

Creating A Cleaner Energy Future For the Commonwealth



DOER UPDATES

3-Year Energy Efficiency Plans, Other Opportunities

January 9, 2013

Commissioner Mark Sylvia

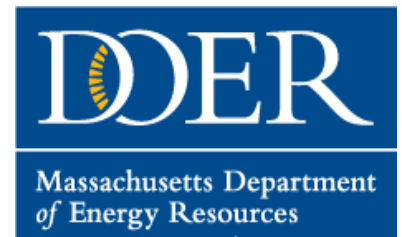
State Laws Create Economic & Environmental Opportunity, National Leadership

- **Green Communities Act (GCA)**
 - All cost effective energy efficiency
 - Green Communities (110/45%)
 - Advanced building energy codes (122)



- **Global Warming Solutions Act (GWSA)**
 - Clean Energy and Climate Plan set GHG emission reduction goals at 25% below 1990 Baseline Levels by 2020; 80% reduction by 2050

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Nation-Leading Energy Efficiency Goals

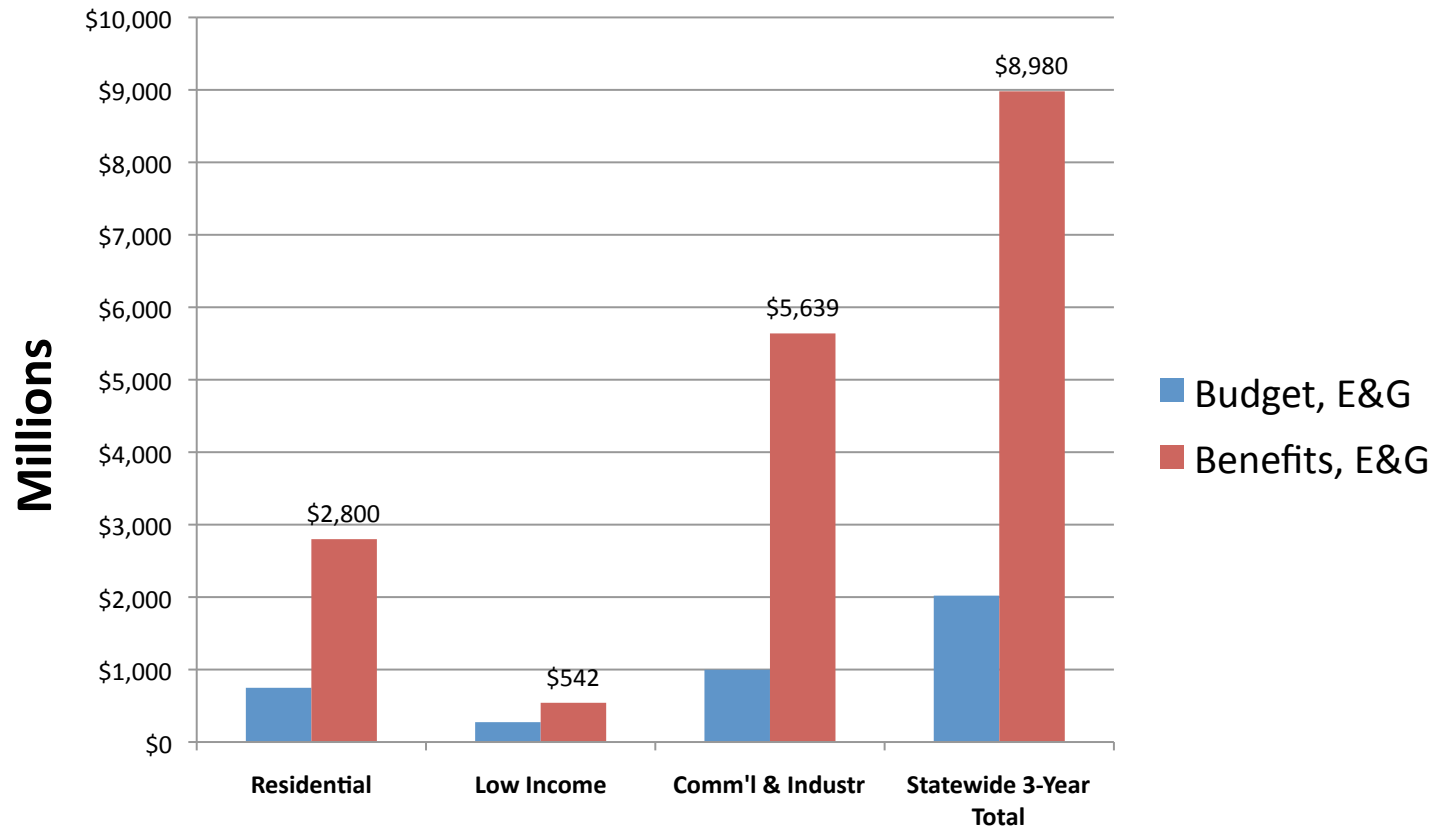
THREE-YEAR PLAN GOALS	2010-2012	2013-2015	Change
Total Spending (million \$s)	\$2,100	\$2,020	96%
Total Benefits (million \$s)	\$5,877	\$8,980	153%
Annual Electric Savings (GWh)	2,615	3,705	142%
Annual Gas Savings (million therms)	58	72	125%

