

Green Boston: A Climate of Action

Mayor Thomas M. Menino

Jim Hunt

Chief of Environment and Energy

BHA Maverick Gardens
Green Affordable Housing



National Leader in Sustainability

In 2008, Boston has been ranked one of the most sustainable cities in the US:

- Ranked 3rd by Popular Science Magazine
- Ranked 6th by SustainLane.com

POPSCI.COM

America's 50 Greenest Cities

Want to see a model for successful and rapid environmental action? Don't look to the federal government—check out your own town. Here, our list of the 50 communities that are leading the way. Does yours make the cut?

1. Portland, Ore. 23.1
2. **Boston, Mass. 22.7**
 - Electricity: 5.7 Transportation: 8.7 Green Living: 3.4 Recycling/Perspective: 4.9
 - **CASE STUDY: Grass Power**
3. San Francisco, Calif. 22.0
4. Oakland, Calif. 22.3
5. Eugene, Ore. 22.4
6. Cambridge, Mass. 22.2
7. Berkeley, Calif. 22.2
8. Seattle, Wash. 22.1
9. Chicago, Ill. 21.3

6. Boston, MA 2008 CITY CHART



3. Boston, Mass. 22.7

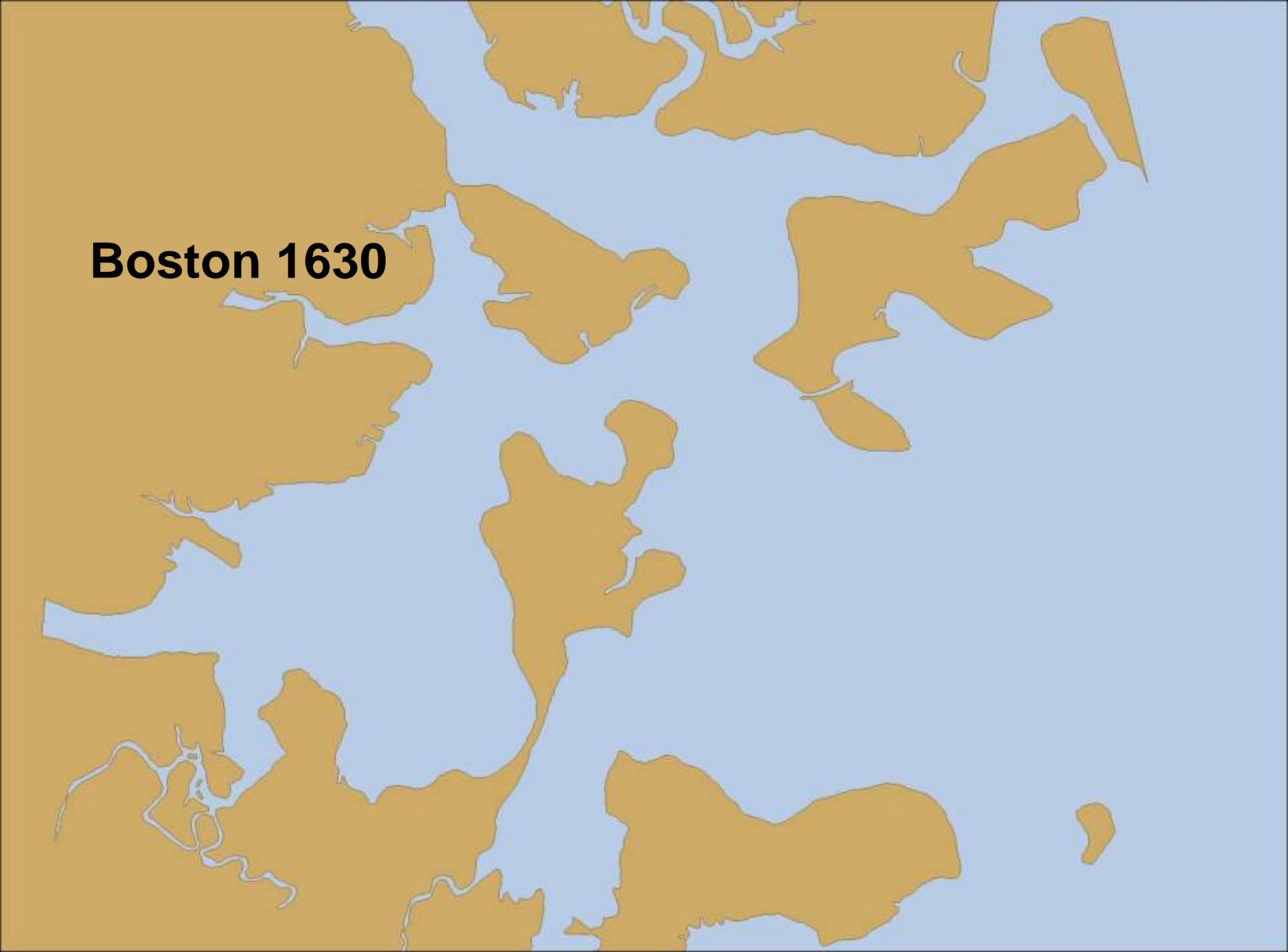
- Electricity: 5.7 Transportation: 8.7 Green Living: 3.4 Recycling/Perspective: 4.9
- **CASE STUDY: Grass Power**

Boston has preliminary plans for a plant that would turn 50,000 tons of fall color into power and fertilizer. The facility would first separate yard clippings into grass and leaves. Anaerobic bacteria feeding on the grass would make enough methane to power at least 1.5 megawatts' worth of generators, while heat and agitation would hasten the breakdown of leaves and twigs into compost.

