Greening the Commonwealth, One Community at a Time:
Lessons from the First Year of the Massachusetts Green Communities Grant Program

NNECAPA Annual Conference
October 7-8, 2010
Portsmouth, New Hampshire

Ellie Baker
Senior Environmental Planner
30 Green Street
Newburyport, MA 01950
978-499-0601
ebaker@horsleywitten.com

Katie Resnick, AICP, LEED AP
90 Route 6A
Sandwich, MA 02563
508-833-6600
kresnick@horsleywitten.com

Horsley Witten Group, Inc.

Green Communities Division

Created by MA Green Communities Act, 2008

www.mass.gov/energy/greencommunities

Serving to guide all MA communities along a path of enhanced energy efficiency and renewable energy toward zero net energy.

Goal is to help cities and towns:

- maximize energy efficiency in public buildings
- generate clean energy from renewable sources
- manage rising energy costs

Green Communities Grant and Loan Program

- Green Communities Division of the MA Dept of Energy Resources
- Up to $10 M/yr primarily from northeast Regional Greenhouse Gas Initiative
  - New England, New York, Maryland, Delaware
- Technical Assistance
- Grants to “Green Communities” for community energy efficiency and alternative energy measures

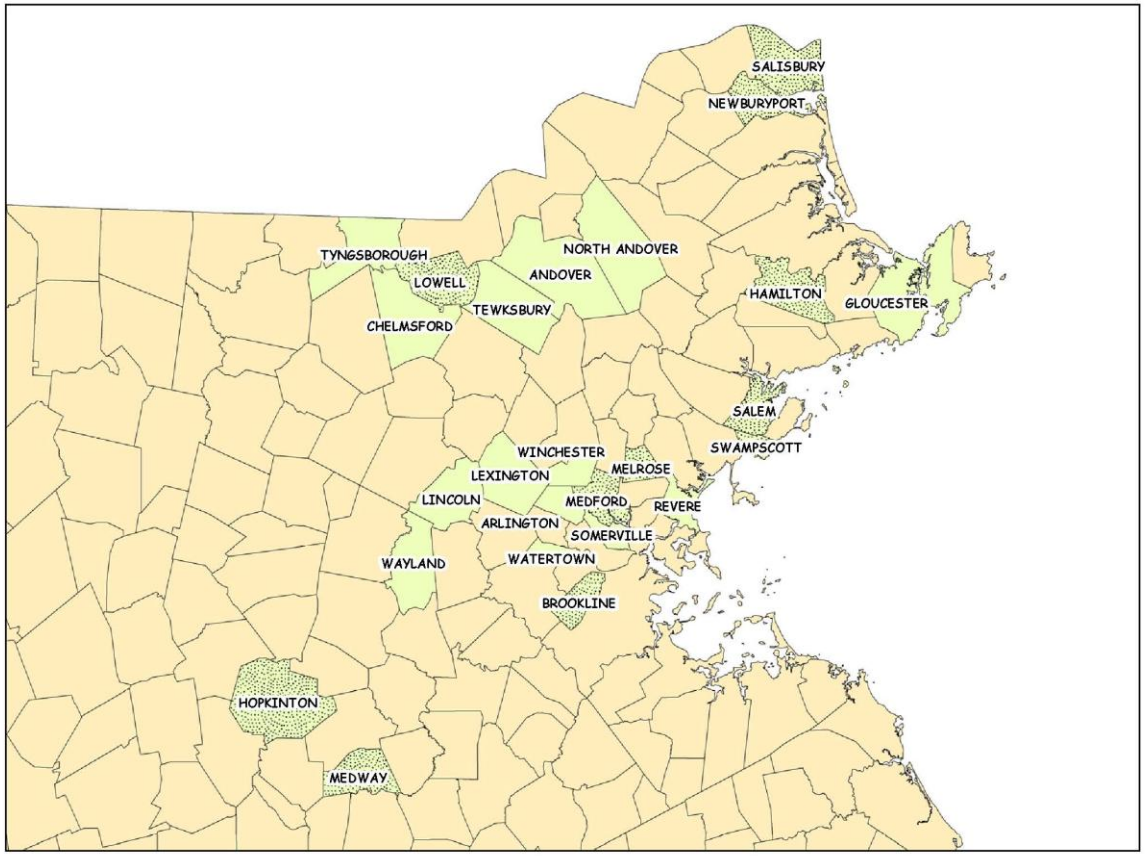
Planning Assistance: 2010

- Awarded to 72 individual municipal applicants and 6 regional applicants (representing 31 more municipalities)
- Communities are large and small and are spread across the Commonwealth
- 6 Teams of consultants providing Planning Assistance on behalf of DOER
- Support from Green Communities Regional Coordinators

Planning Assistance
What does it include?

