



**COMMONWEALTH OF MASSACHUSETTS**

*Deval L. Patrick, Governor  
Richard K. Sullivan, Jr., Secretary  
Mark Sylvia, Commissioner*

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

*Seth Pickering  
Southeast Regional Coordinator  
Green Communities Division*

*Town of Plympton  
Board of Selectmen  
Green Communities  
Presentation*

*June 4, 2012*

# Massachusetts

## Cleaner energy is part of our future

Priorities of the Patrick Administration

- **Green Communities Act**
- **Global Warming Solutions Act**
- **Green Jobs Act**

The landmark Green Communities Act provides a strong foundation focusing on energy efficiency, investment in renewables and the creation of the **Green Communities Division**.



*Helping Massachusetts Municipalities Create A Cleaner Energy Future*



# Green Communities Division

Serves as the hub for all Massachusetts cities and towns on energy matters



*Helping Massachusetts Municipalities Create A Cleaner Energy Future*



# GOING GREEN, WHAT DOES IT MEAN?

**Cities, towns and other local governmental bodies can reduce their energy costs by:**

1. Establishing an Energy Committee / Designating an Energy Officer
2. Establishing an energy baseline for municipal buildings, schools, streetlights and all vehicles
3. Performing Energy Audits on municipal buildings
4. Implementing energy efficiency measures (e.g. town investments, utility rebates and incentives, grant programs and performance contracting)
5. Changing behaviors: (e.g. energy conservation policies)
6. Exploring renewable energy opportunities



*Helping Massachusetts Municipalities Create A Cleaner Energy Future*



# Green Communities Division Programs & Resources

- Programs/Resources for Municipalities
  - MassEnergyInsight System
  - Green Communities Grant Program
  - Municipal Energy Efficiency Program
  - Energy Performance Contracting Technical Assistance
  - ARRA stimulus funding for cities and towns
  - Website @ <http://www.mass.gov/eea/energy-utilities-clean-tech/green-communities/>
  - Email updates via listserv – Sign up by sending an email to: [join-ene-greencommunities@listserv.state.ma.us](mailto:join-ene-greencommunities@listserv.state.ma.us)
  - Regional Coordinators



*Helping Massachusetts Municipalities Create A Cleaner Energy Future*



# GREEN COMMUNITIES GRANT PROGRAM



Massachusetts  
DEPARTMENT OF ENERGY RESOURCES



Commonwealth of Massachusetts

Deval L. Patrick Governor  
Timothy P. Murray Lieutenant Governor  
Ian A. Bowles EOEEA Secretary  
Philip Giudice DOER Commissioner

**DESIGNATED 2010**

Provides grants to *qualifying* communities to fund energy efficiency initiatives, renewable energy, innovative projects

## Qualification Criteria

1. Adopt as-of-right siting, in designated locations, for RE/AE generation, or RE/AE R&D, or RE/AE manufacturing
2. Adopt expedited (12 month) application/permitting process
3. Establish an energy use baseline with a plan to reduce baseline by 20% in 5 years
4. Purchase only fuel-efficient vehicles
5. Require new residential construction and new commercial and industrial real estate construction to minimize life-cycle energy costs (**Adopt Stretch Code - 780 CMR 115, Appendix AA**)



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

*Helping Massachusetts Municipalities Create A Cleaner Energy Future*



# 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



# Criteria 1 – As-Of-Right Siting

For at least one of the following:

1. Renewable or Alternative Energy Generating Facilities or;
2. Renewable or Alternative Energy Research and Development (R&D) Facilities or;
3. Renewable or Alternative Energy Manufacturing Facilities in designated locations.