N/A: Not enough information provided
Rankings out of 50



Boston 1630

A stylized map of the Boston area in 1630. The landmasses are colored in a solid brown, while the water bodies, including the harbor and surrounding bays, are colored in a light blue. The map shows the coastline of the Massachusetts peninsula and the surrounding islands. The text "Boston 1630" is printed in a bold, black, sans-serif font in the upper left quadrant of the map.

Boston 1630 -2010





Flood Depths

- > 4 Feet
- 2 - 4 Feet
- 0 - 2 Feet



Boston Inner Harbor
 Mean Higher High Water Plus 5 Feet
 Sources: MassGIS, NOAA

DRAFT

Map Development:
 Chris Watson, Ellen Douglas - UMass Boston
 Paul Kirshen - Battelle

BHHM_2010_04_01_Forum_27 Oct_09



Boston Inner Harbor
 Mean Higher High Water Plus 7.5 Feet
 Sources: MassGIS, NOAA

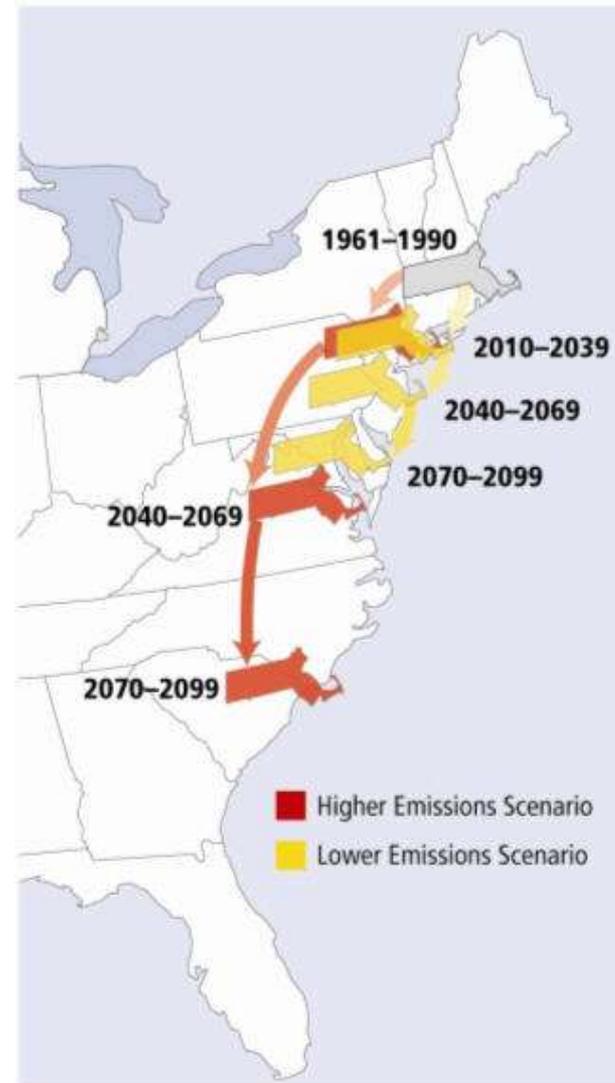
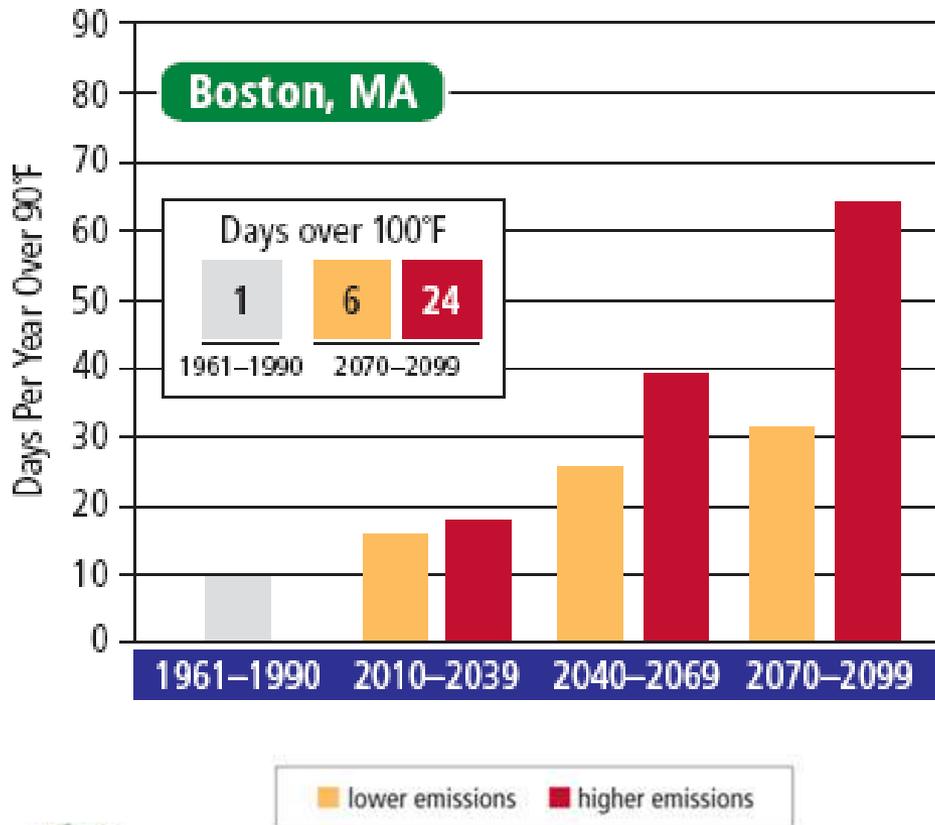
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Increased Temperatures Due to Climate Change



Mayor Menino's Climate Action Executive Order – April, 2007

Ambitious Municipal GHG Goals:

-7% below 1990 levels by 2012

-80% below 1990 levels by 2050



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Establish Climate Leadership