- Up to 100 hours of services in 90 days, including several working meetings
- Development of an Action Plan to meet the Green Communities criteria
- Consultants not authorized to implement Action Plan items – municipality must be responsible

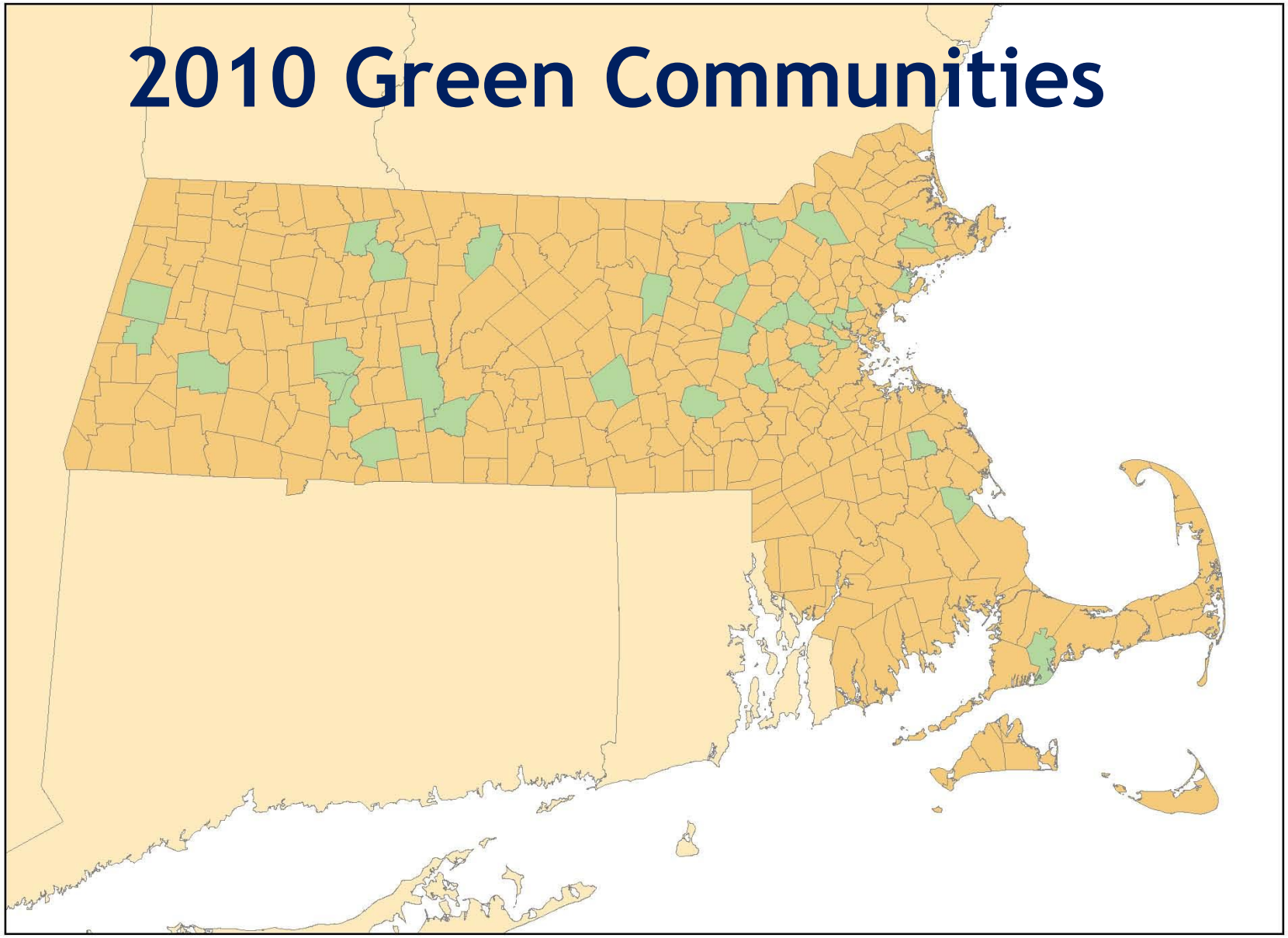
The Horsley Witten Group/ICF team served 25 communities