# Criteria 1 – As-Of-Right Siting / Generation

1. On-Shore Wind – A turbine of a minimum 600 kW in size or above
2. Off-Shore Wind – A turbine of a minimum 2.5 MW or above
3. Solar Photovoltaic – A single ground-mounted system of a minimum of 250 kW or above
4. Biomass CHP - A minimum of 5 MW in a stand-alone building
5. Ocean, Wave or Tidal – no minimum threshold



## 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



*Helping Massachusetts Municipalities Create A Cleaner Energy Future*



## Criteria 3 – Energy Tracking Tools

### Monitoring: Electricity Use

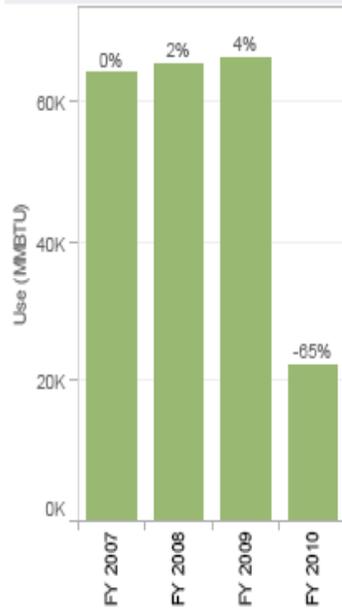


- DOER's MassEnergyInsight ([www.massenergyinsight.net](http://www.massenergyinsight.net))
- EnergyStar Portfolio Manager
- ICLEI software
- Any other tools must be pre-approved by DOER

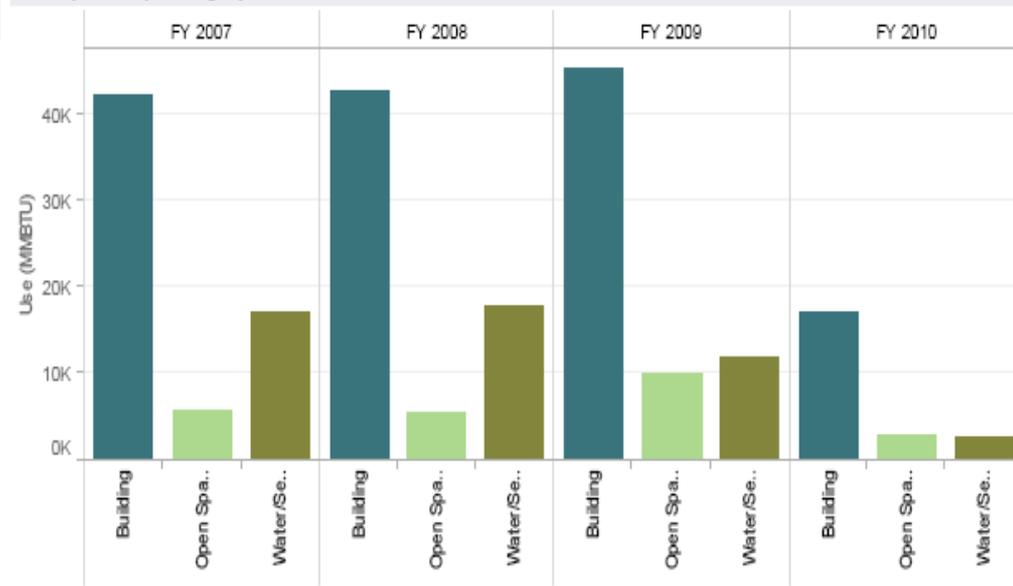
# Criteria 3 – Energy Baseline & 20% Energy Reduction Plan

Create a comprehensive energy reduction plan designed to reduce energy use by 20 percent within 5 years of the baseline year.

Overall Use with % Difference from Baseline Year



Use by Facility Category



Values with a Facility Category of **Null** or **blank** indicate buildings that have not yet been assigned a category. Categories can be assigned from within the "Enter/Organize Data" section of [www.massenergyinsight.net](http://www.massenergyinsight.net).



Helping Massachusetts Municipalities Create A Cleaner Energy Future



## 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.



Plow Battery - Route 495 North  
Franklin

## 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 BBRB Stretch Code (780 CMR 115.AA) an appendix to the MA State Building Code.