Committee to recommend:

- community-wide GHG targets,
- adaptation strategies,
- and develop the recommended strategies for implementation

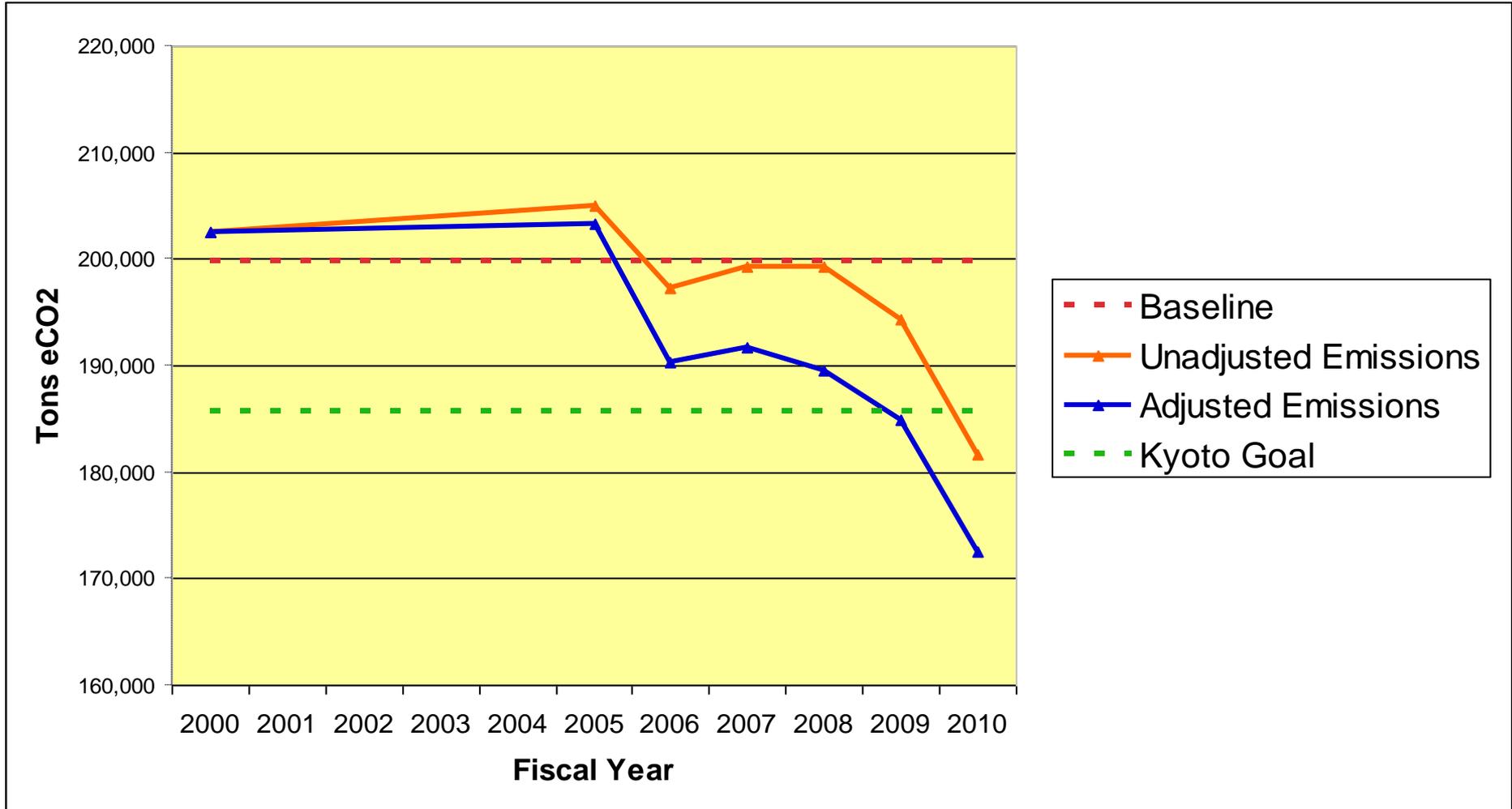


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MAYOR