Inaugural Grant Round: 2010

# Communities	Achievement
103	Received Planning Assistance
47 *(as of Sept 21, 2010)*	Adopted Stretch Energy Code
35	Certified as “Green Communities”
35	Received Grants
(351	*Total communities in MA)*

2010 Green Communities



“Green Communities” Benefits

- Economic Benefits
  - save energy, attract new business
- Environmental benefits
  - reduce greenhouse gas emissions
- Recognition – Sustainability leader in the Commonwealth
  - Recognized on DOER website, printed materials
  - Recognition sign placed in each community
- Grants – Up to $10M per year to become even greener

The 5 Qualification Criteria

1. Adopt as-of-right siting for renewable/ alternative energy generation, R&D or manufacturing facilities
2. Adopt expedited (12 month) permitting process for those facilities
3. Establish a municipal energy use baseline inventory and a 5-yr, 20% reduction plan
4. Adopt a fuel-efficient vehicles purchasing policy
5. Adopt the Stretch Energy Code

The 5 Qualification Criteria

1. Adopt as-of-right siting for renewable/ alternative energy generation, R&D or manufacturing facilities
2. Adopt expedited (12 month) permitting process for those facilities
3. Establish a municipal energy use baseline inver
4. Adop g polic
5. Adopt the Stretch Energy Code

The Zoning and Land Use Criteria

The 5 Qualification Criteria

1. Adopt as-of-right siting for renewable/ alter… man…
2. Ador… …those facilities

The Energy Efficiency Criteria

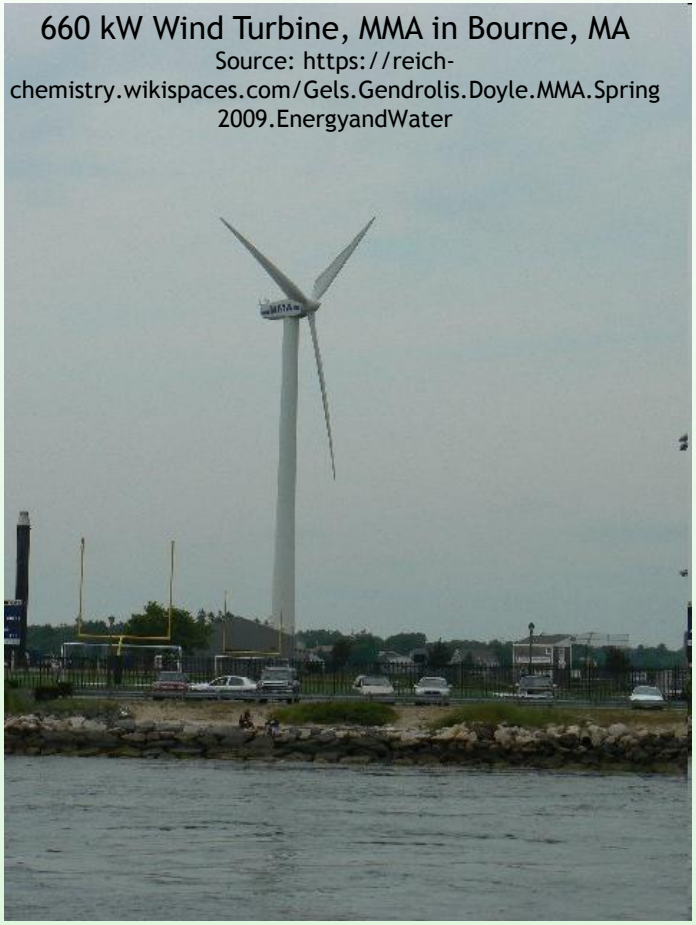
3. Establish a municipal energy use baseline inventory and a 5-yr, 20% reduction plan
4. Adopt a fuel-efficient vehicles purchasing policy
5. Adopt the Stretch Energy Code

