



COMMONWEALTH OF MASSACHUSETTS

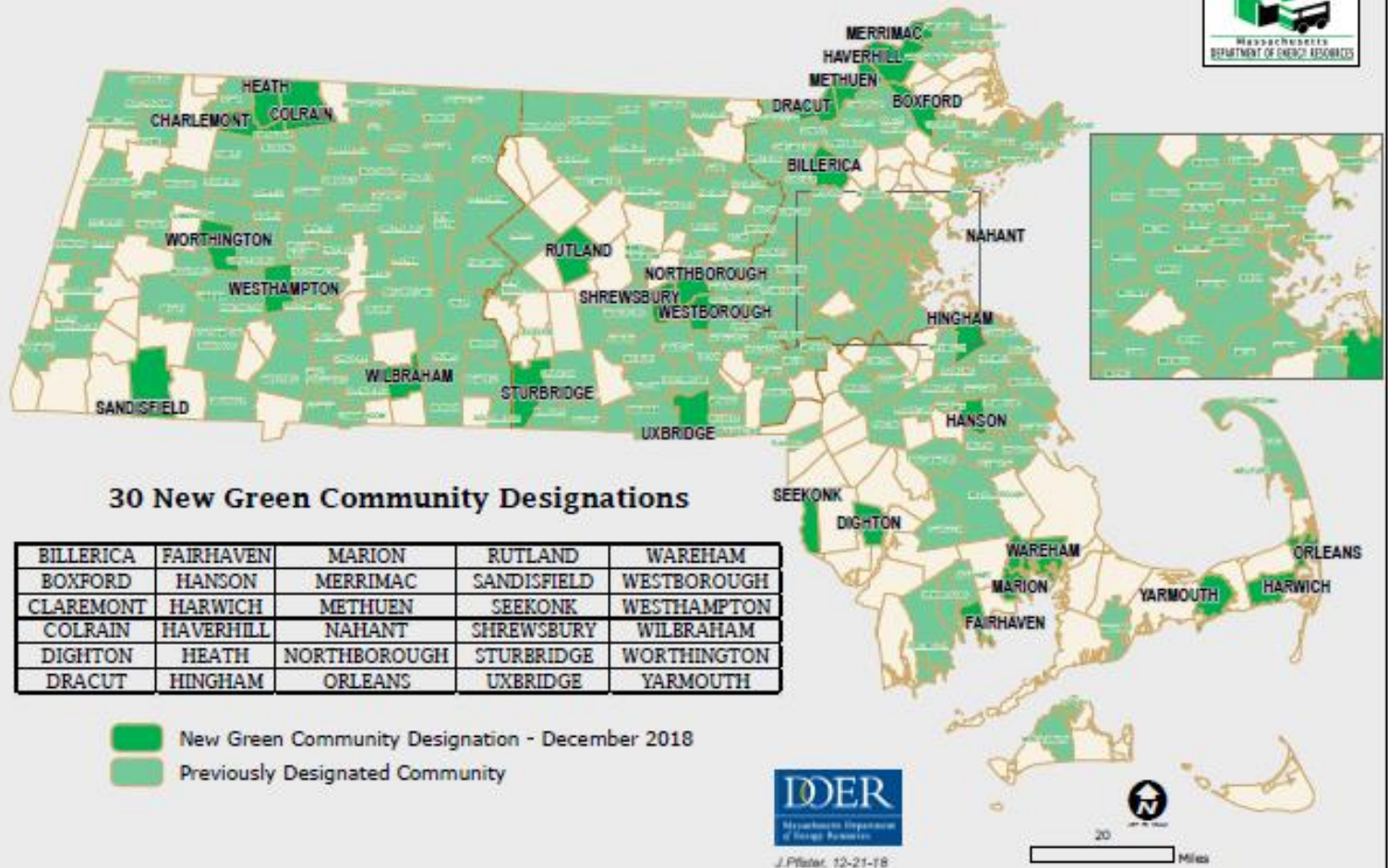
*Charles D. Baker, Governor
Karyn E. Polito, Lt. Governor
Matthew A. Beaton, Secretary
Judith Judson, Commissioner*