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BUILDING

2010 - Boston Municipal GHG's Below Kyoto



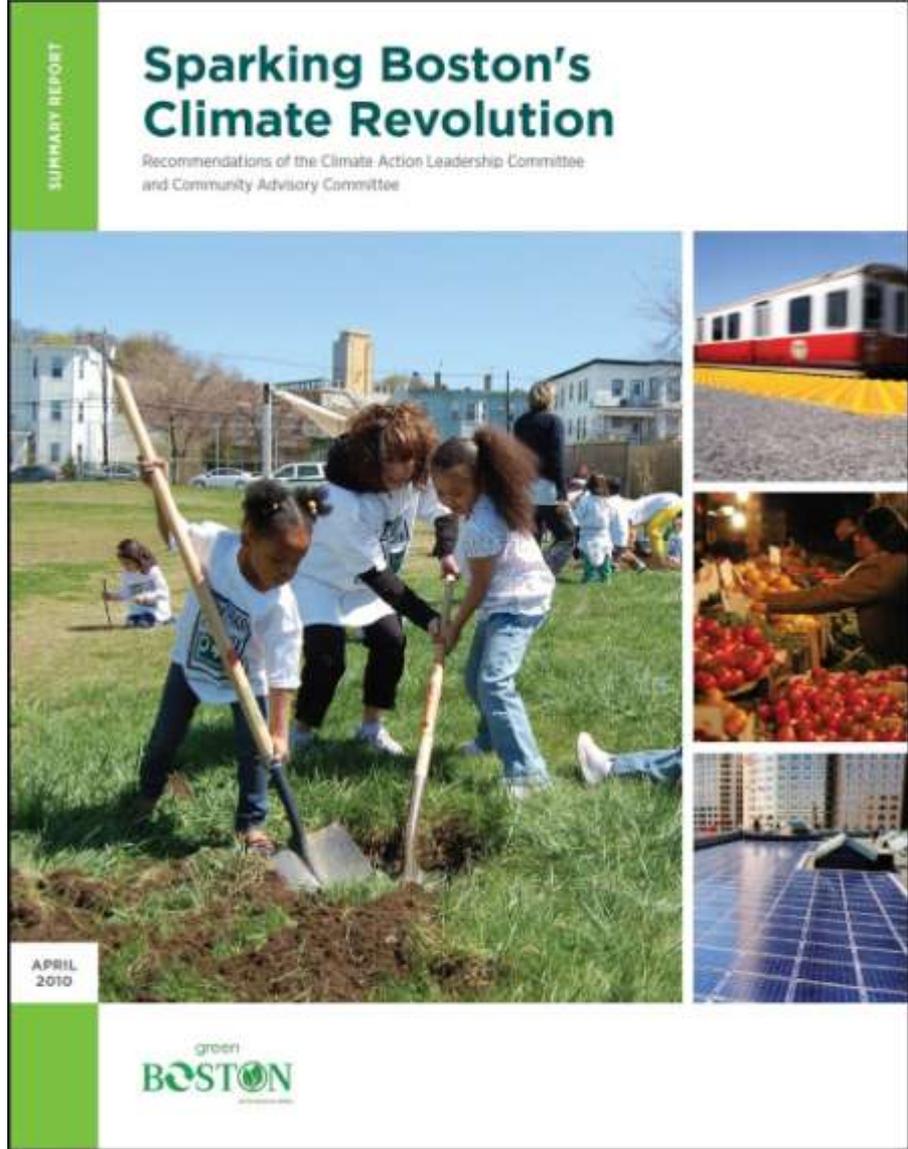
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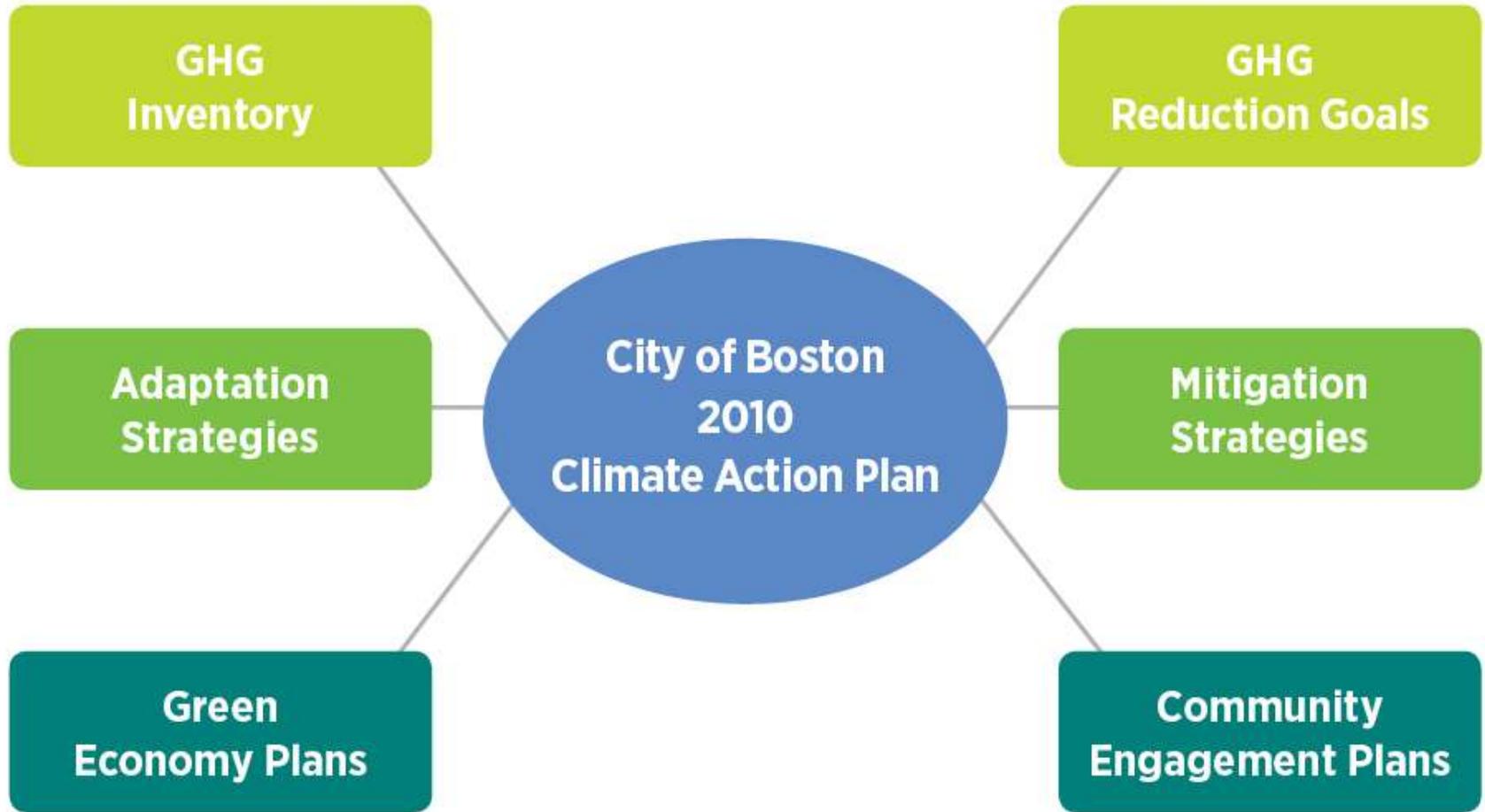