- 2010-2012 savings equal to electricity for 363,000 homes annually and heat for 57,000 annually
- 2013-2015 savings equal to electricity for 514,000 homes annually and heat for 70,000 annually
- Commonwealth remains on the path toward meeting the goals of the Clean Energy and Climate Plan

Three-Year Plan Highlights

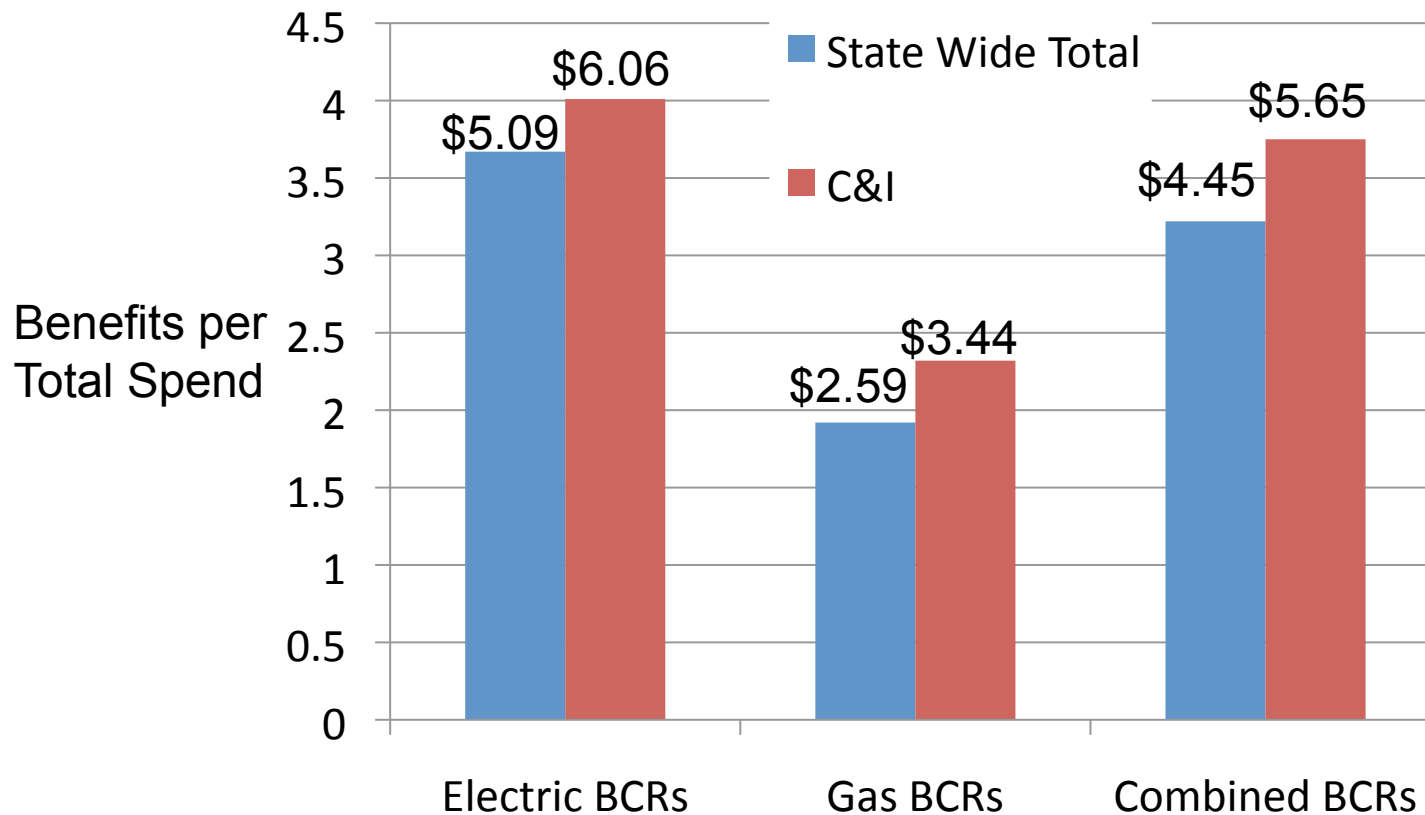
- Highlights
 - Better planning, due to experience and robust evaluation studies
 - Costs reduced, savings increased
 - Electric combined 3-year average savings as % of sales = 2.55%
 - Gas combined 3-year average savings as % of sales = 1.11%
 - Programs and goals aligned with the Clean Energy & Climate Plan
 - Data consistency and accessibility