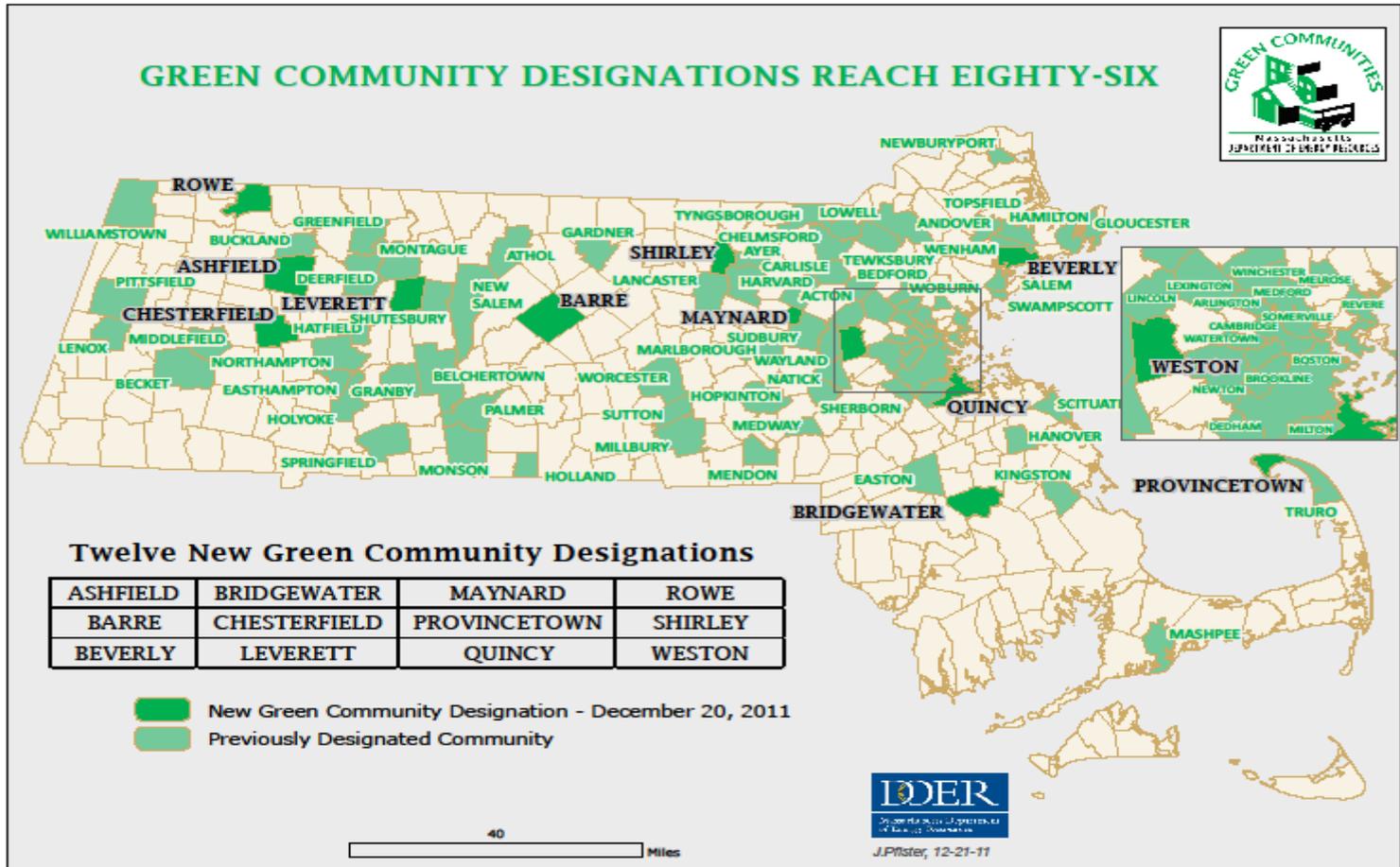
- In a town, the Stretch Code must be adopted as a general bylaw by its Town Meeting.
- In a city, the Stretch Code must be adopted by the City Council, preferably by general ordinance.