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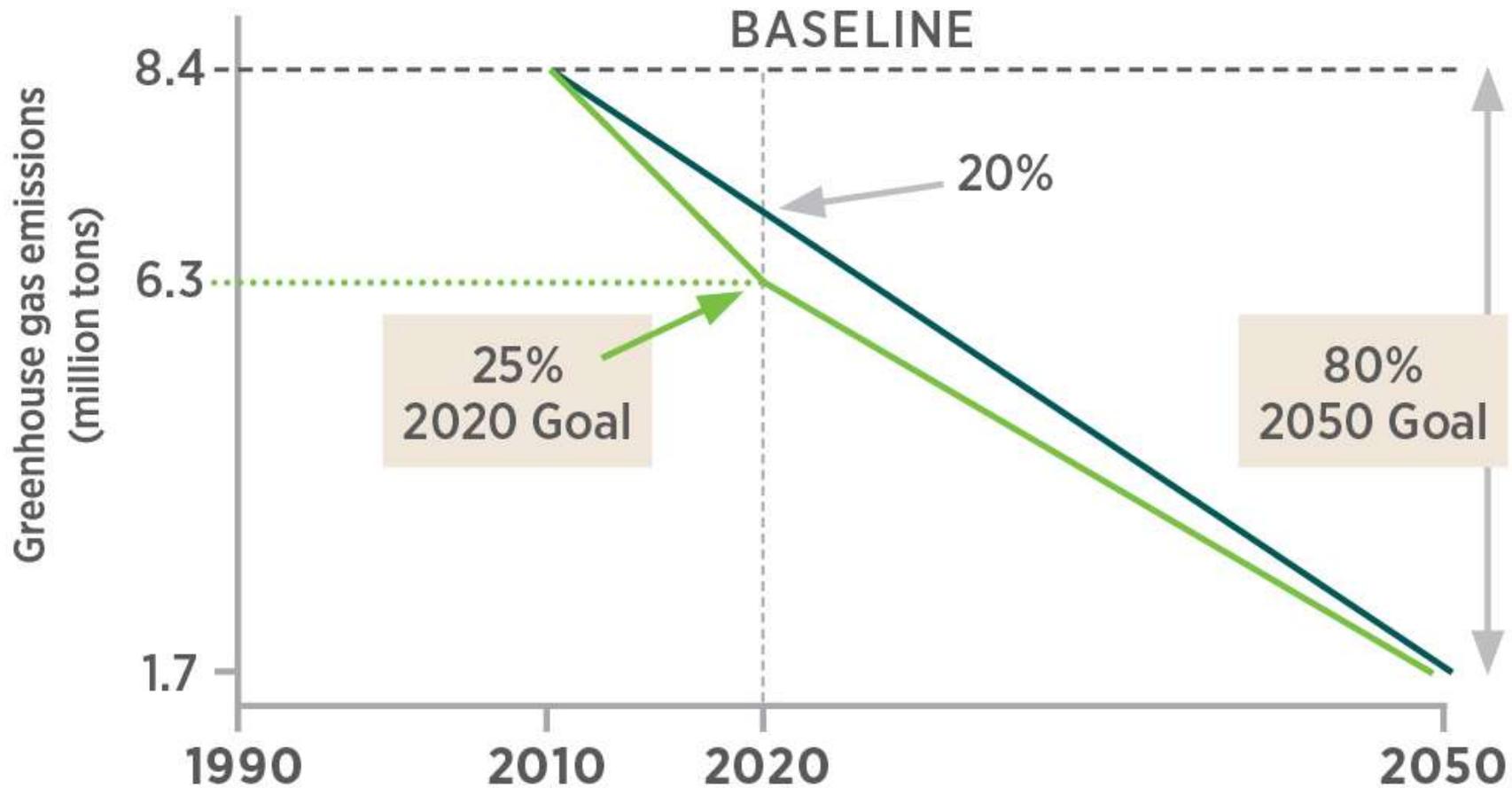
Climate Action Leadership Committee

- Mindy Lubber, CERES*
- James McCarthy, Harvard University*
- Kalila Barnett, ACE*
- Timothy Healey, EnerNOC*
- Bud Ris, New England Aquarium*
- Bryan Koop, Boston Properties*
- Rev. Ray Hammond, Bethel AME*
- Jim Coyle, Boston Building Trades*
- Richard Dimino, A Better City*
- Judith Nitsch, Nitsch Engineering*
- Mark Buckley, Staples*
- Chuck McDermott, RockPort Capital*





Greenhouse Gas Reduction Goals to 2050



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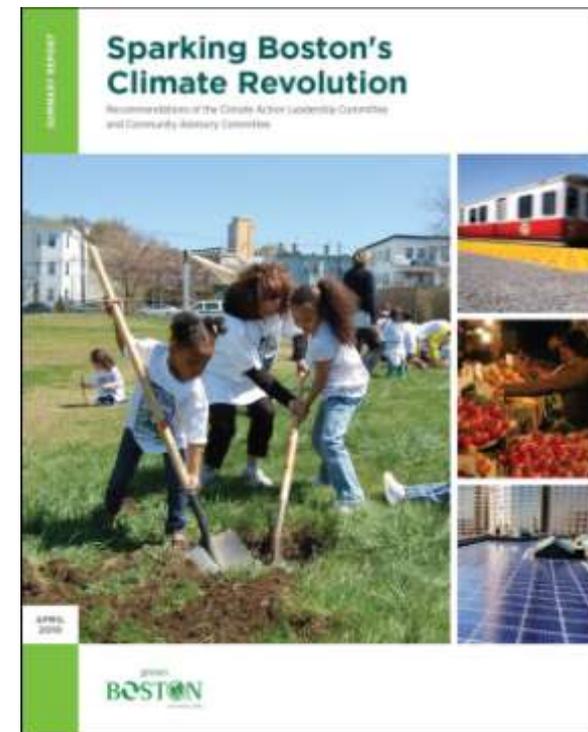