 - Addresses barriers
 - long-standing hard-to-reach/hard-to-serve challenges such as multi-family housing and renters
 - serve lower income and working-class communities through the new Efficient Neighborhoods+
 - use sophisticated data analysis, evaluation, marketing, and market research techniques to continuously improve the programs
 - Use market segmentation to be more responsive to customer requirements & circumstances

Sector View of Spending & Benefits



Massachusetts 2013-2015 Energy Efficiency Plans

Each dollar invested yields benefit multiplication



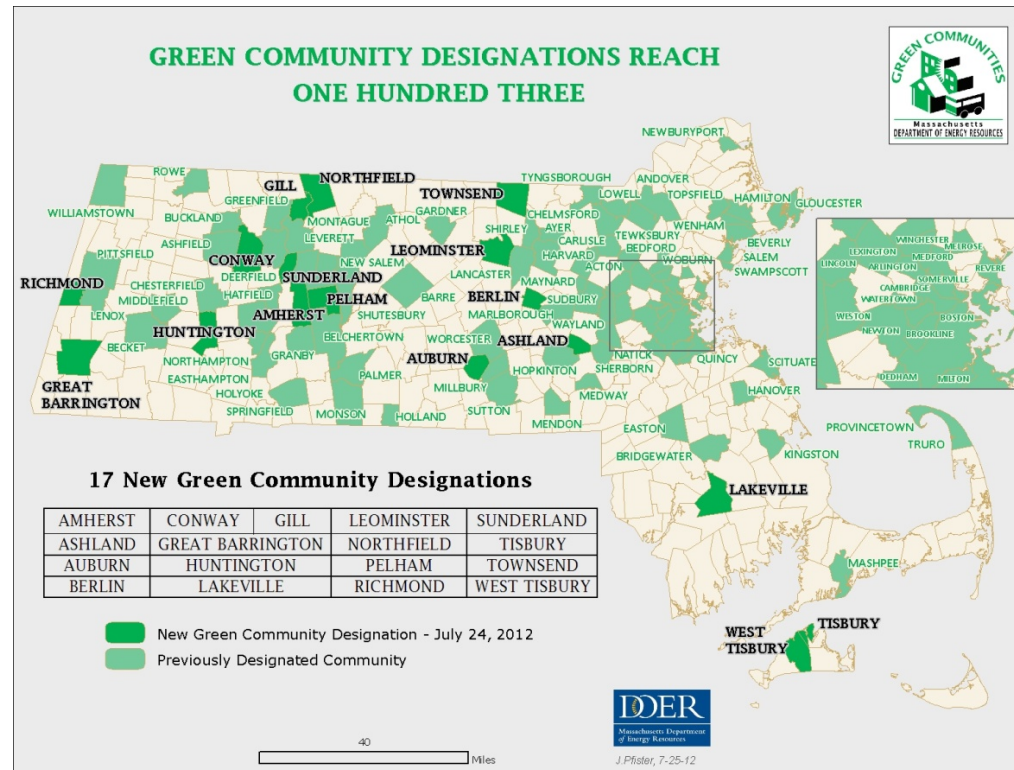
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Process