*Helping Massachusetts Municipalities Create A Cleaner Energy Future*



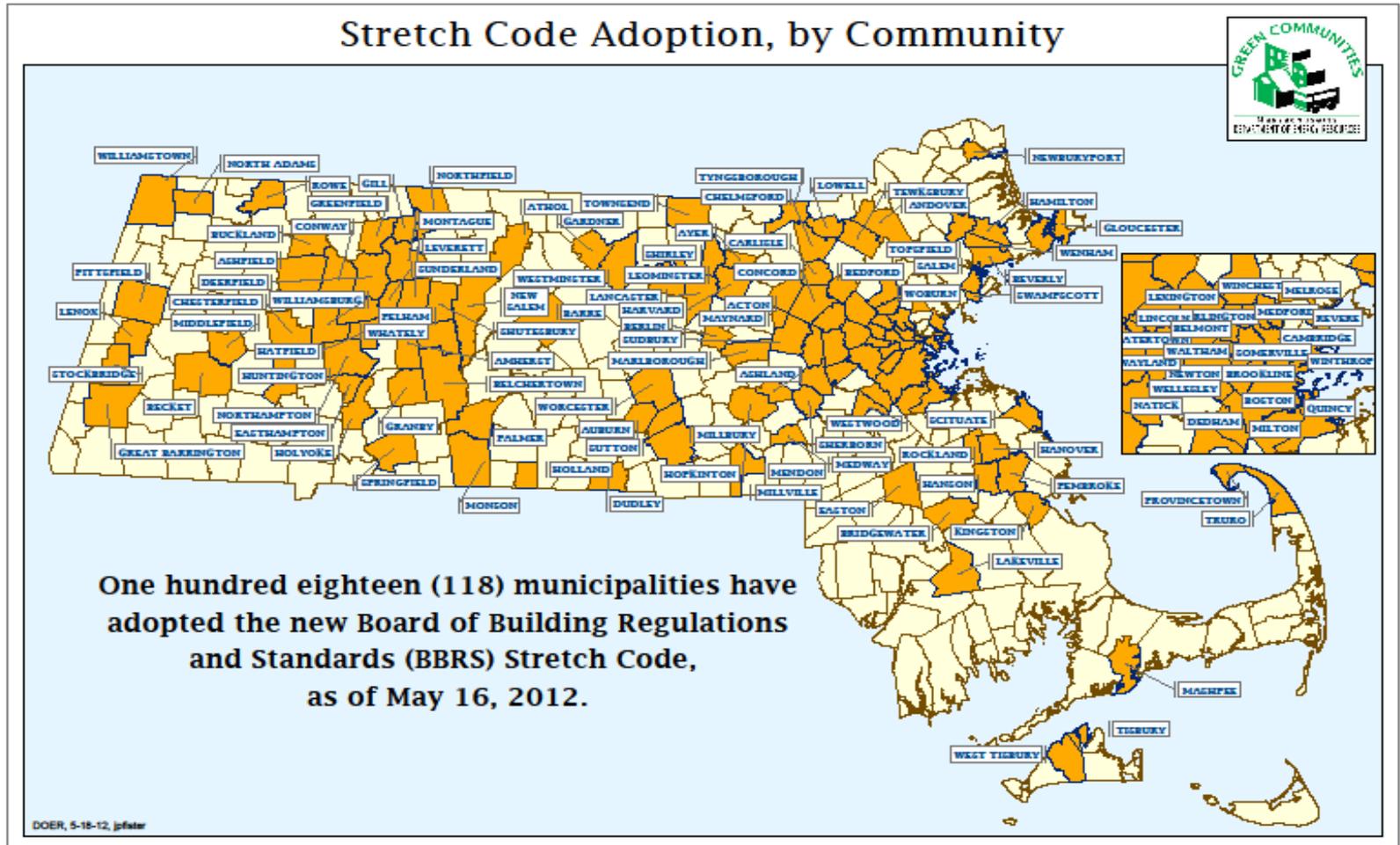
# Meet the Green Communities!