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CALC Recommendations

25% GHG reduction citywide by 2020

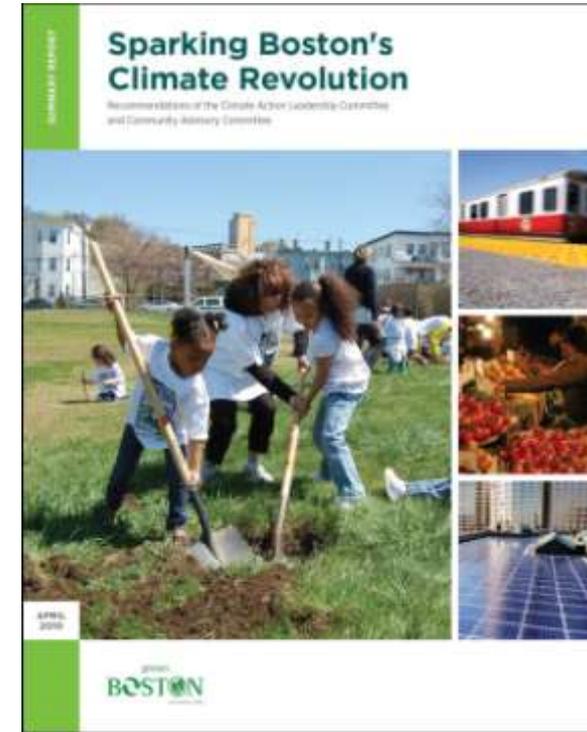
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CALC Recommendations

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Enhanced mitigation strategies: **energy efficiency**, building codes and labeling, **renewable energy**, urban forestry, recycling, sustainable transportation, land use

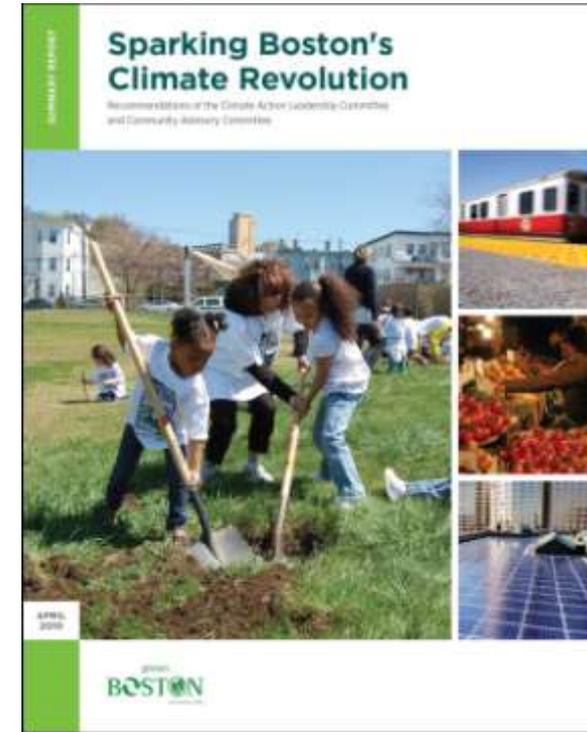


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Provide **equal focus on Adaptation**: citywide vulnerability assessment, integrate climate impacts into all planning and permitting reviews