Criteria 1 and 2
The Zoning and Land Use Criteria

1. Adopt as-of-right siting for renewable/ alternative energy generation, R&D or manufacturing facilities
2. Adopt expedited (12 month) permitting process for those facilities

250 kW Solar Array, Mauna Lani Resort in Hawaii
Source: http://www.thesolarplan.com/articles/mlb3-fromlift.jpg

660 kW Wind Turbine, MMA in Bourne, MA
Source: https://reich-chemistry.wikispaces.com/Gels.Gendrolis.Doyle.MMA.Spring2009.EnergyandWater

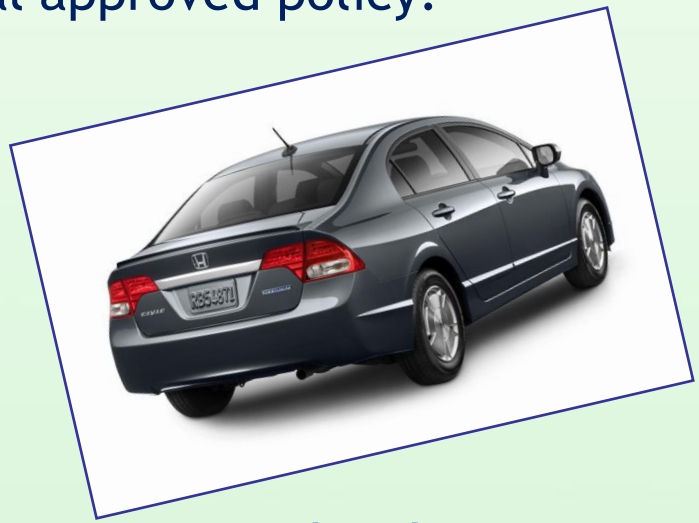


Criteria 3: Energy Use Baseline

3. Establish an energy use baseline inventory with a program to reduce baseline by 20% in 5 years.
   - DOER's MassEnergyInsight Tool online (Peregrine Energy)
   - Various other tools (Energy Star Portfolio Manager, ICLEI, Clean Air Cool Planet Small Town Carbon Calculator)
   - Municipal buildings, municipal facilities (wastewater, water, other), street/traffic lights and vehicles.

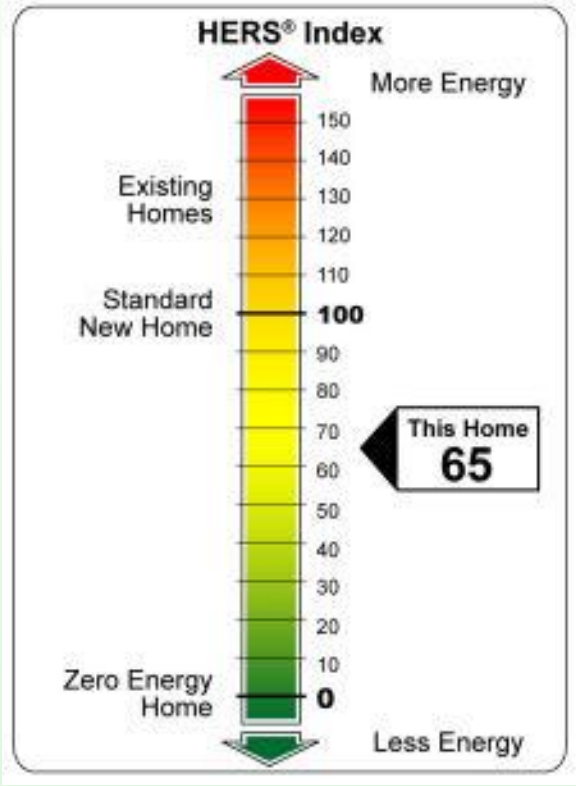
Criteria 4: Fuel Efficient Vehicles

4. Purchase only fuel-efficient vehicles
   - Exemptions: Ambulances, fire trucks, DPW trucks and other heavy-weight vehicles.
   - Police cruisers: Town must commit to replace as needed when fuel-efficient cruisers available.
   - Vehicle fleet inventory required.
   - Achieved through an official approved policy.

