	35
Site Specific	Case by case

**Engage Early – During Concept, Feasibility or early Schematic Design is best**

# Zero Net Energy & Low EUI Buildings

Customer Incentives		
<b>Construction Incentive</b>	Paid if project design achieves target EUI	\$1.00/sf
<b>Post Occupancy Incentive</b>	Available after 1-year post-occupancy period if project achieves target EUI	\$1.00/sf
<b>Technical Assistance</b>	Cost share with customer	up to \$10,000

Please note: All incentives are subject to funding availability. Certain caps and restrictions may apply.

# Example – Oyster River Middle School

- Engaged Schematic Design
- Target site EUI:
- Design Charrette & energy modeling
- 147,000 Square feet
- Geothermal heating/cooling
- Walls R-34, Roof R-60



# High-Performance Buildings

## Intent:

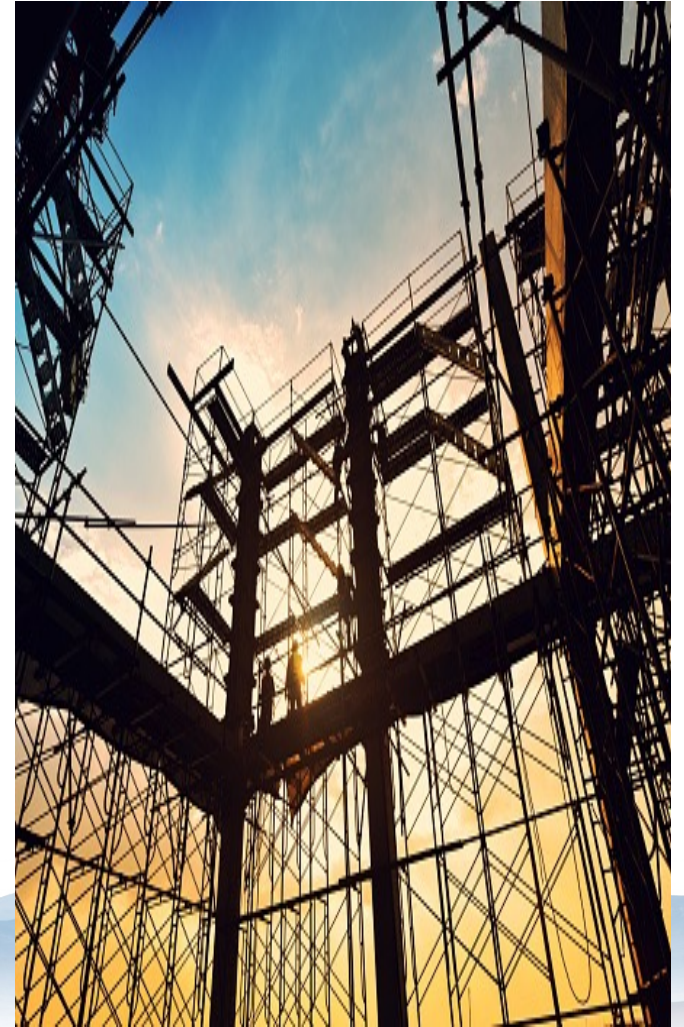
- Reduce building energy - comprehensiveness

## Technical Assistance:

- Expert support in identifying energy conservation strategies
- Energy charrette, Mid Design Review, Completion of Whole Building tool

## Typical Projects:

- Customers with fast-paced projects where they do not wish to set and pursue an EUI target
- Projects that are not whole buildings
- Projects where heavy process loads are the major energy savings focus
- Projects engaging too late in design
- Projects must be greater than 5,000 square feet





# High-Performance Buildings

Interior Lighting  
& Networked  
Lighting  
Controls

Exterior Lighting

Natural Gas  
Heating & Hot  
Water

Envelope

Unitary HVAC  
(RTU, AC, HP,  
VRF)

High Efficiency  
Chillers

Energy  
Recovery

Demand Control  
Ventilation

Variable Flow  
Kitchen Hood



# High-Performance Buildings

Customer Incentives	
Incentive Type	Rate
Electric	\$0.30/kWh
Natural Gas	\$2.00 therm
Technical Assistance	100%