*Helping Massachusetts Municipalities Create A Cleaner Energy Future*



# Stretch Code Communities



# Green Communities Designation and Grant Program – 86 Green Communities

- Grant allocations based on a \$125K base plus a population/per capita income formula; maximum \$1M.

<u>Town</u>	<u>Grant</u>	<u>Population</u>
Bridgewater	\$200,800	25,185
Easton	\$168,829	22,299
Hanover	\$148,598	13,164
Kingston	\$163,528	11,780
Scituate	\$163,025	17,863

- Projects being funded include energy conservation measures, energy savings performance contracts, solar PV projects, incremental costs for hybrid vehicles, residential efficiency grant programs, energy efficiency coordinators (10%).



# Green Communities Designation and Grant Program – Hanover

## Hanover - \$148,598

1. Incremental Cost Increase to purchase a Chevrolet Tahoe Hybrid Police Department vehicle – Cost increase to purchase a hybrid vehicle, total vehicle cost was \$57,438, amount GC Grant paid = \$24,600.
2. Replace Steam Traps at Sylvester and Salmond Schools – Installation of new steam traps in school heating systems to improve system efficiency, \$20,000.
3. Replace Town Hall Boiler – Upgrade to more efficient boiler at Town Hall, \$30,000.
4. Replace Fire Station HQ Doors – Install new energy efficient rollup doors for fire engine bays at FD, \$40,000.



# Green Communities Designation and Grant Program – Kingston

## Kingston – \$163,528

1. Kingston Library - GC Grant = \$47,920, NStar Incentives = \$11,077.
  - i. Installation of a new High Efficiency Condensing Boiler
  - ii. Installation of CO2 sensors and motion sensors for fresh air controls/demand control ventilation
  - iii. Installation of a new Honeywell HVAC Control System and Reprogram existing HVAC Units
2. Kingston Elementary School - GC Grant = \$67,376, NStar Incentives = \$74,449.
  - i. Installation of Kitchen Hood Exhaust Controls
  - ii. Energy Management System (EMS) Upgrade and Re-Commissioning
  - iii. Installation of CO2 sensors and motion sensors for fresh air controls/demand control ventilation
  - iv. Day Lighting Controls
3. Smith Lane Fire Station- GC Grant = \$42,488, NStar Incentives = \$5,294.
  - i. Installation of a new High Efficiency Condensing Boiler
  - ii. Installation of a new High Efficiency 3 Ton AC Unit
  - iii. Lighting and ballast replacements



# Green Communities Designation and Grant Program – Easton

## Easton - \$168,829

1. Replace Town Office Boiler – Upgrade to 94% thermal efficient gas fired unit, \$66,200. Payback = 9 years.
2. Replace Police/Fire Station Roof Top Heating/Cooling Unit – Upgrade to new high efficiency unit with high EER rating and exhaust air energy reclaim system, \$85,000. Payback = 5 years.
3. Replace Water Division Garage Heaters – High efficiency infra-red units, \$4,749. Payback = 1 year.
4. Middle School Energy Efficient Parking Lot Lights – Middle School parking lot, \$3,500. Payback = 1 year.
5. High School Gym Lighting Upgrade – High efficiency lighting installed in High School Gym, \$8,500. Payback = 2 years.



# MUNICIPAL ENERGY EFFICIENCY

- **Municipal Energy Efficiency** - A major focus of the Green Communities Division is collaborating with municipalities by coordinating energy assessments with utilities, identifying energy efficiency resources and opportunities and evaluating the benefits of implementing energy conservation measures.
- **NStar Electric & Columbia Gas – Audits/Rebates/Incentives**
- **Three Year Energy Efficiency Plans**
  1. Investor owned electric and gas utilities (IOU) are required to provide all available energy efficiency (EE) and demand reduction resources that cost less than new energy supply.
  2. Utilities will provide more robust rebates, incentives and programs to meet their goals.
  3. Plans – IOUs to invest \$2.2 billion in EE measures over 3 yrs.