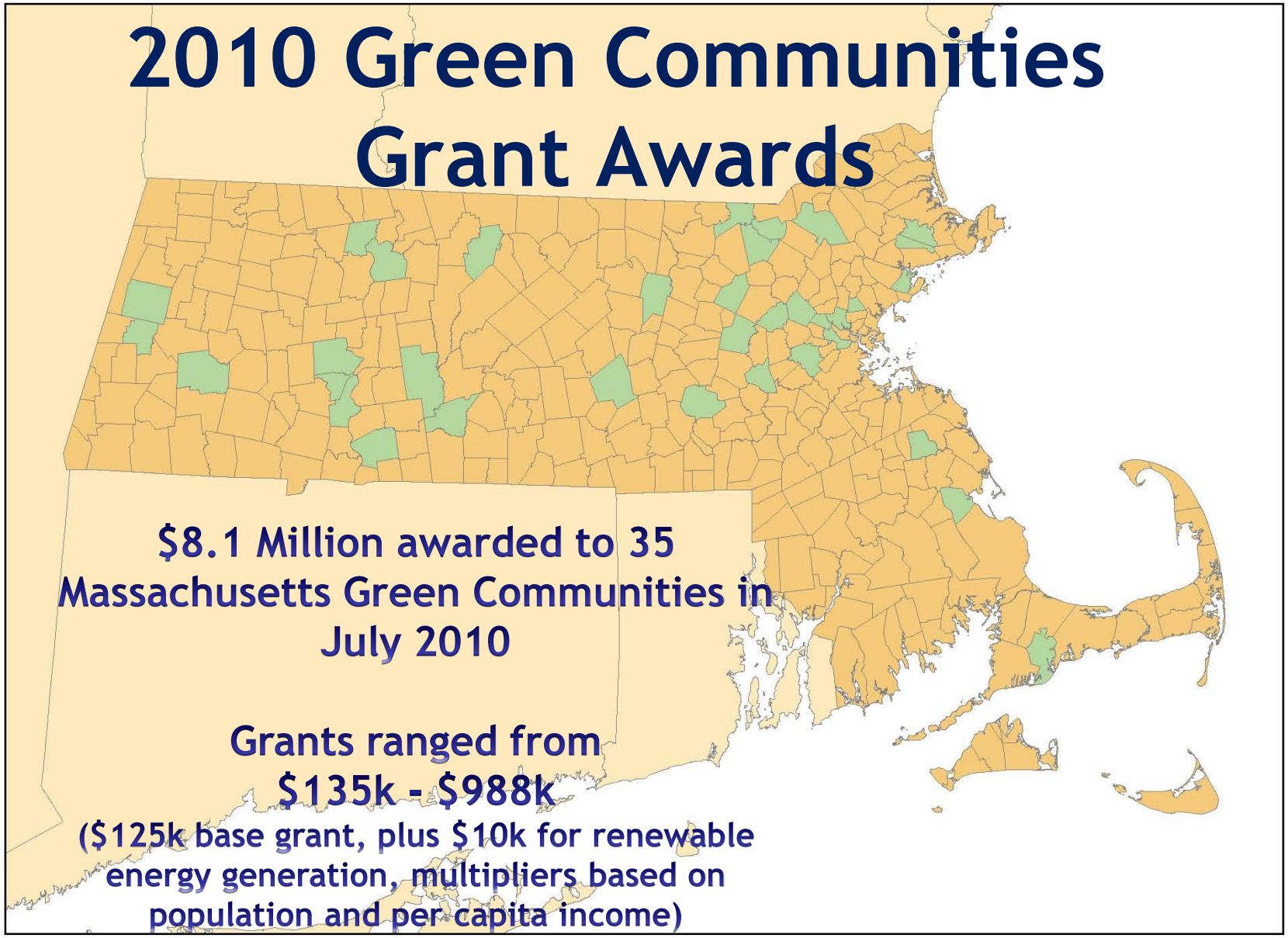


Criteria 5: Stretch Energy Code

5. Require all new residential construction > 3000 $ft^{2,}$ and new commercial and industrial construction to minimize life-cycle energy costs.
   - Adoption via Town Meeting/Council.
   - 6 month concurrency period once adopted, starting July 1 or Jan 1.
   - Building Inspector must be trained.