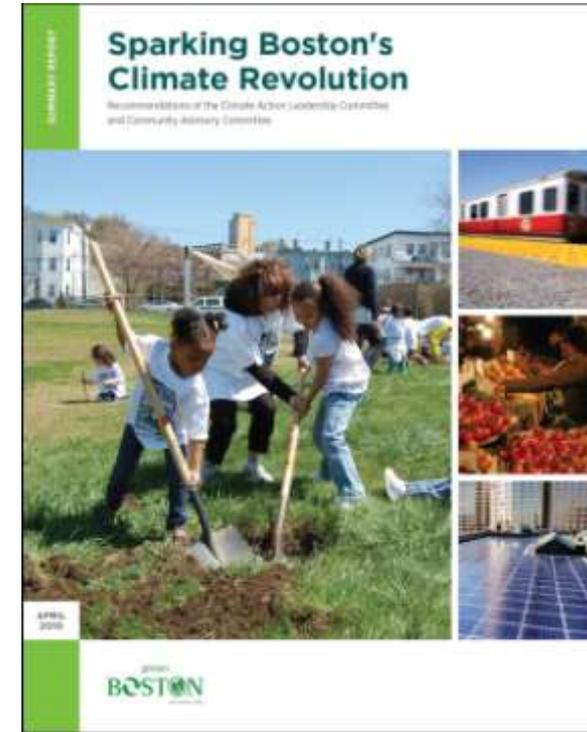
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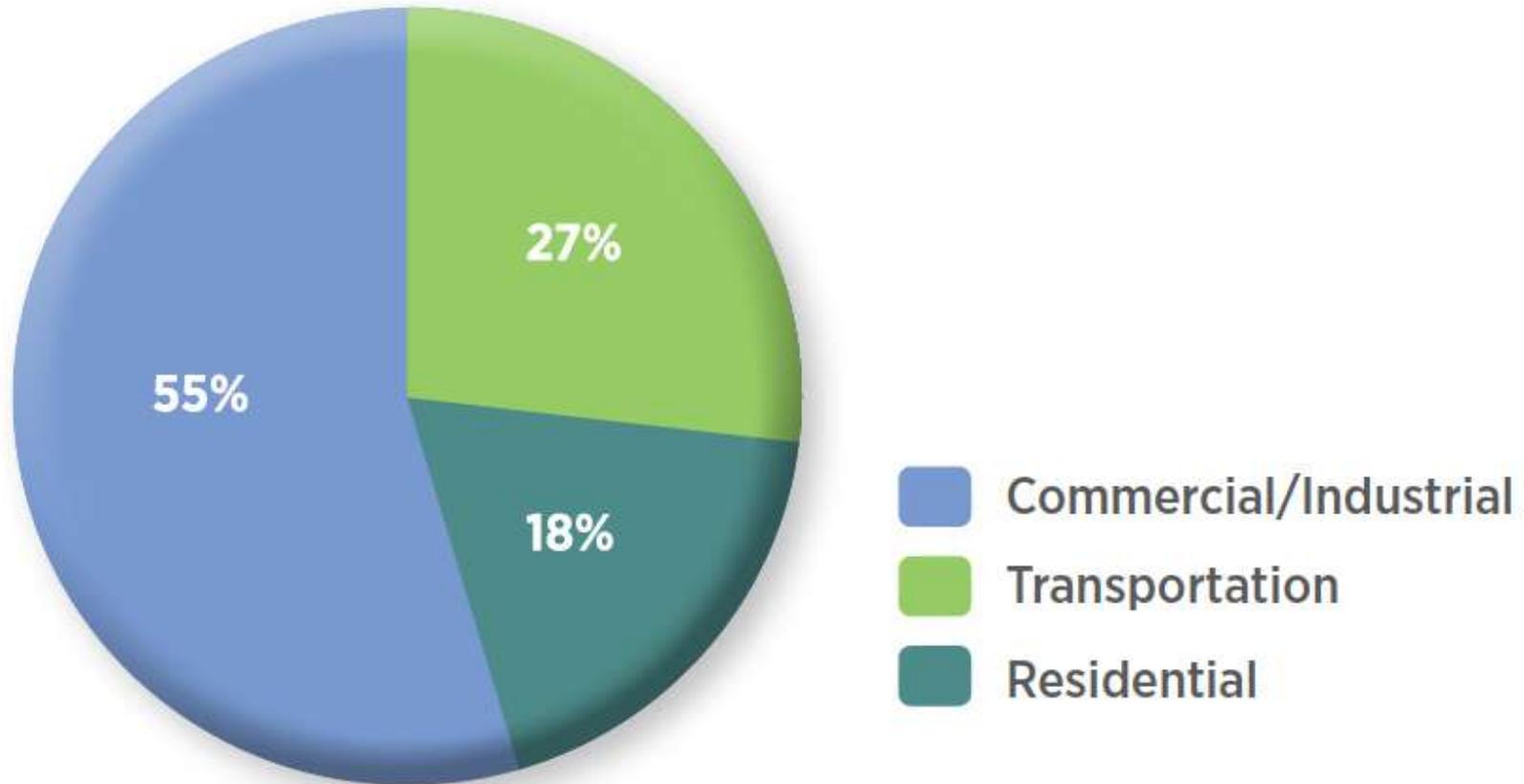
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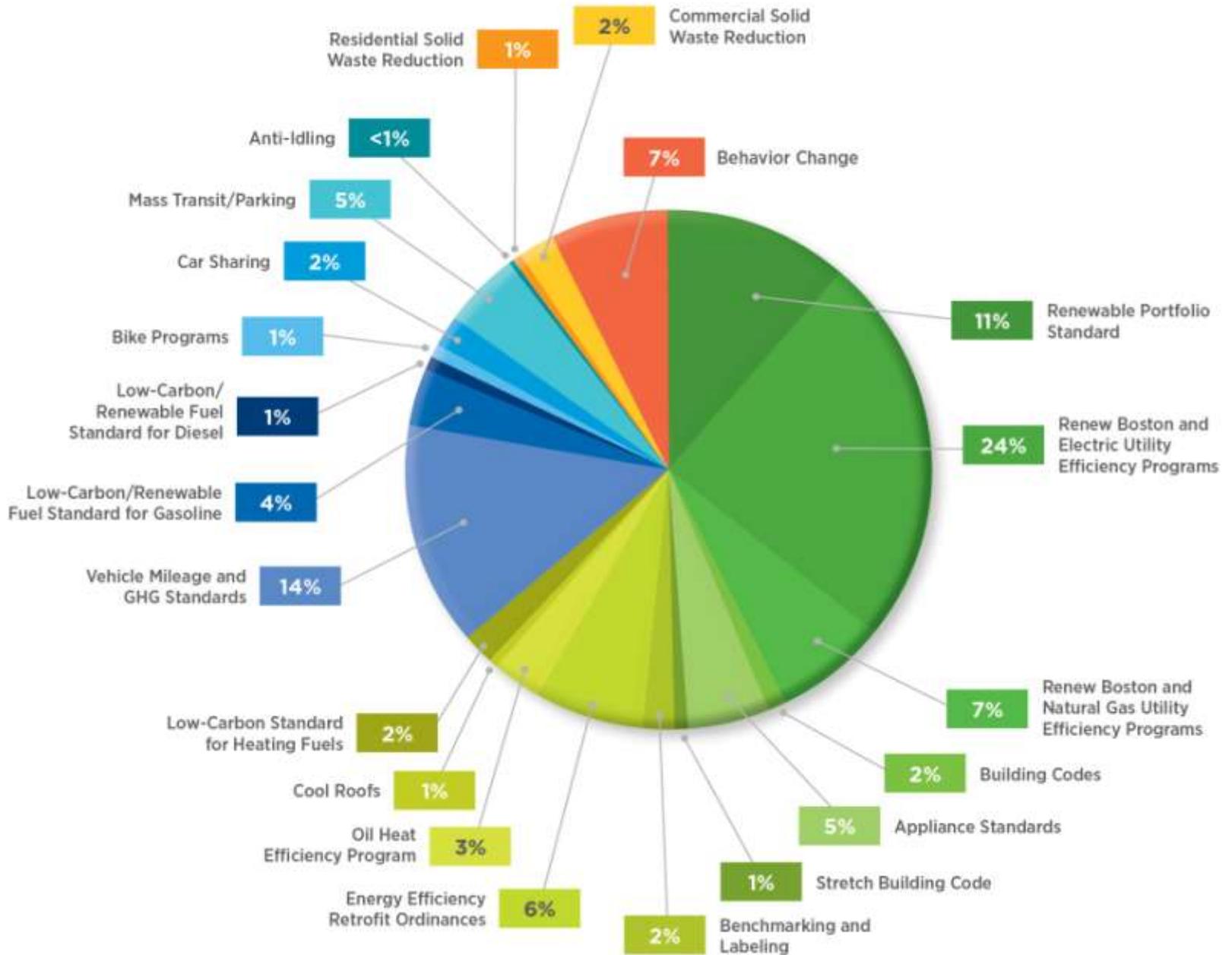
Continue to support the **green economy** and connect local residents to **green jobs**



