

MA Energy Future -- 2010 Update

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Commissioner***

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DOER Mission

***Creating a greener energy future --
economically and environmentally:***

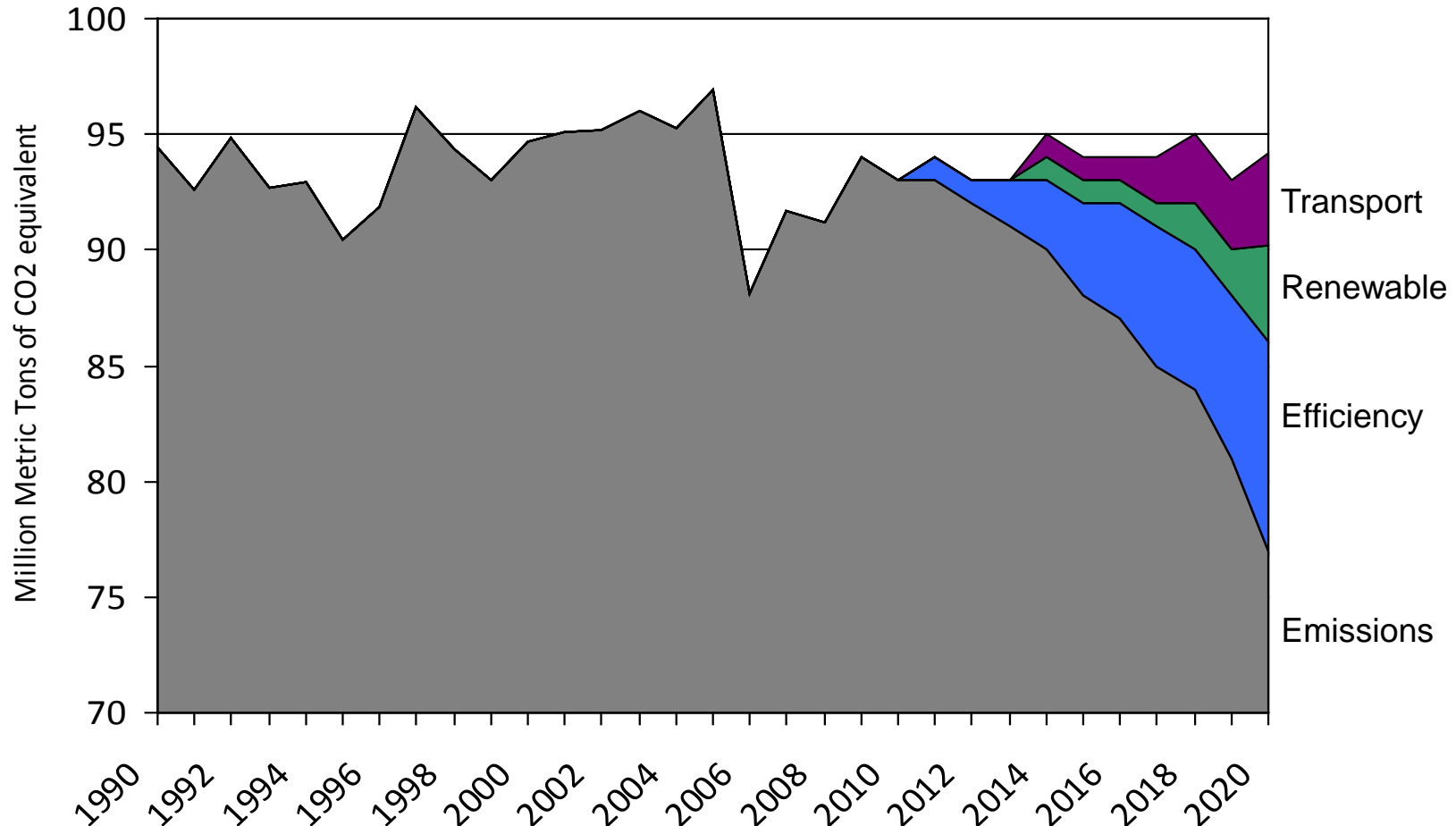
- all available cost-effective energy efficiencies
- greener energy resources
- reliable supplies and improved relative cost
- clean tech companies and clean energy jobs

Many Policy Levers

- Executive
 - LBE
 - Decoupling
 - RGGI
 - Renewables
 - PV: 250 MW 2017
 - Wind: 2000 MW 2020
 - ZNEB
 - Building energy labels
 - Governor's Energy Challenge
 - MEPA
- Legislation
 - Green Jobs
 - Ocean Management
 - Clean Energy Biofuel
 - Global Warming
 - Green Communities
 - Building Codes
 - Smart Grid Pilot
 - Least cost Procurement
 - Communities
 - Renewables
- Stimulus