For more information contact: **Aimee Powelka**  
**[Aimee.Powelka@state.ma.us](mailto:Aimee.Powelka@state.ma.us)** or (617) 626-7356

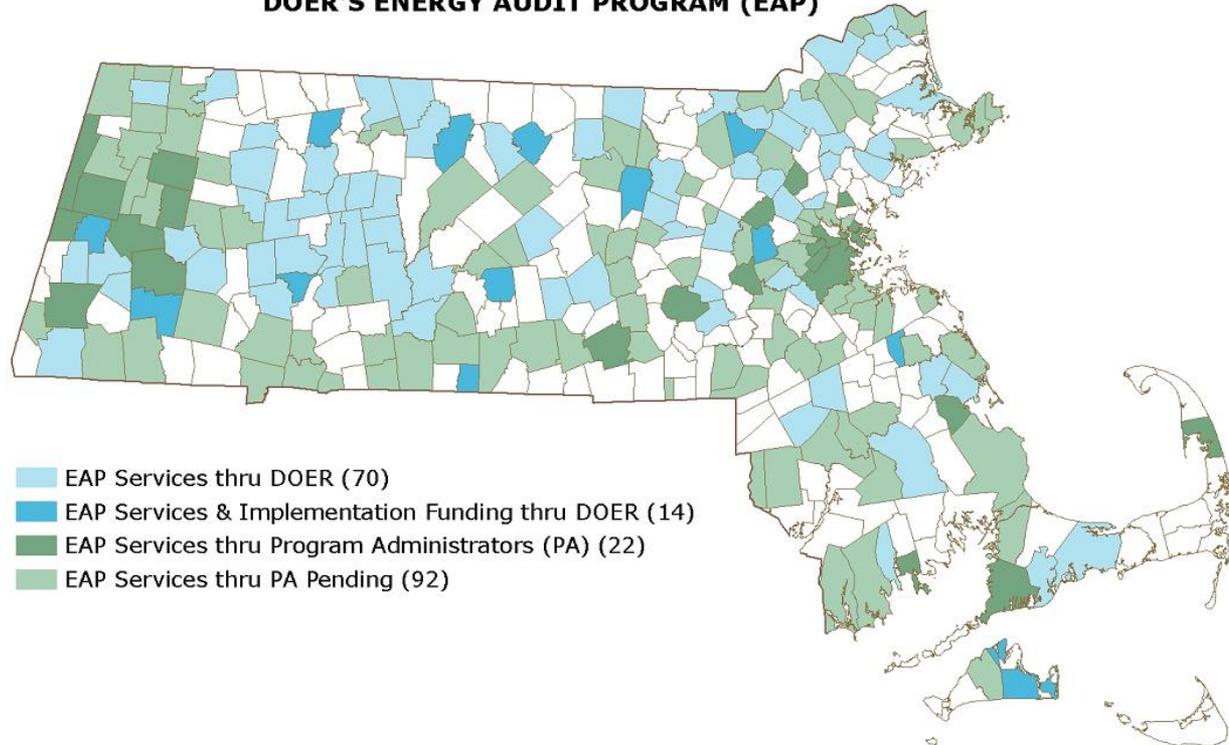
*Helping Massachusetts Municipalities Create A Cleaner Energy Future*



# Municipal Energy Efficiency - EAP

Helping municipalities, school districts, water and waste water districts identify and implement energy efficiency measures

**MUNICIPALITIES PARTICIPATING IN  
DOER'S ENERGY AUDIT PROGRAM (EAP)**



*Helping Massachusetts Municipalities Create A Cleaner Energy Future*



# Energy Management Services Assistance – MGL c25A sections 11C and 11i

- Also known as Energy Savings Performance Contracting
- Provide a guide, model RFR/RFQ and model contract documents
- Review bid documents & contracts
- Educate and guide communities through the process