The Green Communities Division Partnering with Massachusetts Cities and Towns

Seth Pickering
Southeast Regional Coordinator

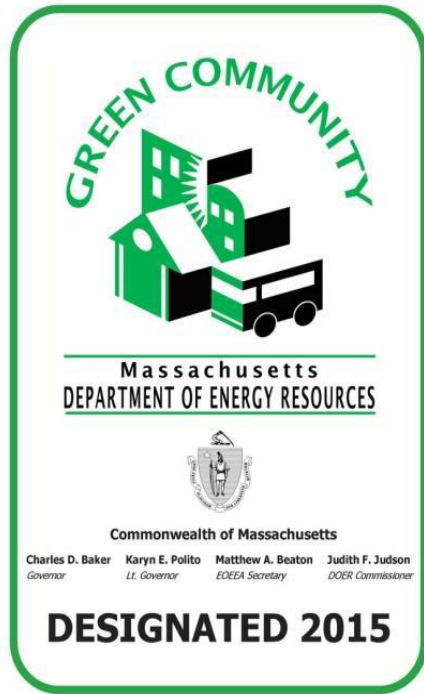
**Town of Rehoboth
Green Communities &
Stretch Code
Presentation
1/28/19**

GREEN COMMUNITY DESIGNATIONS REACH TWO HUNDRED FORTY



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 CO₂ eq.

 x 2,822

 x 5,914



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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

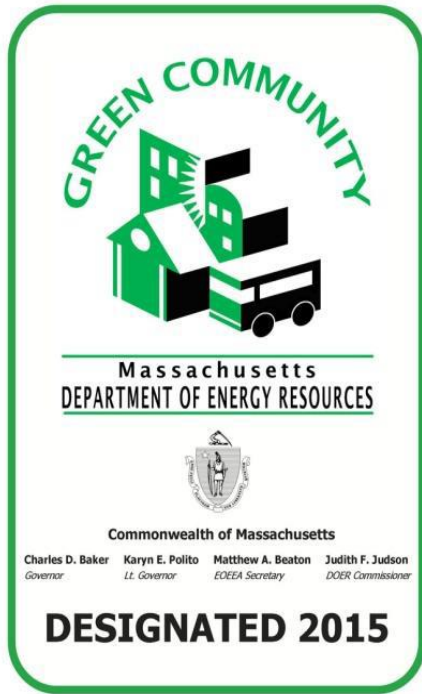
- Meet the 5 Green Communities Criteria and submit a Designation Application
- Receive Green Community Designation from DOER
- Apply for Green Community Grants



