



## COMMONWEALTH OF MASSACHUSETTS

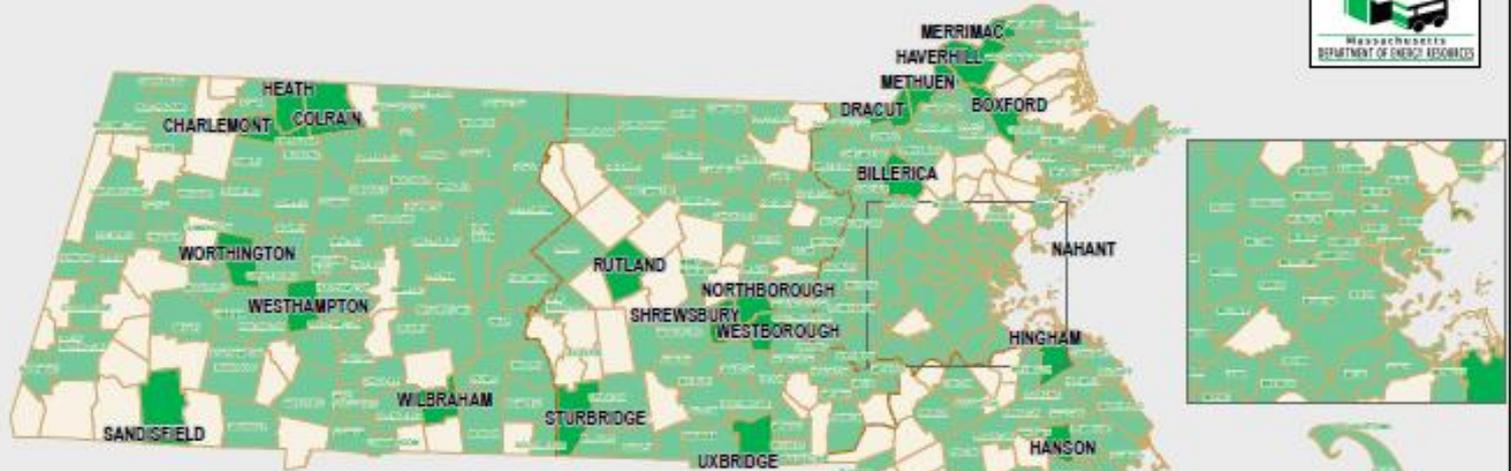
*Charles D. Baker, Governor  
Karyn E. Polito, Lt. Governor  
Matthew A. Beaton, Secretary  
Judith Judson, Commissioner*

## The Green Communities Division Partnering with Massachusetts Cities and Towns

Seth Pickering  
Southeast Regional Coordinator

Town of Rehoboth  
Green Communities &  
Stretch Code  
Presentation  
1/28/19

# GREEN COMMUNITY DESIGNATIONS REACH TWO HUNDRED FORTY



## 30 New Green Community Designations

BILLERICA	FAIRHAVEN	MARION	RUTLAND	WAREHAM
BOXFORD	HANSON	MERRIMAC	SANDISFIELD	WESTBOROUGH
CLAREMONT	HARWICH	METHUEN	SEEKONK	WESTHAMPTON
COLRAIN	HAVERHILL	NAHANT	SHREWSBURY	WILBRAHAM
DIGHTON	HEATH	NORTHBOROUGH	STURBRIDGE	WORTHINGTON
DRACUT	HINGHAM	ORLEANS	UXBRIDGE	YARMOUTH

- New Green Community Designation - December 2018
- Previously Designated Community



J.Pflafer, 12-21-18



20

Miles

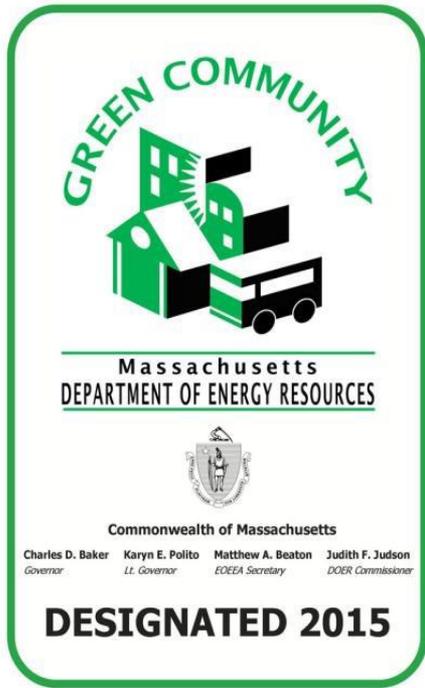


# Green Communities Designation and Grant Program

Up to \$20M/yr in grants and loans to *qualifying communities*



Grants fund energy efficiency initiatives & renewable energy, innovative projects