Policies Deliver 19% GHG Reduction



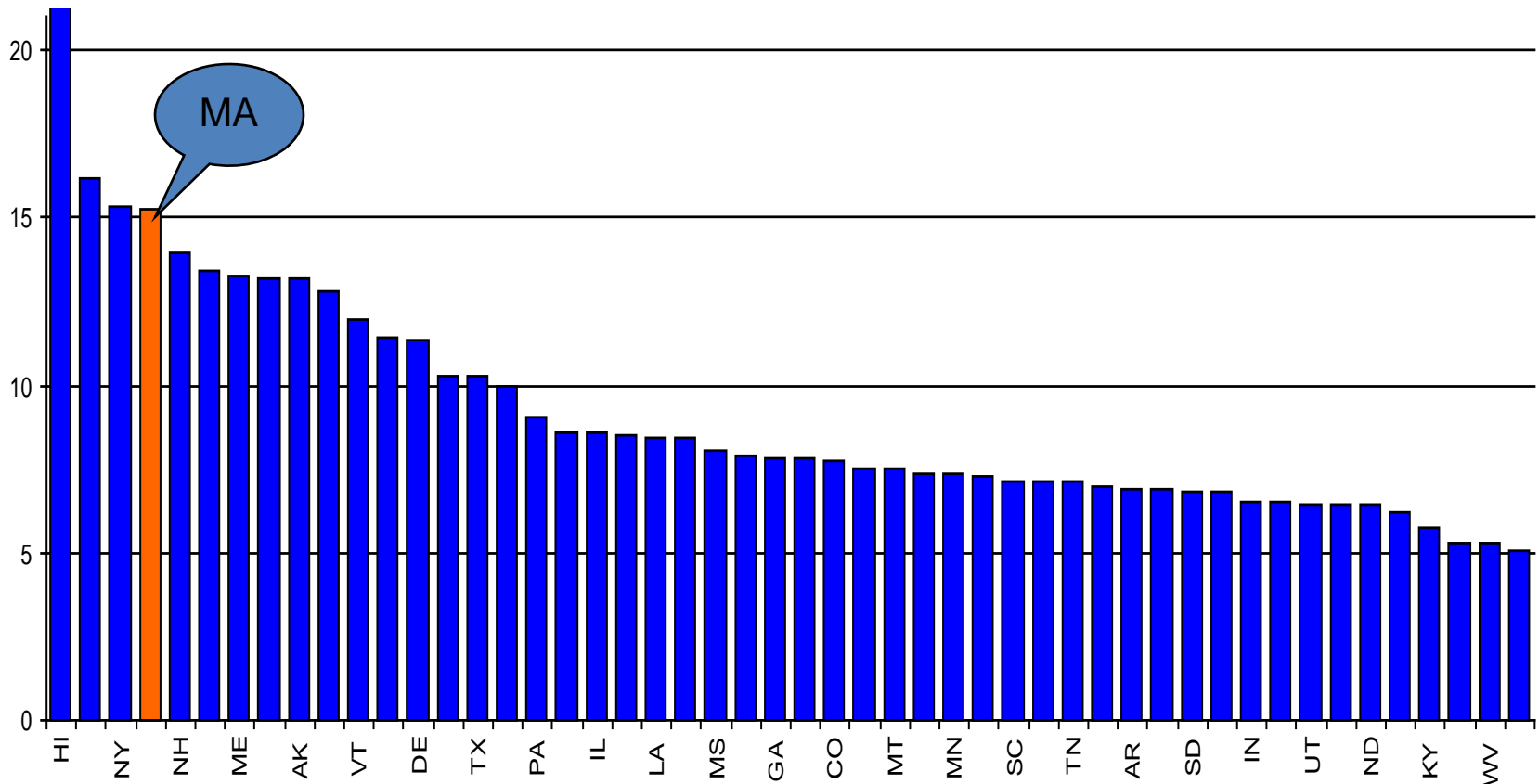
Source: ERG February 2010



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High Electric Prices

2007 Retail Electric Price
(Cents per kWh)



Source: EIA Form 826

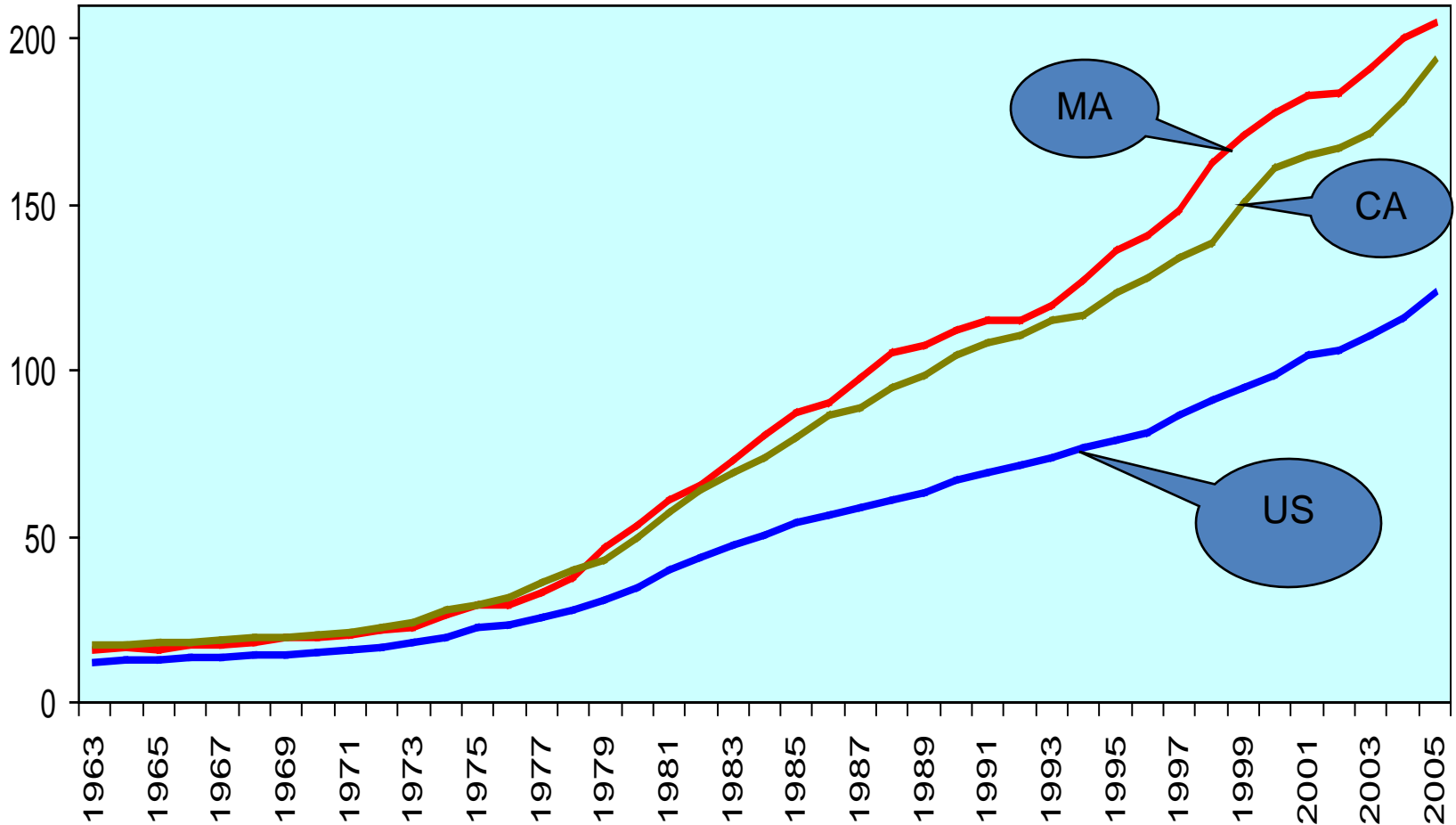
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High Energy Productivity