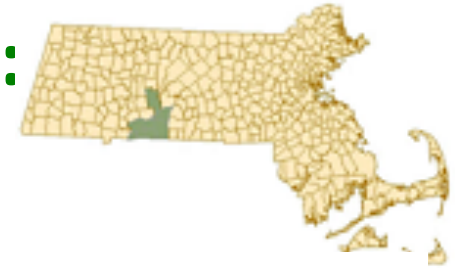
- Multiple drafts from the Mass Save Program Administrators were reviewed and revised by the Energy Efficiency Advisory Council and DOER.
- Agreements forged with DOER, AG, ENE, PAs – term sheets
- EEAC - unanimous support
- DPU hearings and initial briefs complete
- Ruling by January 31, 2013

Green Communities Designation

- 103 cities and towns designated Green Communities
- Nearly \$23 million invested to implement energy efficiency and renewable technologies
- Total reduction of 1,776,635 MMBTUs committed, equivalent to the annual energy consumption of approximately 13,358 New England households



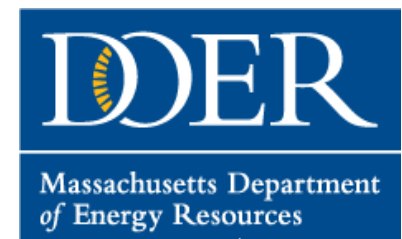
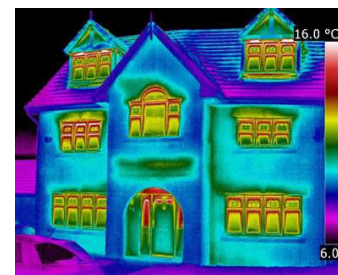
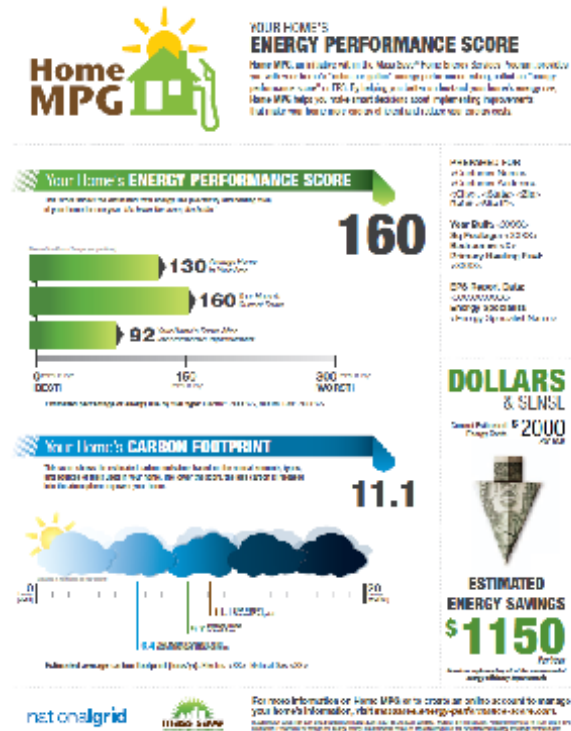
Residential Building Labeling Pilot: “Home Miles per Gallon (MPG)”