2010 Green Communities Grant Awards



$8.1 Million awarded to 35 Massachusetts Green Communities in July 2010

Grants ranged from $135k - $988k

($125k base grant, plus $10k for renewable energy generation, multipliers based on population and per capita income)

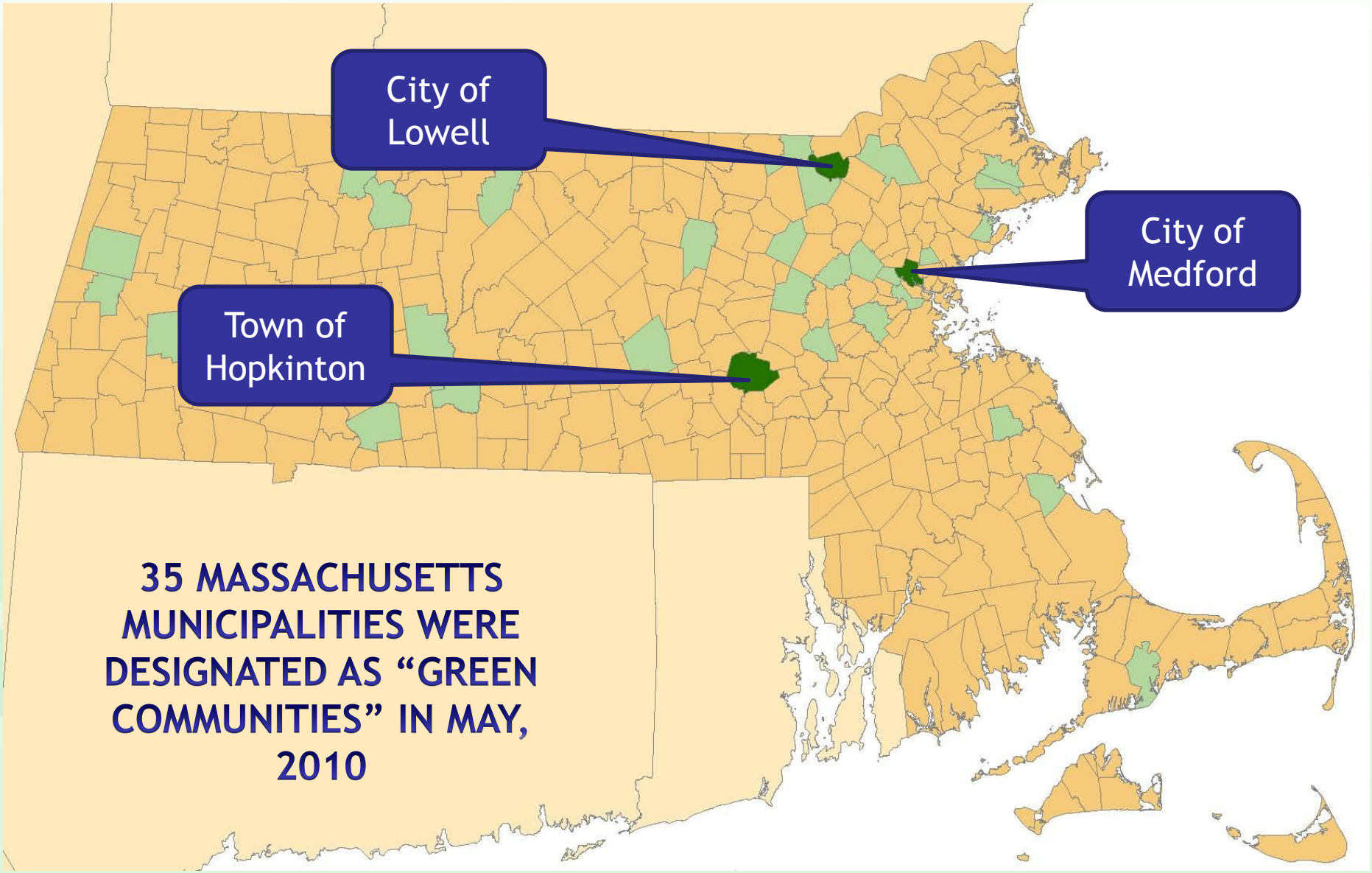
Grant Funds at Work

- Energy efficiency improvements at municipal buildings/Energy management services contract (ESCO) buy downs
- Energy efficiency revolving loan fund/retrofit grant program
- Solar Photovoltaic projects
- Energy efficiency staff (in conjunction with funded projects)
- Leverage additional energy efficiency funds
- Incremental cost of a fuel efficient vehicle