# Prescriptive Systems

## Intent

- Projects in advanced design
- Optimize equipment and systems for energy efficiency

## Requirements

- Whole buildings projects if they engage Sponsors after the end of design development (late engagement)
- Partial building projects

## Technical Assistance

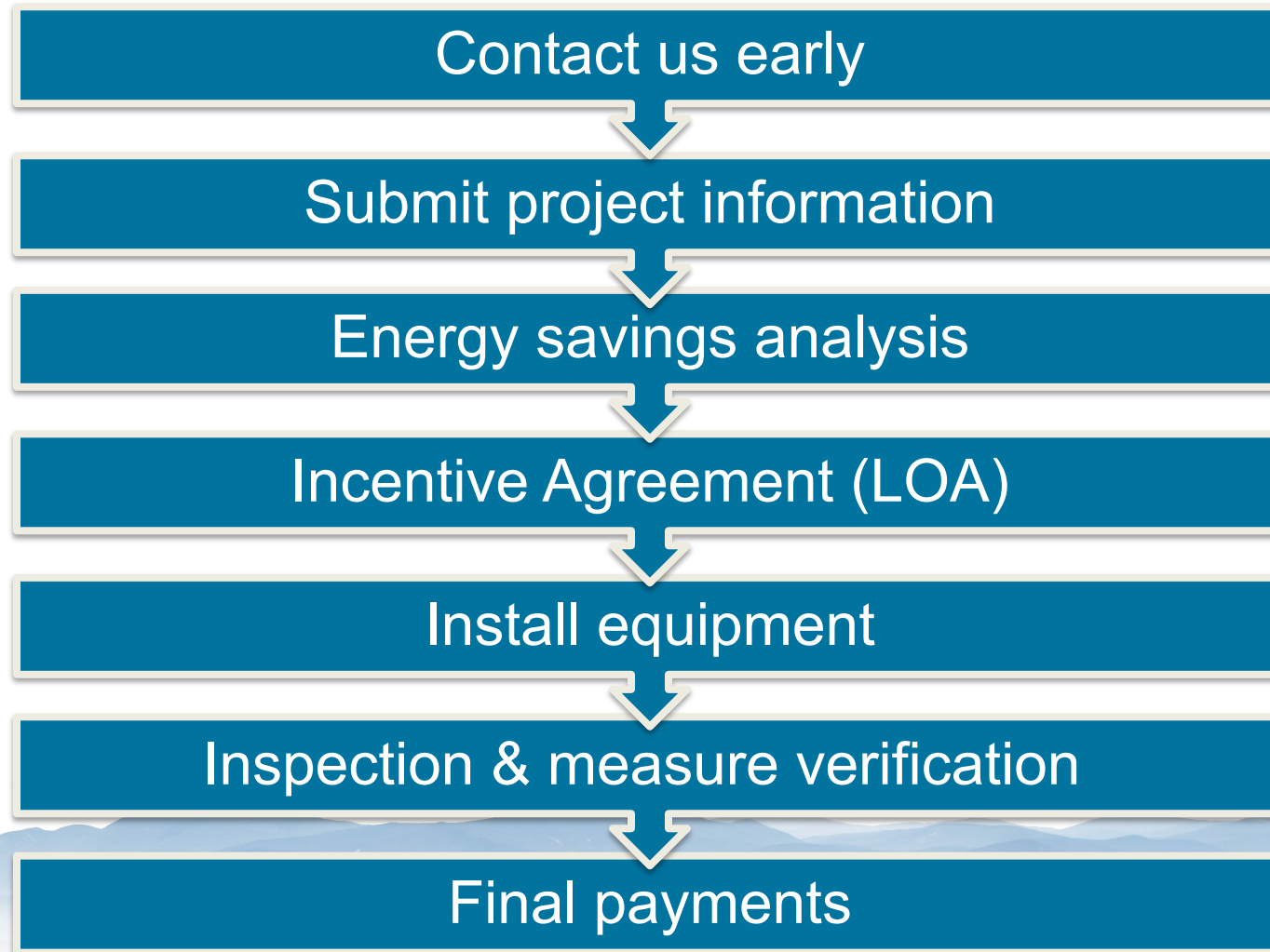
- Case by case for custom measures

## Incentives

- Prescriptive and custom applications
- Incentives paid upon construction verification