\$GDP/MMBTU

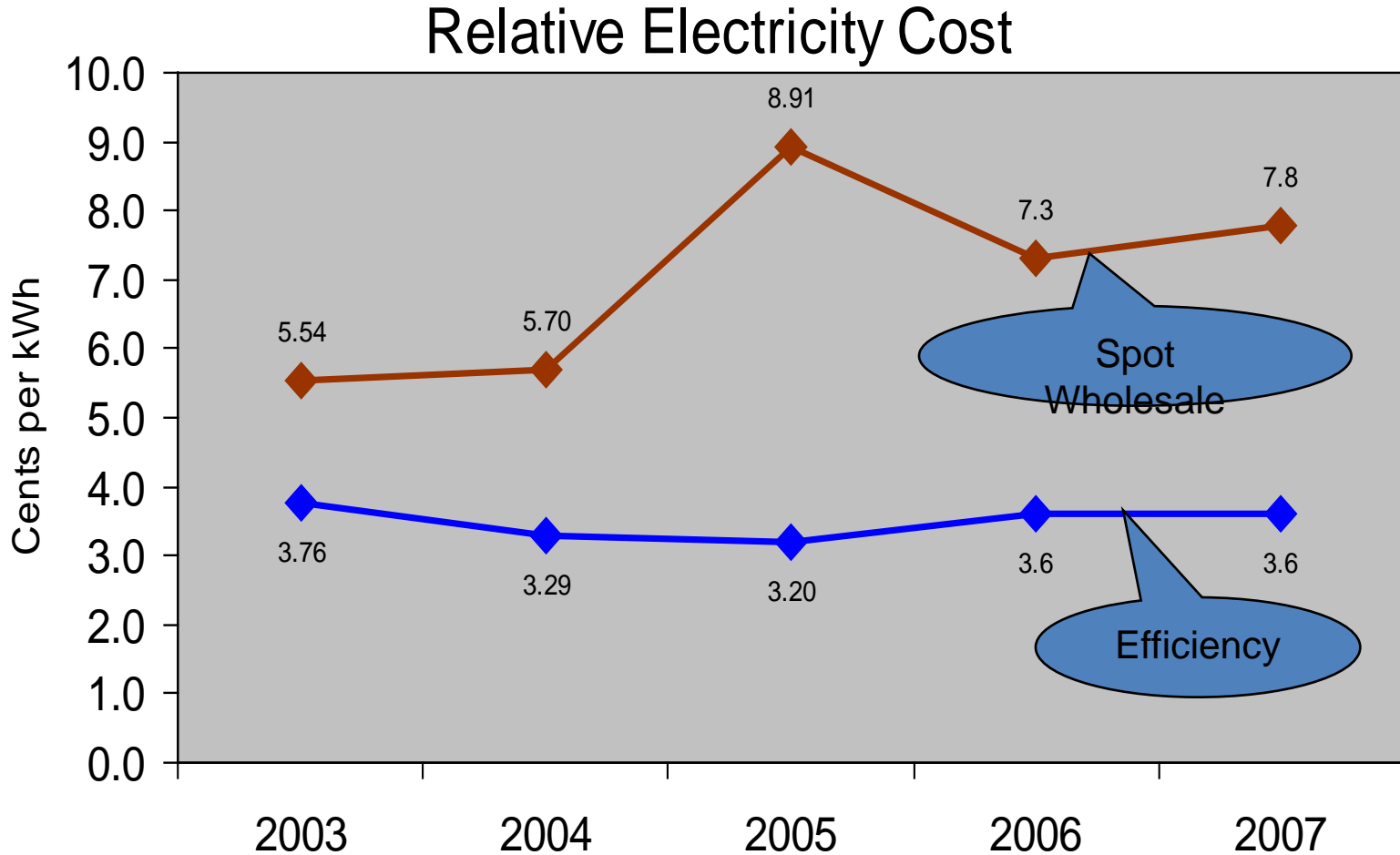


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Efficiency in Massachusetts

- Impressive accomplishments
- Strong commitments
- New beginning
- Vulnerabilities