# Designation and Grant Program

>\$105M grants awarded



>\$10M savings/yr



270 grants completed



## Projected Savings

316,346 MMBTUs

28,091 mt CO<sub>2</sub> eq.

 x 2,822

 x 5,914

# Designation and Grant Program

- Designation Grant = \$125K + population & per capita income formula

Rehoboth estimated designation grant amount:

**\$150,000**

- Competitive Grants available annually, up to **\$250,000** per applicant, for existing Green Communities that have completed all prior grants



# Green Communities Designation and Grant Program

- Designation grant allocations based on a \$125K base plus a population/per capita income formula; maximum \$1M.
- Competitive grants available annually up to \$250,000 per applicant for Green Communities. More than \$99M awarded in total for both designation and competitive grant programs
- Projects being funded include energy conservation measures

## Rehoboth's Green Communities Neighbors:

Community	Year	Grants
Acushnet	2013	\$ 623,529
Dartmouth	2017	\$ 456,254
Lakeville	2012	\$ 546,598
Dighton	2018	\$ 143,636
Seekonk	2018	\$ 160,790



# Green Communities Designation and Grant Flowchart

## Step 1

- Review Green Communities Designation Criteria Guidance
- Contact your Green Communities Regional Coordinator

## Step 2

- Discuss Green Communities Designation with Local Government
- Receive local approval to apply for Green Communities status

## Step 3

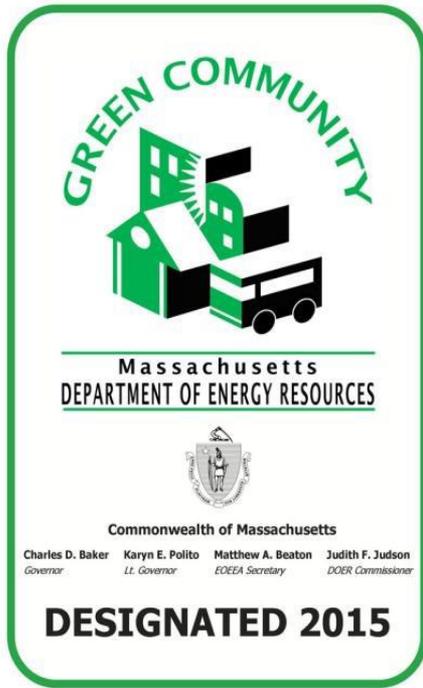
- Meet the 5 Green Communities Criteria and submit a Designation Application
- Receive Green Community Designation from DOER
- Apply for Green Community Grants



# Designation and Grant Program

## Qualification Criteria - Designation

1. Adopt as-of-right siting for RE/AE generation, R&D, or manufacturing -
2. Adopt expedited permitting process
3. Create an Energy Reduction Plan to reduce energy use by 20% in 5 years
4. Adopt Fuel Efficient Vehicle Purchase Policy
5. Minimize life cycle cost in new construction → adopt the Stretch Code



# Criteria 1 – As-Of-Right Siting

1. Renewable or Alternative Energy Generating Facilities or;
  - A. Solar = 250KW or greater ground mounted solar PV
  - B. Discreet parcel(s) that can support a solar facility of that capacity = approximately one (1) acre for 250KW
2. Renewable or Alternative Energy Research and Development (R&D) Facilities or;
3. Renewable or Alternative Energy Manufacturing Facilities in designated locations.



## Criteria 2 – Expedited Permitting



**12 months: date of initial application to date of final approval**

1. Applies only to the proposed facilities subject to the As-of-Right Siting provision.
2. Can apply the MGL c 43D permitting process to these zoning districts

## Criteria 3 – Energy Baseline & 20% Energy Reduction Plan



Calculate a Municipal Energy Use Baseline that includes:

1. Municipal Buildings & Schools
2. All Vehicles
3. Municipally Owned Street & Traffic Lights



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## Criteria 4 – Fuel Efficient Vehicles

1. Purchase only fuel-efficient vehicles for municipal use whenever such vehicles are commercially available and practicable.
2. Police cruisers are exempt until commercially available.
3. Heavy-duty vehicles > 8,500 pounds are exempt.