Home MPG Initiative within the Mass Save® Home Energy Services Program

- Home energy assessment with a energy performance score, which allows for comparison to the area average.
- Bonus incentives and rebates to help with the cost of energy upgrades, in addition to standard Mass Save incentives.
- Local bank 0% interest financing
- Option for (some) homeowners to view a thermal image for their home, which shows areas that could benefit from insulation.

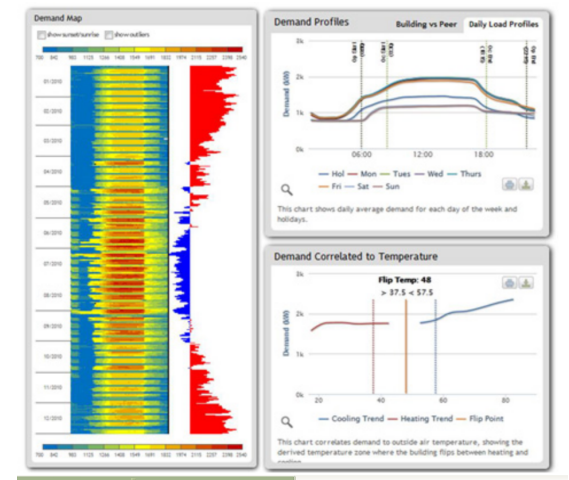
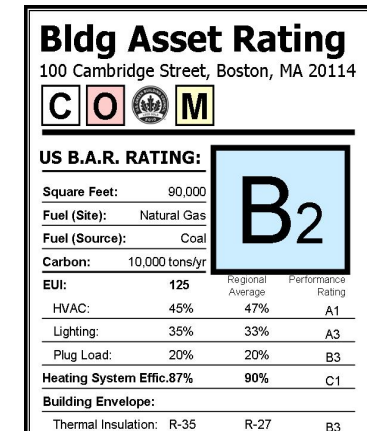
Home energy score and thermal image raise awareness and guide smart energy efficiency investments for homeowners