Efficiency is low cost option

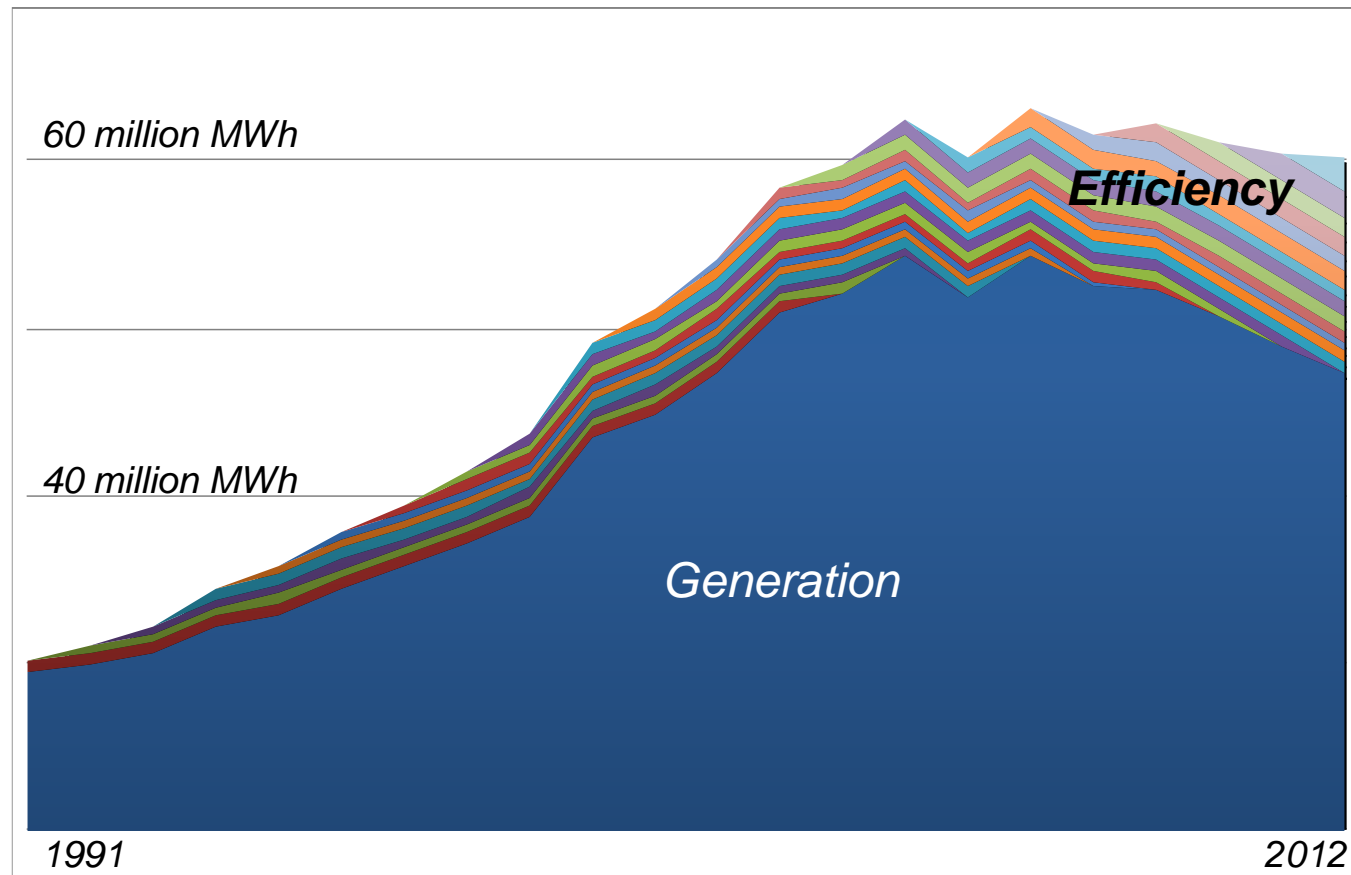


Efficiency plans Built on Experience

Most ambitious plans in US

3 year Plans

- \$ 6 billion savings from \$2 billion investment
- 3X per capita any state



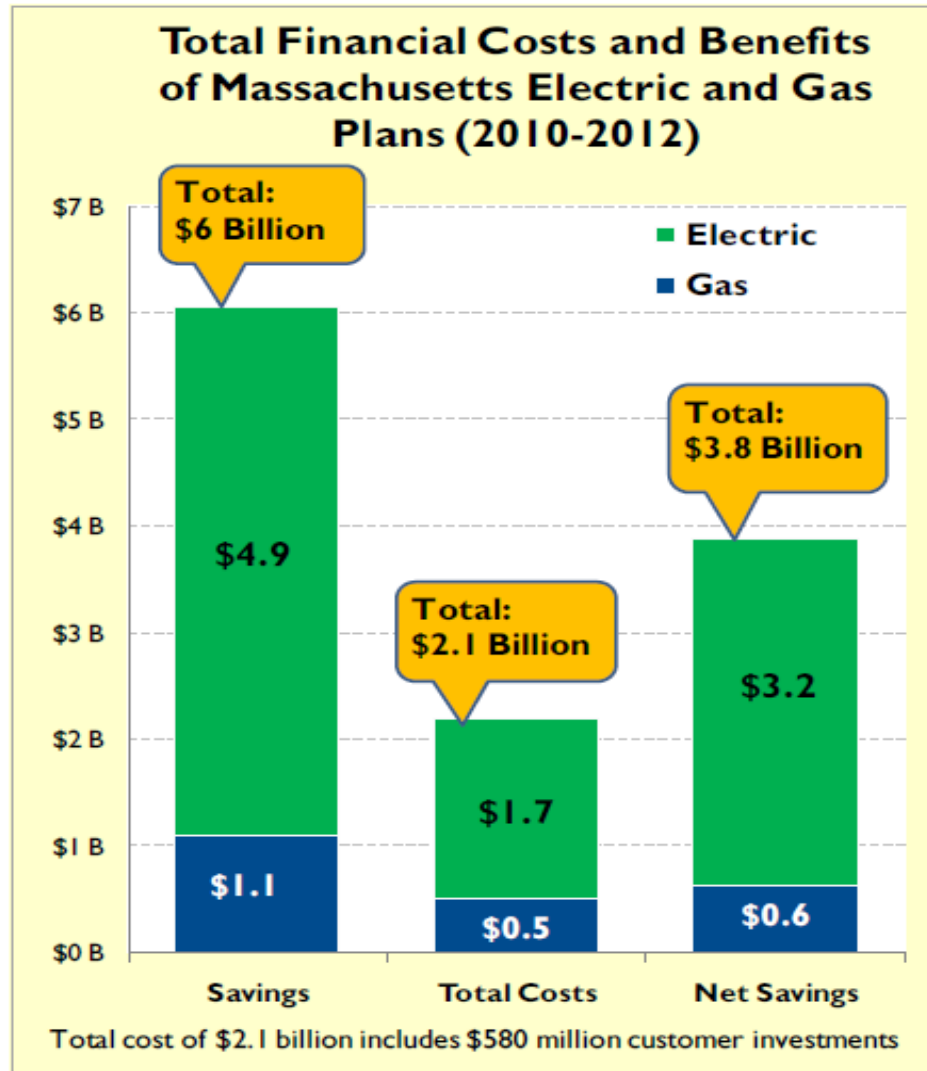
Source: DOER



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Three Year Efficiency Plans



Strategic Initiatives

Whole Building Assessment – Deeper Savings Strategies

- Provide expert advice on ways to lower energy costs
- Identify and implement cost-effective and energy-efficient projects
- Promote use of EPA's Energy Performance Rating System for ongoing performance measurement
- Furnish written action plan with following up on recommendations and installation
- Track resource consumption and costs
- Stimulate resource efficiency interest among staff
- Compare facility energy use to that of similar facilities



Strategic Initiatives

Combined Heat and Power (CHP)



- Green Communities Act of 2008 recognizes CHP projects as eligible for Incentive Funding
- CHP can be a good cost savings opportunity for certain customers
- Careful analysis necessary to ensure CHP matches the facility's thermal and electric loads
- Individual CHP projects must pass Massachusetts' Benefit/Cost Model using the following criteria:
 - Installed Cost
 - Annual Electric & Thermal Energy Production
 - Maintenance Costs
- Annual efficiency must exceed 60%
- Incentive potential up to \$750 per installed kW
- Alternative energy portfolio standard ~ \$20/MWh