# Criteria 5 – Minimize Life Cycle Costs

Require all new residential construction and all new commercial and industrial real estate construction to minimize, to the extent feasible, the life-cycle cost of the facility by utilizing energy efficiency, water conservation and other renewable or alternative energy technologies.

The DOER recommended way for cities and towns to meet this requirement is by adopting the BBRs Stretch Code (780 CMR 115.AA) an appendix to the MA State Building Code.

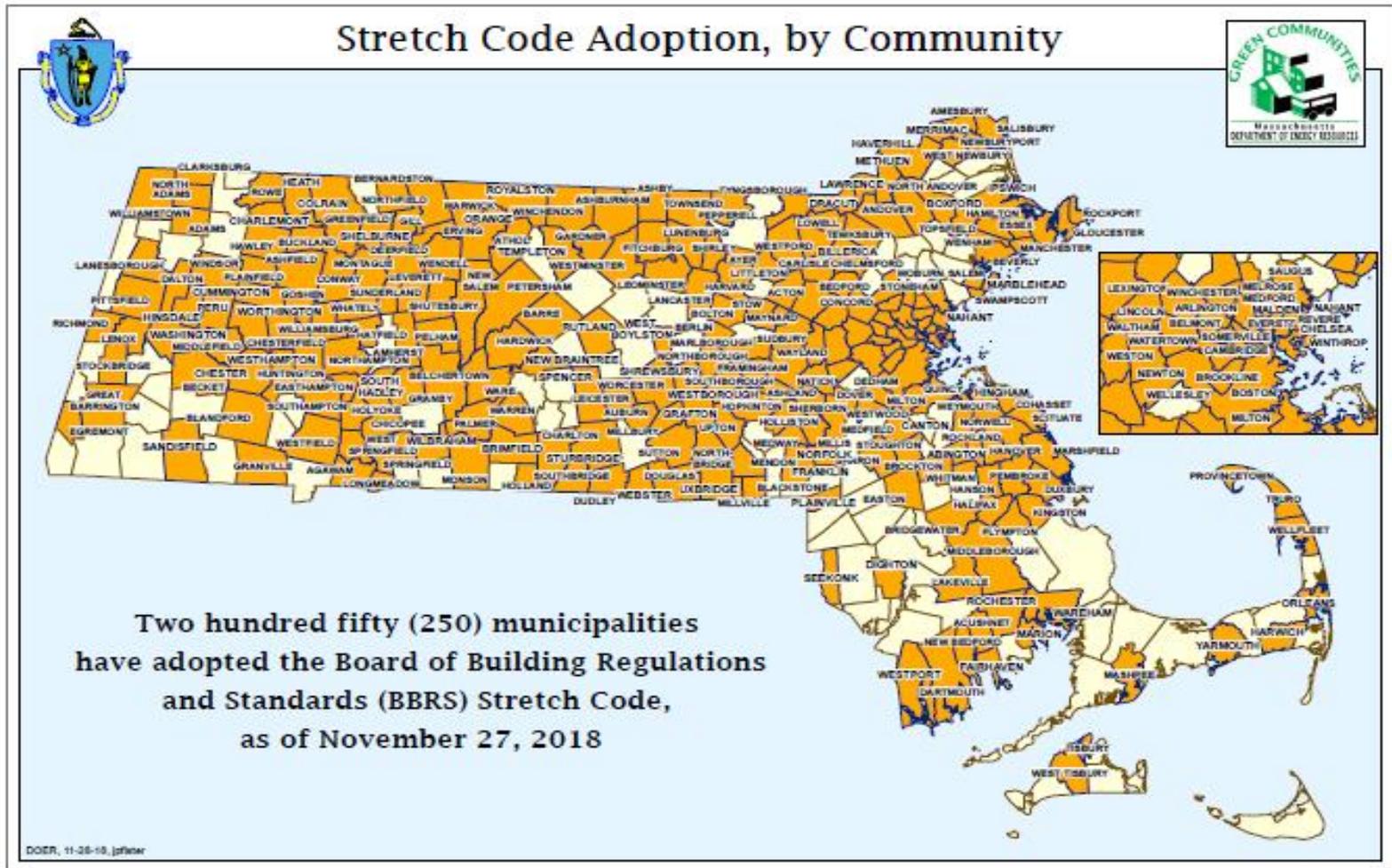
- In a town, the Stretch Code must be adopted as a general bylaw by its Town Meeting.
- <https://www.mass.gov/files/documents/2018/08/10/guidance-5-criterion.pdf>