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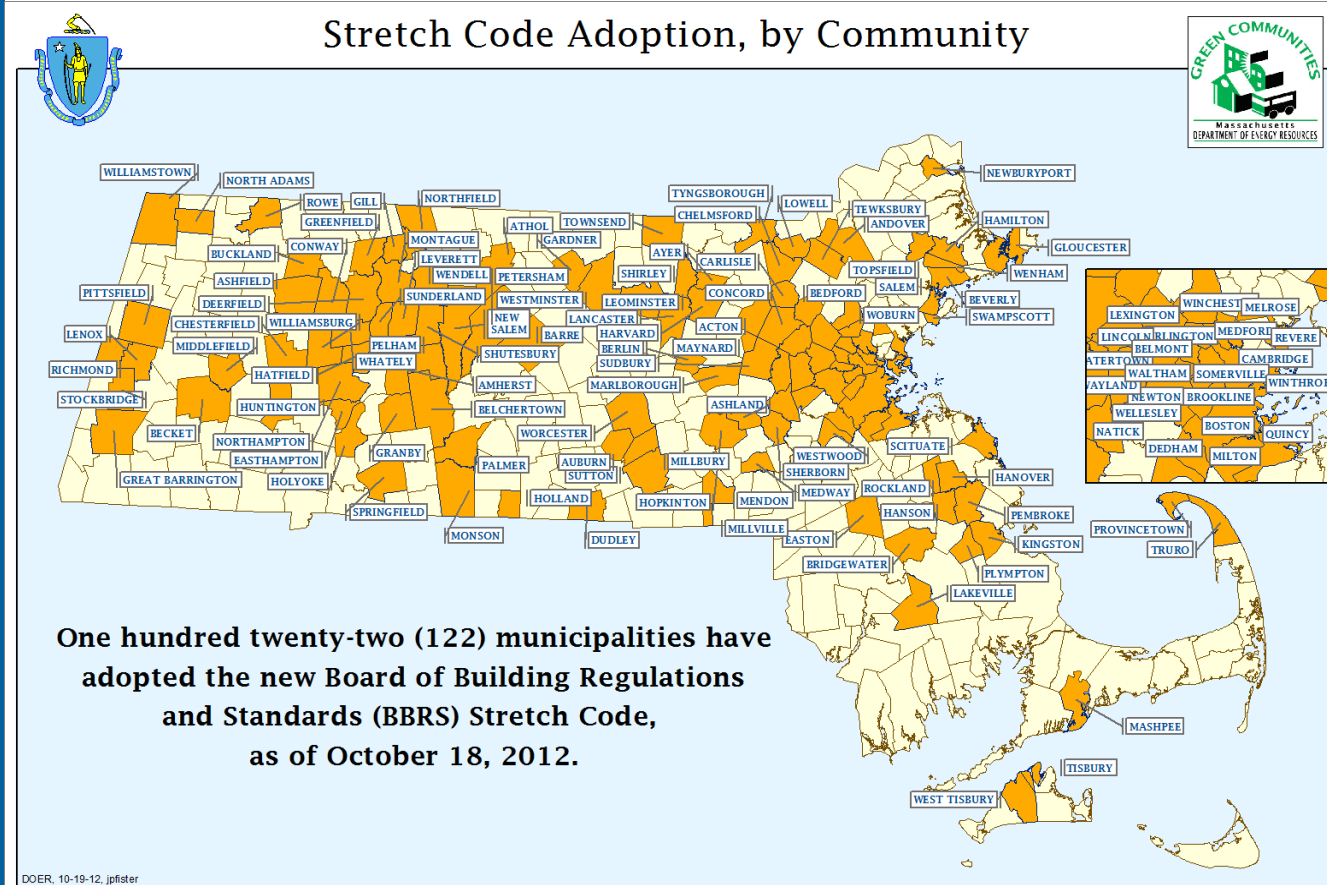
Building Asset Rating (BAR) Pilot

- Goal: Identify cost-effective, scalable methods to assess “as-built” building and systems
 - Compare energy use intensity between buildings, independent of tenancy
 - Enable market valuation
 - Collaboration w/ US DOE, CA
- Testing new methods: rapid energy modeling & interval meter data analysis
- Focus on commercial office buildings in Greater Boston
 - Phase 1: Testing innovation (2011-2012)
 - Phase 2: Demonstration (2012-2013)



Building Energy Codes

- Intrinsic market driver for energy efficiency
- Energy code (IECC and Stretch) updated every 3 years
- Next IECC base energy code founded on current MA stretch code
- 122 Stretch Code Communities