**Contact:** Eileen McHugh at [eileen.mchugh@state.ma.us](mailto:eileen.mchugh@state.ma.us),  
617-626-7305



*Helping Massachusetts Municipalities Create A Cleaner Energy Future*



# MassEnergyInsight

● ● ● ● ● POWERING EFFICIENCY

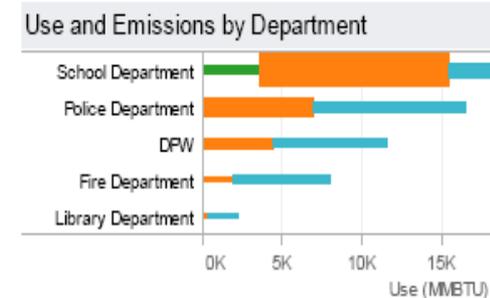
- **FREE** online tool for MA cities, towns, RSD & WTP

- Provides:

- Automated electronic download of utility data
- All energy costs and accounts in one place
- Standard and custom reporting

- One tool to do it all:

- **Benchmark:** track energy use by town, department or building
- **Identify:** least efficient buildings for efficiency action
- **Measure and verify:** energy use trends by building over time



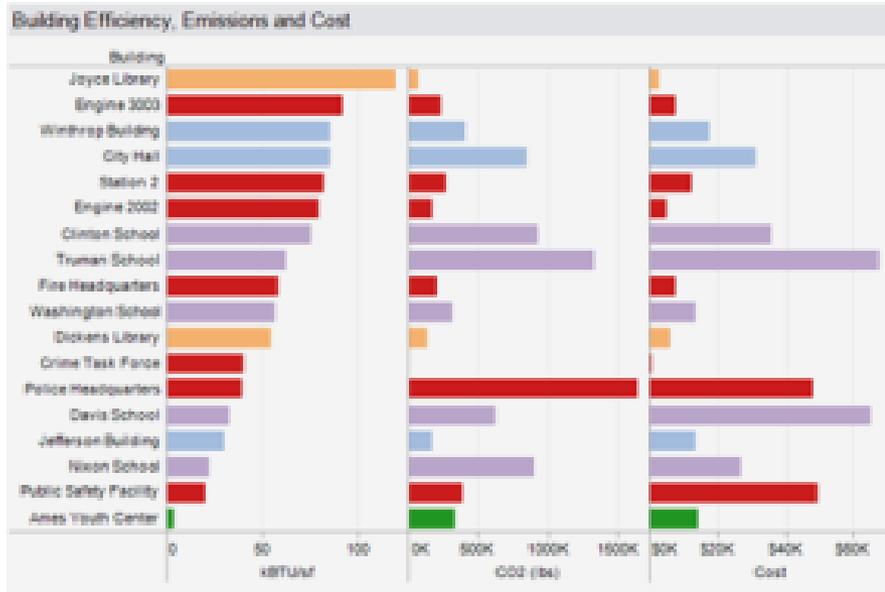
*Helping Massachusetts Municipalities Create A Cleaner Energy Future*



# MassEnergyInsight

● ● ● ● ● POWERING EFFICIENCY

To date more than 425 individuals in more than 200 towns trained to use MassEnergyInsight to benchmark and monitor ongoing energy use, costs, and emissions



Helping Massachusetts Municipalities Create A Cleaner Energy Future



# Green Communities Contacts

## Meg Lusardi – Director

[meg.lusardi@state.ma.us](mailto:meg.lusardi@state.ma.us) (617) 626-7364

## Seth Pickering – Regional Coordinator

[seth.pickering@state.ma.us](mailto:seth.pickering@state.ma.us) (508) 946-2838

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



*Helping Massachusetts Municipalities Create A Cleaner Energy Future*