# Submittal Process







# Residential & Multifamily New Construction Program

Powered by:



# Residential New Construction Programs

Net Zero Challenge	ENERGY STAR Homes	Drive to ENERGY STAR
--------------------	-------------------	----------------------



# Residential New Construction Programs



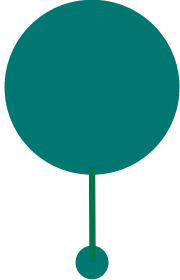
NH average ENERGY STAR® participant home is 20-30% more energy efficient than required by code.

- **ENERGY STAR Homes** - a nationwide effort to make new homes more energy efficient.
- **Single Family & Multifamily**
- **Two Different “Tracks”**
  1. Drive to ENERGY STAR
  2. ENERGY STAR certified
- **Net Zero Home Competition**
- **Up to \$4,000 in rebates**
  - Effective Insulation Systems
  - High-Performance Windows
  - Tight Construction and Ducts
  - Efficient Heating and Cooling Equipment
  - ENERGY STAR Qualified Lighting and Appliances**3 INSPECTIONS and CERTIFICATION**  
[www.nhsaves.com/newhome](http://www.nhsaves.com/newhome)

# Home Energy Rater Process

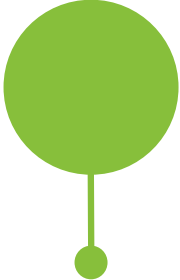
## Contact Utility

Enroll into Program



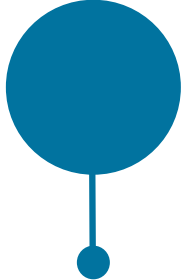
## Plans Inspection

HERS rater reviews building plans



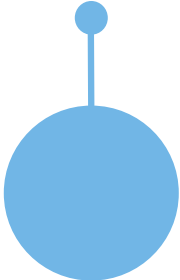
## Final Inspection

Conducted by HERS rater when home is in move in condition



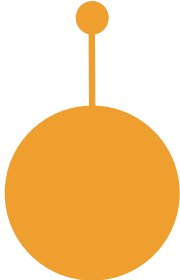
## HERS Rater assigned

Home Energy Rater (HERS) assigned to project by utility



## Mid-Point Inspection

HERS rater insulation inspection

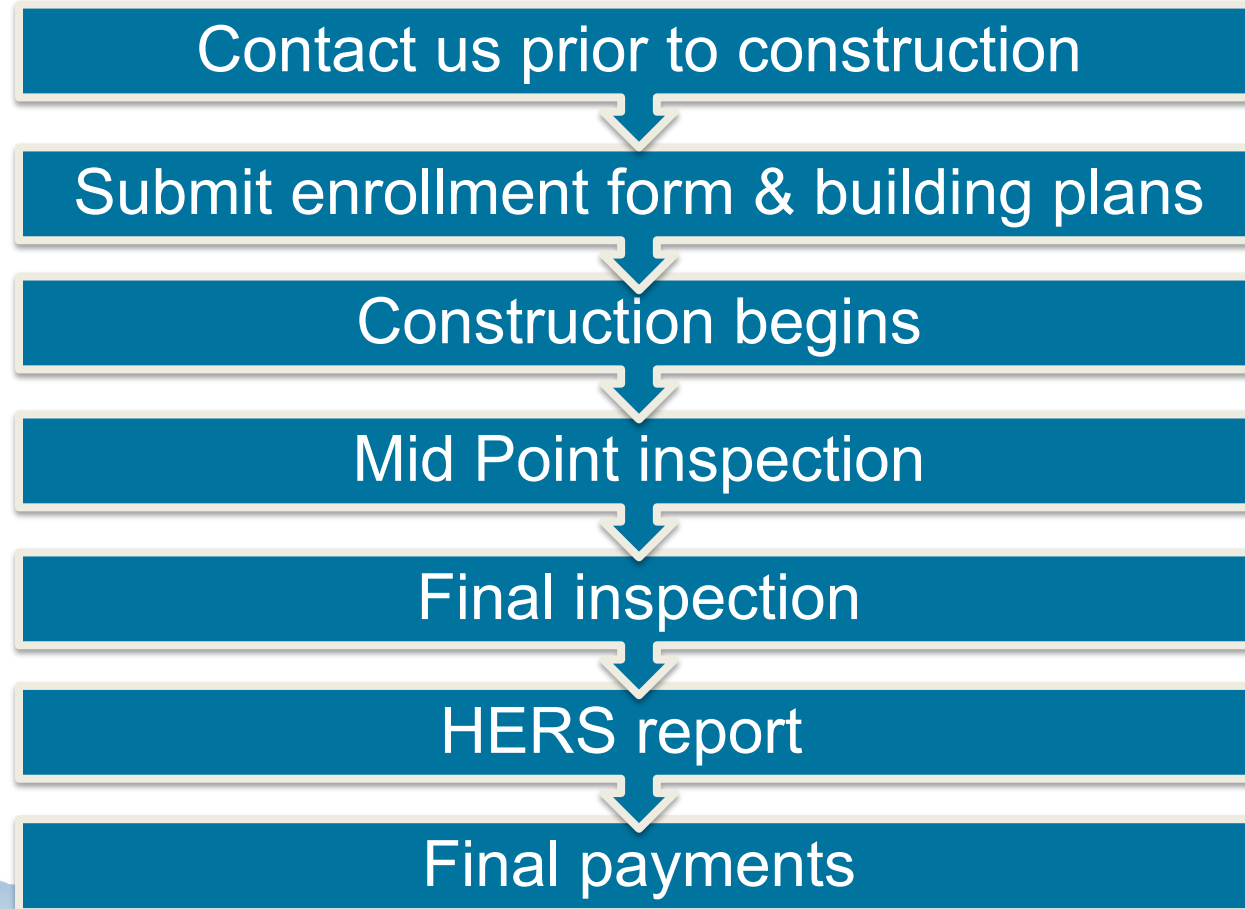