2010/2011 Alternative Compliance Payments

Key Activities

2010 ACP Plan - \$54,814,638

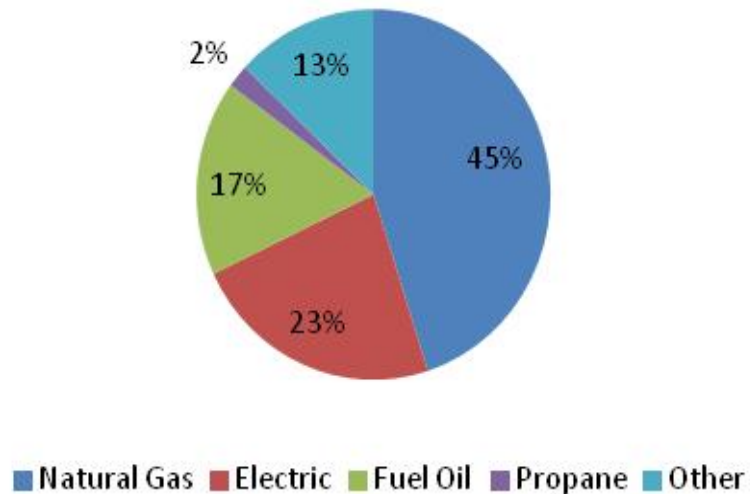
- Clean Energy Results Program (w/MassDEP) - \$6.3M (2010 & 2011)
- Tornado/Rebuild Clean Energy Program - \$5M
- Renewable Thermal / District Energy Pilots - \$6M
- Hydropower Design and Construction Improvement Grants (implemented by MassCEC per Legislature) - \$10.8M
- Interagency IT/Data Management Improvements - \$1M

2011 ACP Plan - \$78,488,558

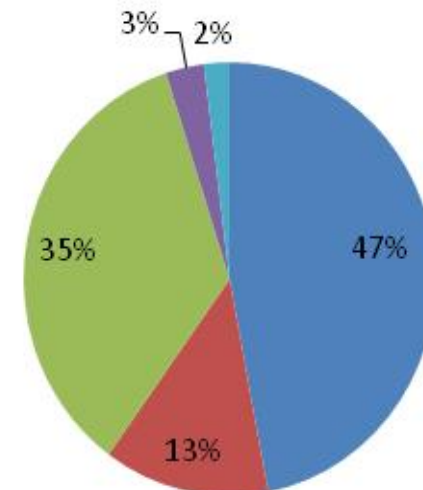
- Small Scale PV SREC Financing Pilots - \$15M
- Organics-to-Energy Financing (with MassDEP) - \$4M (2010 & 2011)
- Hydropower Design and Construction Improvement Grants (implemented by MassCEC per Legislature) - \$10.8M
- Interagency IT/Data Management Improvements - \$1M

Heating and cooling in Massachusetts

Residential Water Heating in MA



Residential Space Heating in MA



Sources: Mass Save, Massachusetts Statewide Energy Efficiency Study, 2010 / U.S. Census Bureau, 2012. Data is 2006-2010, 5-year estimates

Renewable Thermal Programs

- Residential and commercial **biomass** heating pilot program – (\$2M)
- Residential and commercial air source and ground source **heat pump** pilot programs - (\$2M)
 - High efficient heat pumps like Daikin, Mitsubishi
- Community **district energy** financing - (\$2M)
- Renewable heating in **public housing** – DHCD partnership - (\$2M)
- Renewable thermal **business investment** financing program - (\$3M)
- **Wastewater** heat recovery - (\$1M)
- Ongoing: MassCEC Commonwealth **Solar Hot Water** program - \$10 million (until 2016)

Transportation Initiatives

- GreenDOT
- Green Community Incentive
 - Criterion 4: Purchase fuel-efficient vehicles
- Partnerships
 - Utilities - infrastructure
 - MOUs with manufacturers - infrastructure development
 - Registry of Motor Vehicles – EV/hybrid license plate
- EV pilot required from NU/NSTAR merger
- Education & training on EVs
 - State licensing board, Electricians, First responders



Massachusetts 'Clean Energy Success Story

Ambitious energy and environmental goals, combined with strong support of clean energy economy

- #1 state for energy efficiency (ACEEE)
- #3 in private clean energy investment
- 2012 Massachusetts Clean Energy Industry Report
 - Nearly 5000 clean energy firms
 - More than 71,000 workers
 - 1.7% of total Mass. Workers
 - 11.2% employment growth



- 110 Green Communities
- 122 Stretch Code Communities
- 174 MW of solar PV installed
- 61 MW of wind generation installed
- Electric vehicle charging stations: over 250 charge points; 124 public EV stations
- Nearly \$70 million in clean energy ARRA funding

Watch for major investment in state facilities!

Thank you!

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