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

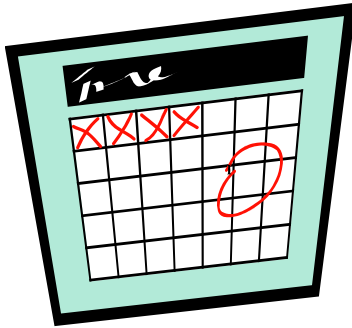


Criteria 1 – As-Of-Right Siting

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

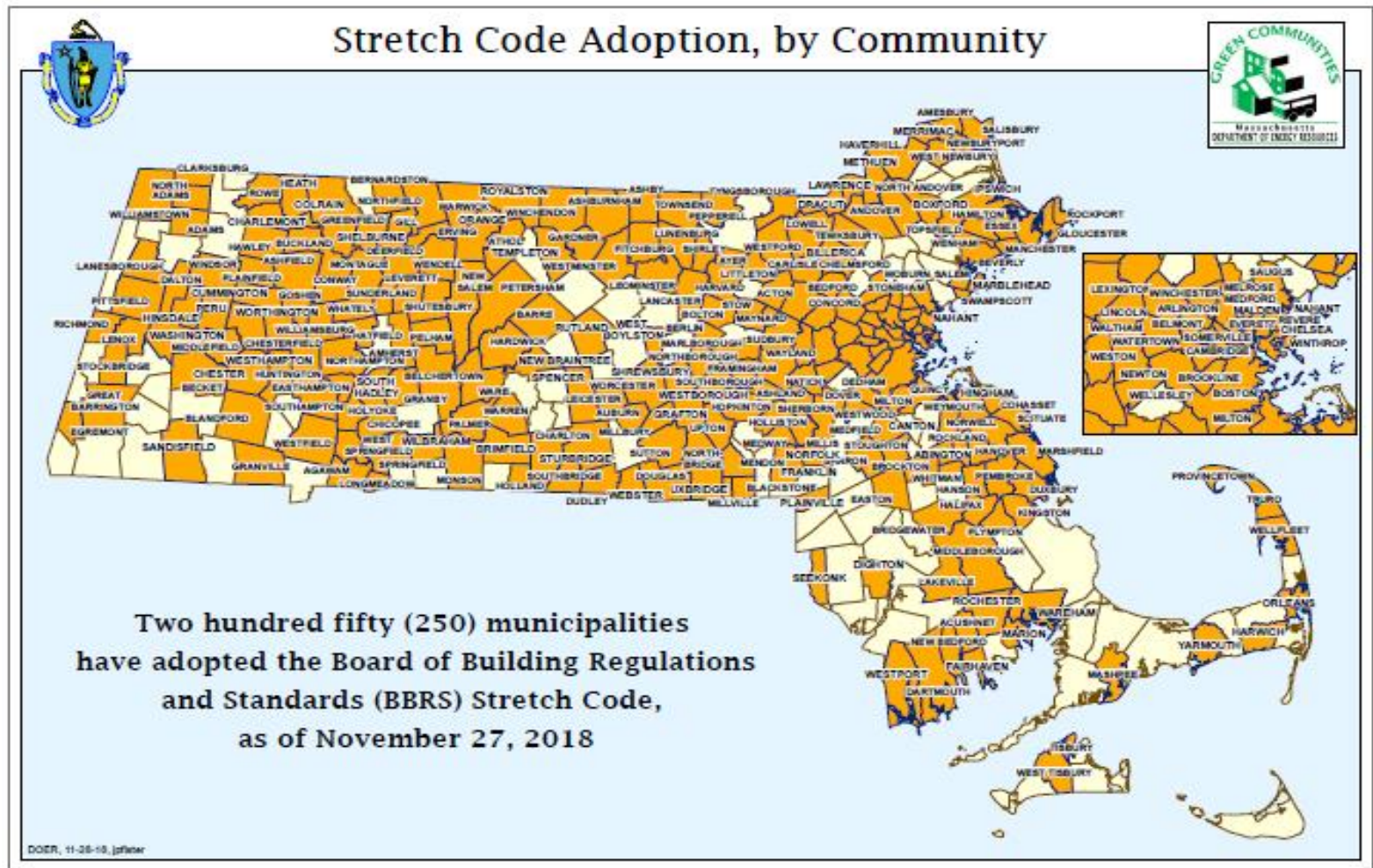
Require all new residential construction and all new commercial and industrial real estate construction to minimize, to the extent feasible, the life-cycle cost of the facility by utilizing energy efficiency, water conservation and other renewable or alternative energy technologies.

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>



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

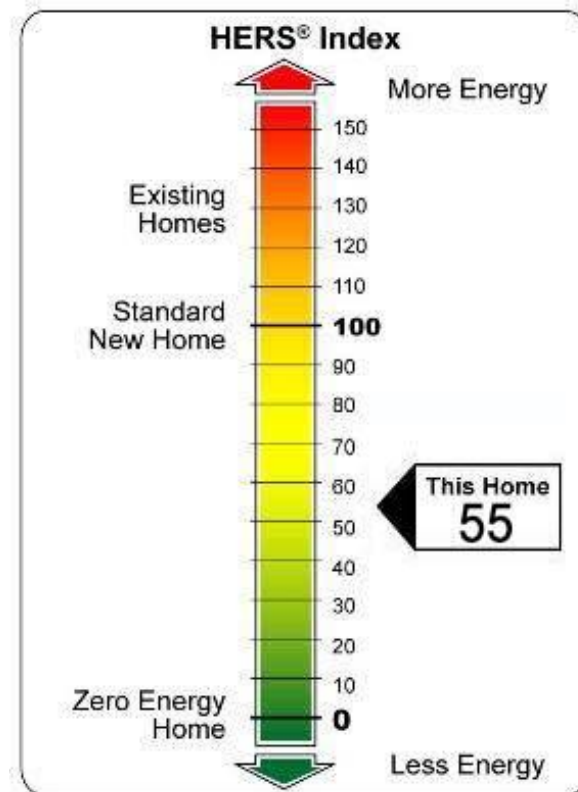
Heating, Cooling, Water Heating,
Lighting and Appliances....

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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(508) 946-2838 and (617) 780-7156

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



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