Green Communities Round II

DATE	EVENT
September 3, 2010	Begin accepting planning assistance applications and designation applications
August 20, 2010 -October 15, 2010	Accepting requests for designation application preliminary consultations
October 1, 2010	Deadline for planning assistance applications
November 19, 2010	Deadline for designation applications
December 17, 2010	Begin accepting grant applications
January 21, 2011	Deadline for grant applications
More information at http://tiny.cc/GreenCToolkit	

Lessons Learned on the Ground



Lowell, MA

- Fourth largest City in MA
- Historic Mill City
- Redevelopment Potential
- Commitment to Sustainability and Energy Efficiency

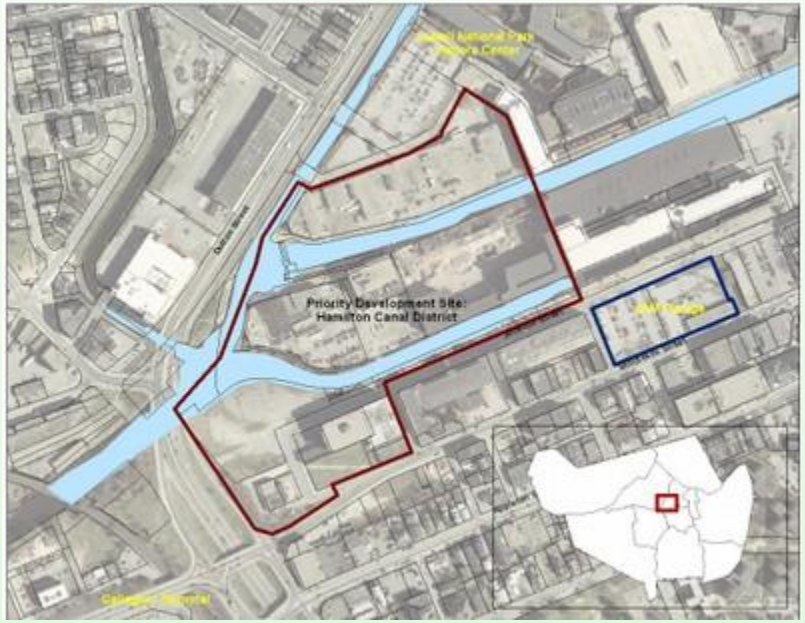
Image sources (top to bottom): lowellma.gov; http://www.millcityproperties.com/our-community.php

Green Building Commission
Lowell, MA

Horsley Witten Group, Inc.

Lowell: How they became designated

1. As-of-right manufacturing/R&D
2. Chapter 43D district
3. ICLEI Inventory supplemented with ESCO Audit
4. GC Model Policy
5. Stretch Code Adopted Spring, 2010



Lowell: Going above and beyond

- Wind Ordinance
  - Already in the process of developing
  - Adjustments for Green Communities (i.e., as-of-right in specified expedited permitting districts)

District Type	Suburban				Traditional Neighborhood					Urban				Special Purpose			Ind	
Districts	SSF	SMF	SMU	RR	TSF	TTF	TMF	TMU	NB	USF	UMF	UMU	DMU	HRC	INS	OP	LI	GI
g. Large Wind Energy Facility [Ord. 5-25-10]	N	N	N	PB	N	N	N	N	N	N	N	N	N	Y	PB	PB	Y	Y

Lowell: How the funding is being used

- Residential and commercial retrofit grant programs; and
- To buy down the cost of an energy management services contract

Image source: http://www.lowellma.gov/depts/historic-board/review-districts-permitting/downtown-historic-district