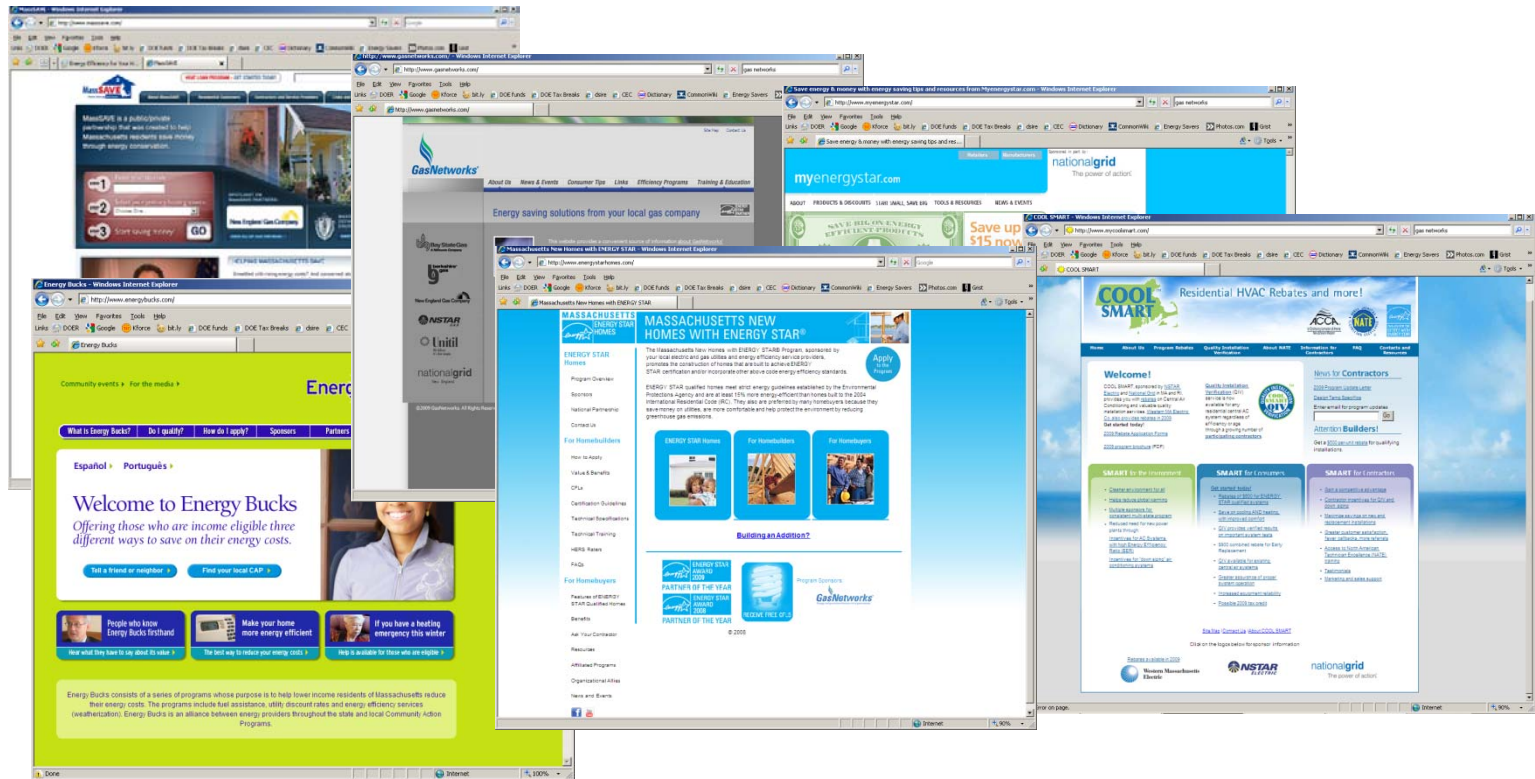
New Approaches

- Statewide programs
 - Branding
 - Consistency
 - Streamlining, reducing costs
- Proactive outreach and education to customers
- Creating a dynamic profile of each building and tracking changes over time
- Multicultural and multilingual
- Pilots to figure out more/better/faster
 - Deep Energy Retrofits
 - O Power, Smart Power, Grounded Power, Energy Smackdown, Governor's Energy Challenge
 - Community based outreach
- New outreach e.g. small businesses



From Many, One

BEFORE



AFTER

- One integrated statewide energy efficiency website serving all customers with common services
- Value proposition expanded
 - Smarter/Better
 - Manage energy costs
 - Enhance building value
 - Create a more comfortable living space/environment

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DER

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The Power to Choose

Welcome to Mass Save. One site. Hundreds of ways to manage your energy costs, enhance the value of your home or business, and protect our planet.

»» FOR YOUR HOME



Energy efficiency is a great investment in your home. Manage your costs while making your home more comfortable all year round. Start with a Home Energy Assessment.

- Lighting & Appliances
- Income-Eligible Programs
- Heating & Cooling
- Building a House or Addition

»» FOR YOUR BUSINESS



No matter how big or small your building, energy efficiency should be a key part of your business plan. We can help you make the right decisions.

- New Construction & Equipment
- Building or Equipment Upgrades

»» FOR INDUSTRY PROFESSIONALS



Contractors, architects, building managers, developers. Everyone can benefit by putting their energy efficiency expertise to work for homeowners and businesses.

- Training & Certifications
- Incentives
- Marketing Opportunities



2010 STIMULUS PLAN

WHY: A bold move to meet the Governor's energy efficiency goals in the face of an economic downturn

WHAT: Mass Save Program Administrators (PA) will offer a 50% increase in incentive for a limited time for the following 2010 prescriptive applications:

- **2010 Retrofit eligible applications:**

- Lighting (Excludes Product Codes 30C, 34, 80, 81, 82, 83)

- Motor & Variable Speed Drives

- Variable Speed Drive

- Vending Misers

- **2010 New Construction Eligible applications:**

- Compressed Air (compressors only - excludes dryers and storage)