# Residential New Construction Incentives

Incentives	ENERGY STAR 3.1		Drive to ENERGY STAR	
	Single Family	Multi-Family	Single Family	Multi-Family
Base HERS Rebate	\$1,500.00	\$500.00	\$500.00	\$250.00
HERS Point incentive	\$100.00	\$50.00	\$50.00	\$25.00
Appliances	\$25	\$25	\$25	\$25
Maximum Per Unit	\$4,000.00	\$1,000.00	\$1,000.00	\$500.00
HERS Rating	Free	Free	Free	Free

# Residential Submittal Process



# Drive to Net Zero Challenge



- **Beyond ENERGY STAR® Homes**
- **Rewards for Top 3**
  - 1st Place \$5,000
  - 2nd Place \$2,000
  - 3rd Place \$1,000
- **Competition criteria categories**
  - Lowest HERS prior to renewables
  - Overall HERS Index
  - Homes estimated annual operating cost
  - Cost per square foot
  - Technological innovation
- **Marketing**
  - Banquet
  - Press releases
  - Video
  - [nhsaves.com/programs/about-the-net-zero-competition/](https://nhsaves.com/programs/about-the-net-zero-competition/)



# Questions?

Powered by:

**EVERSOURCE**

 **Liberty**<sup>™</sup>

*your* **NEW HAMPSHIRE**  
**Electric Co-op**

 **Unitil**





**Michael Loughlin, Eversource**

[Michael.Loughlin@eversource.com](mailto:Michael.Loughlin@eversource.com)

603-634-2022

**Bob Reals, Liberty**

[Bob.Reals@libertyutilities.com](mailto:Bob.Reals@libertyutilities.com)

603-216-3634

**Joe Lajewski, NHEC**

[lajewskij@NHEC.com](mailto:lajewskij@NHEC.com)

603-536-8663

**Joe Van Gombos, Unitil**

[Vangombosj@Unitil.com](mailto:Vangombosj@Unitil.com)

603-294-5023

# Thanks for listening.

Powered by:

**EVERSOURCE**

 **Liberty**<sup>™</sup>

 **NEW HAMPSHIRE  
Electric Co-op**

 **Unitil**