Downtown Lowell Historic District

Hopkinton, MA

- Population of about 14,000 and growing
- 25 miles outside Boston
- Dedicated to sustainability and energy efficiency

Image sources (top to bottom): http://www.farsrealtygroup.com/blog/2007/09/hopkinton-ma-where-everybody-knows-your.html; http://www.hopkintonrealtor.com/

Hopkinton: How they became designated

1. As-of-right manufacturing/R&D
2. Local expedited permitting program
3. MassEnergyInsight
4. GC Model Policy
5. Stretch Code Adopted Spring, 2010

Image source: http://www.hcam.tv/newsarchive/2010/05/GreenPlan-05-20-10.shtml

Hopkinton: In the spotlight

- Governor Deval Patrick announced the designated Green Communities from Hopkinton on May 25, 2010

Image source: http://www.hcam.tv/newsarchive/2010/05/Patrick-05-25-10.shtml

Hopkinton: How the funding is being used

- Variety of municipal building retrofits – low hanging fruit:
  - vending machine vendor miser controls
  - Sensors and variable frequency drives for hot water pumps.
  - Software to shut down computer equipment at schools.
  - CO2 sensors
  - Training for town staff.
  - Reduced wattage high performance lighting
  - Automatic occupancy sensors.
  - Watt-stopper lighting control panel
  - High intensity fluorescent low bay fixtures – DPW garage

Before

After

The above retail store converted from MH400 Highbays using 468 watts per fixture to T8 Highbays supplied by Synergy Lighting using only 221 watts per fixture.

Medford, MA

- Population of 55,765
- Large residential and student population
- Commitment to Sustainability and Energy Efficiency

Medford: How they became designated

1. As-of-right manufacturing/R&D
2. Local expedited permitting program
3. MassEnergyInsight
4. Existing Policy
5. Stretch Code Adopted Spring, 2010

Medford: Going above and beyond

1999	1st Green House Gas Inventory; Tree City USA Designation; Solar Panels on the roof of City Hall
2001	Biodiesel & Electric Cars; 1st Municipal Climate Action Plan;1st Energy Efficiency Fair: Medford hosted its first Energy Efficiency Fair
2003	Benchmarked Municipal Energy Use; LED Traffic Lights
2004	1st City Hall to receive US EPA Energy Star Plaque; US EPA Clean Air Excellence Award; School Bus No-Idling Policy
2005	US EPA Clean School Bus Project; Municipal Energy Efficiency Policy; Municipal Environmental Purchasing and Sustainability Award;
2006	Altwheels Transportation Festival Award
2007	Energy Smackdown Pilot
2008	Energy Smackdown Competition; Solar Lighting
2009	100 kW Wind Turbine; School Energy Audits & EECBG Grant; Municipal Energy Audits

Medford: How the funding is being used

- Energy efficiency improvements at the high school
  - Hot water heaters
- Revise Climate Action Plan

Replacing the Gas Water Heaters will save 25,658 therms/yr or:

- 128 Metric tons of CO2
- the energy use from 10 homes
- the carbon sequestered by 3289 tree seedlings grown for 10 years

Summary of Lessons Learned

1. Commitment from high level staff and decision makers critical
2. Local committees also key.
3. Inventory and Reduction plan essential for identifying projects.
4. A lot of communities have already made significant steps.
5. As-of-right expedited permitting for R&D/manufacturing possible in many communities through a few tweaks in zoning and other local permitting.
6. As-of-right expedited permitting for large scale renewable also often possible and desired.
7. A lot of large-scale wind and solar developers are looking for sites where permitting is straight-forward, and expedited even better. As-of-right districts seen as great tool to attract these developers, clean energy, and econ development.
8. Many communities didn't think would be able to pass the Stretch Code, but were able to.

Discussion

Contact Information

Ellie Baker
Senior Environmental Planner
Horsley Witten Group, Inc.
ebaker@horsleywitten.com
978-499-0601

Katie Resnick, AICP, LEED AP
Environmental Planner
Horsley Witten Group, Inc.
kresnick@horsleywitten.com
508-833-6600

Image source: http://windy-future.info/wp-content/uploads/2009/08/solar-wind-and-power-2785.jpg