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# Stretch Code Communities



# Stretch Code

- The Stretch Code **ONLY** applies to:
  - **NEW** residential construction and
  - **NEW** commercial construction > 100,000 sq. ft. or > 40,000 sq. ft. for conditioned spaces = Labs & Supermarkets
- **Additions, Renovations & Repairs are EXEMPT from the Stretch Code**



# The Stretch Code is No Longer Much of a Stretch

- Base Energy Code (IECC 2015) and Stretch Code adopted by Massachusetts on 1/1/2017
- Current Base Code allows builders **two options** for residential and commercial new construction:

## Prescriptive

- Checklist of Compliance Measures
- Inspections During and Post Construction

## Performance

- Pre & Post Construction Energy Modeling
- Inspections During and Post Construction



# The Stretch Code is No Longer Much of a Stretch

- Major differences between the Base & Stretch Code are:
  - Removal of the prescriptive path option
  - HERS Rater needs to provide an Energy Model.
    - The cost to perform the modelling required by the Stretch Code can be covered by utility incentive.

## ~~Prescriptive~~

- ~~• Checklist of compliance measures~~
- ~~• Inspections during and post construction~~

## Performance

- Pre & Post construction energy modeling
- Inspections during and post construction

# Why Test Performance?

- Prescriptive codes don't guarantee good installation, air and water tightness, or that thermal insulation is effective.
- Small air gaps can reduce insulation R-values by 50% or more.
- HERS Raters provide third party verification



# What is the HERS Process?

1. Review Building Plans via  
Computer Energy Modeling
2. In-process inspections
  - First inspection
    - Duct tightness test (if applicable)\*
  - Second Inspection  
(usually combined with 1st)
    - Insulation
  - Final Inspection
    - Blower door test\*
3. Finalize energy model based on  
verified performance and  
equipment

\*Required by Base Energy Code 2015 IECC



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# What is a HERS Rating? (Home Energy Rating System)

## Annualized energy analysis

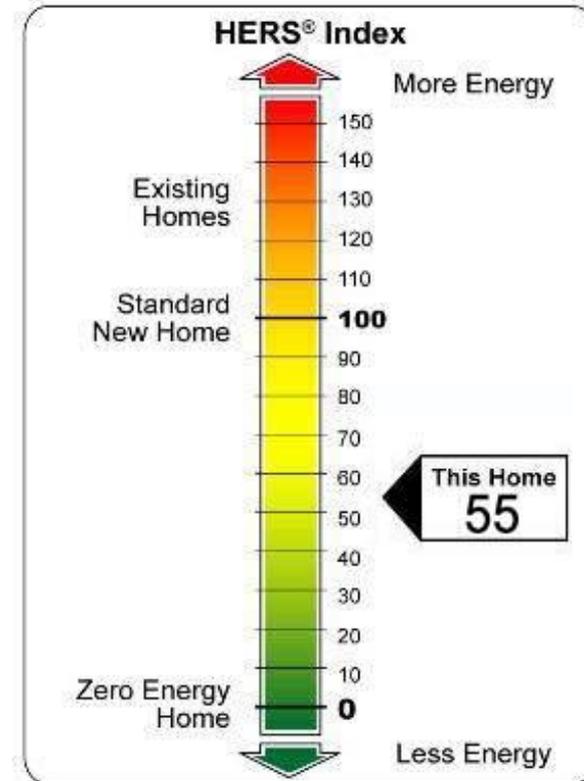
Heating, Cooling, Water Heating,  
Lighting and Appliances....

On site power generation-renewable energy

## Reference Home

- Based on IECC **2006** Code  
(International Energy Conservation Code)  
Defined as 100 Points
- 1 percent change in consumption = 1 point

**HERS 55 means about  
45% more efficient than reference home**



# Green Communities Contacts

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Website: <http://www.mass.gov/eea/energy-utilities-clean-tech/green-communities/>



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