- * This offer does not apply to any other application or service

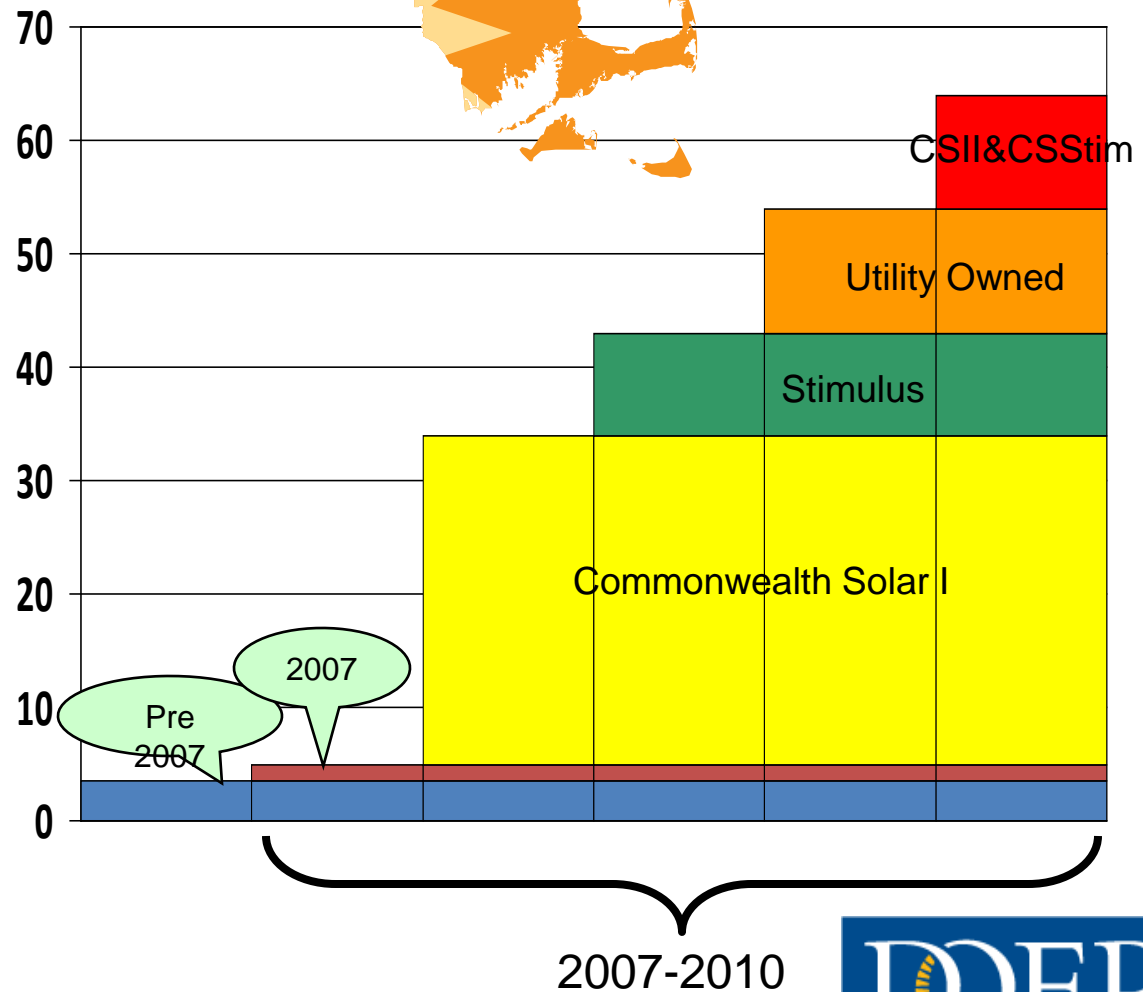
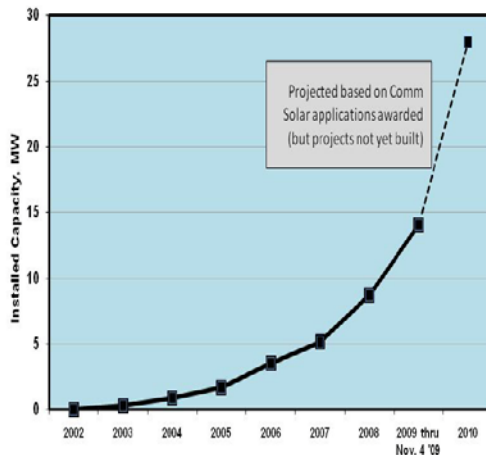
WHEN: This offer is available for projects with completed applications submitted by August 1st, 2010 and installed by September 30th, 2010

Renewables

- Meeting targets
- Accelerating development
- Challenges remain

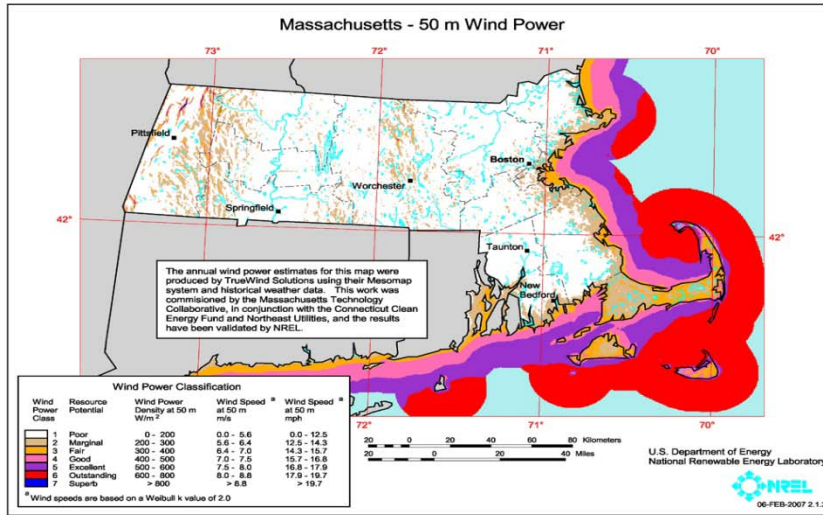
Commonwealth Solar

- 250 MW Goal
- 20 X Solar Growth
- Over 1,200 projects awarded
- Solar employers have grown from 50 before Comm Solar to over 200 in 2009.



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Wind Resources

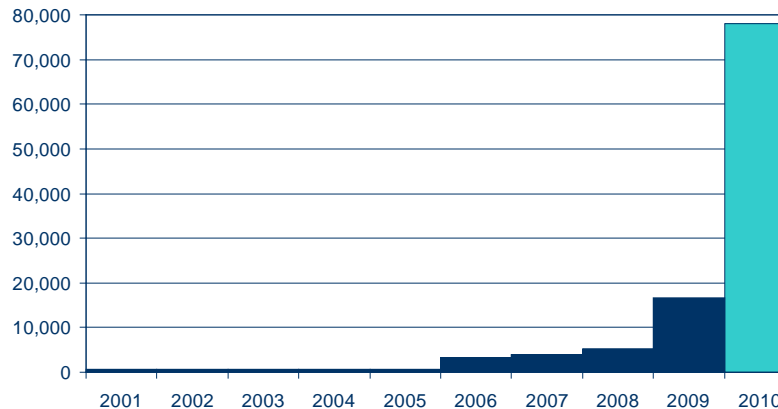


- Goal: **2000 MW by 2020**
- Working to bring down barriers for every project
 - Micro/Small
 - Community
 - Large Scale

Wind Online

Source: NREL

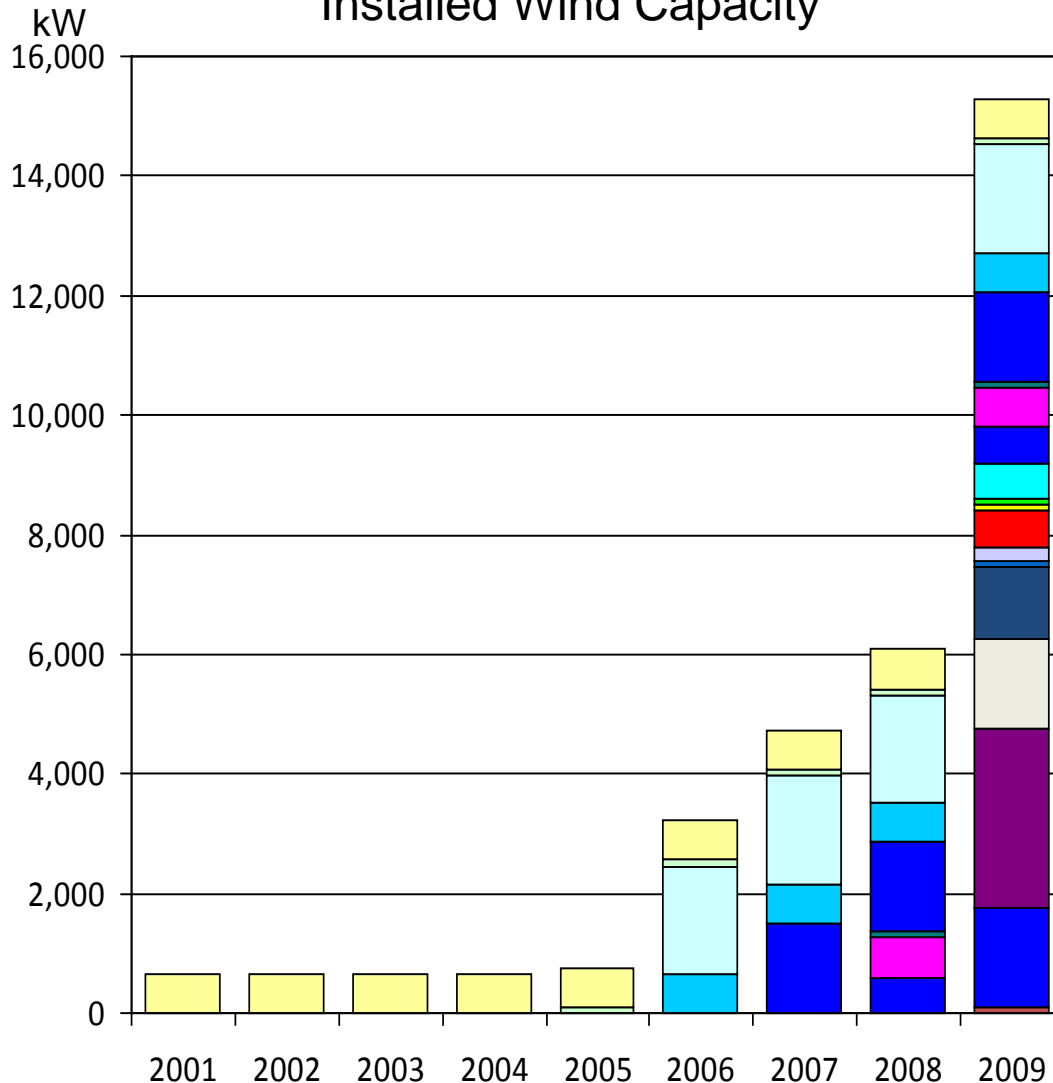
- Momentum building
- Barriers remain



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Wind Development

Installed Wind Capacity



- 21 turbines Installed
- >30 MW expected to be installed by end of 2010
 - Tenfold increase during Governor Patrick's administration
- Technical Resource Potential
 - Onshore 1,500 MW
 - Offshore 6,000 MW



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Jobs

- Highest priority
- Recognized strengths

Three Major Workforce Initiatives

1. ***Funding Green Collar Job Training Programs***

April 2009- Awarded \$1,000,000 to five innovative green jobs training programs to help lift people out of poverty. Programs are running Worcester, Lowell, Brockton, Pittsfield, and Springfield/Holyoke.

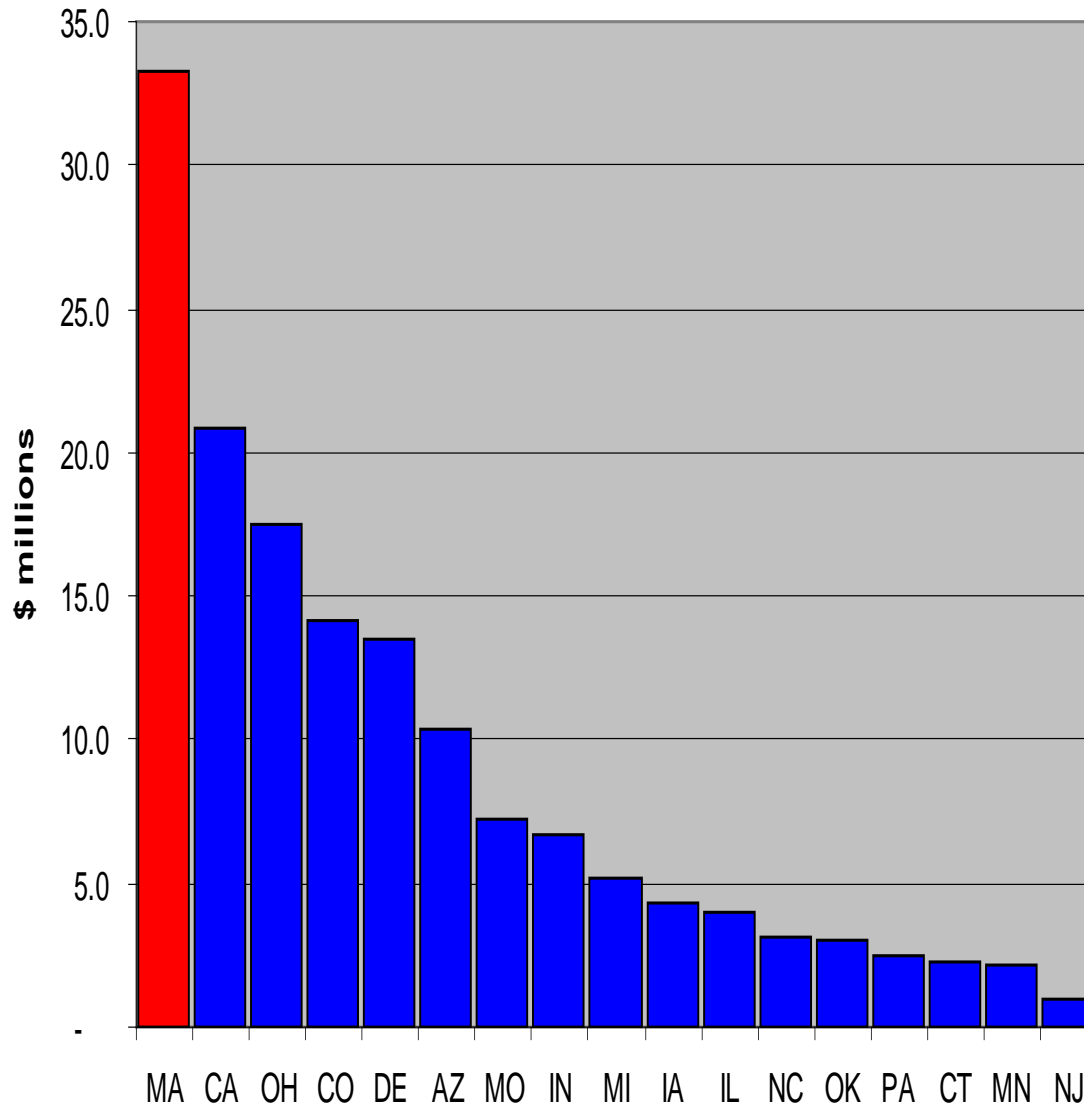
2. ***Building a Statewide Network of Energy Efficiency Training Centers***

July 2009- Awarded \$1.875 Million to Springfield Technical Community College to create regional training centers that will train people in residential, commercial and industrial energy efficiency skills.

3. ***Workforce Capacity Building***

September 2009- Awarded nearly \$1million for program development in clean energy workforce training at six sites. Programs include vocational schools, community college, community based orgs, and 4-year universities.

MA ARPA-E Awards



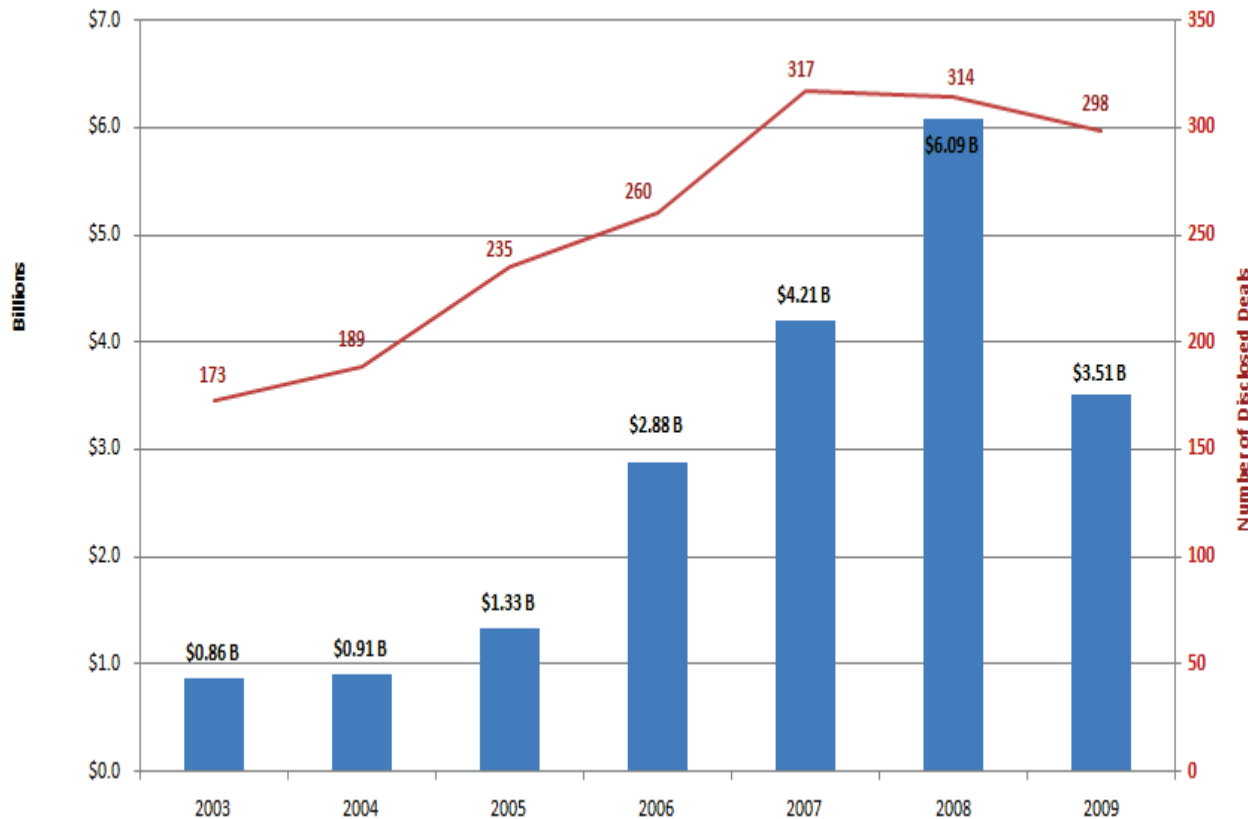
- US \$151 million
- 37 projects
- MA won 23% of funds
 - 1366 Tech
 - Agrivada
 - FastCAP
 - FloDesign
 - MIT/Sadoway
 - MC10
- MA CEC funding



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VCs: Investing in MA Companies

Cleantech VC Investment in North America



Overall 2009 VC investment down 42% from 2008

For Mass 2009

- 27 deals
- \$356M
- Up 22%

Massachusetts bucked 2009's national decline in clean-tech investing

Source: Cleantech Group / Deloitte Jan 2010



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Closing Thoughts

- Our greener energy future:
 - Getting this right matters
 - Getting it done soon matters
 - Getting it done big matters
- Lots of work remains – leadership needed
- Opportunity to be a showcase for nation and world – reducing energy waste while growing our economy