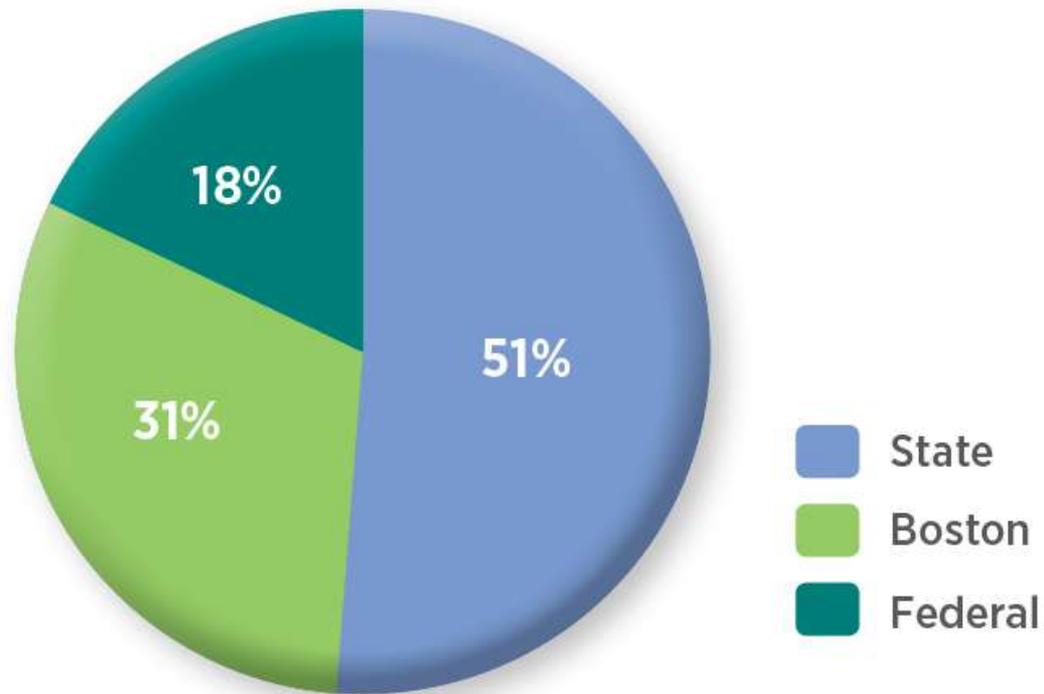
Boston 2008 GHG Emissions by Sector



Boston 2020 Greenhouse Gas Reductions by Program — Shares of 2020 Goal



Boston 2020 GHG Reductions by Jurisdiction



Boston Green Building Standards

- Boston adopts 1st in nation **Green Building Zoning** requiring new construction to follow LEED Standards (BZC Article 37) - 2007



Atlantic Wharf – Boston Properties



Boston Green Building Standards

- Boston adopts 1st in nation **Green Building Zoning** requiring new construction to follow LEED Standards (BZC Article 37) - 2007
- Boston Adopts Massachusetts **Stretch Energy Code**, requiring new residential and commercial buildings to achieve **20% better energy performance** than base code - 2010.



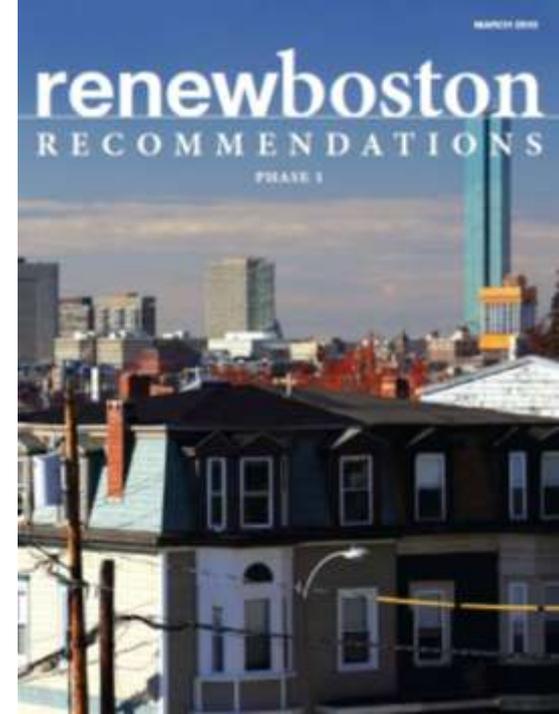
Atlantic Wharf – Boston Properties



Save Energy, Save Money

Thomas M. Menino, Mayor

Catalyze Energy Efficiency across all sectors and neighborhoods of Boston
– break down historic barriers to EE;



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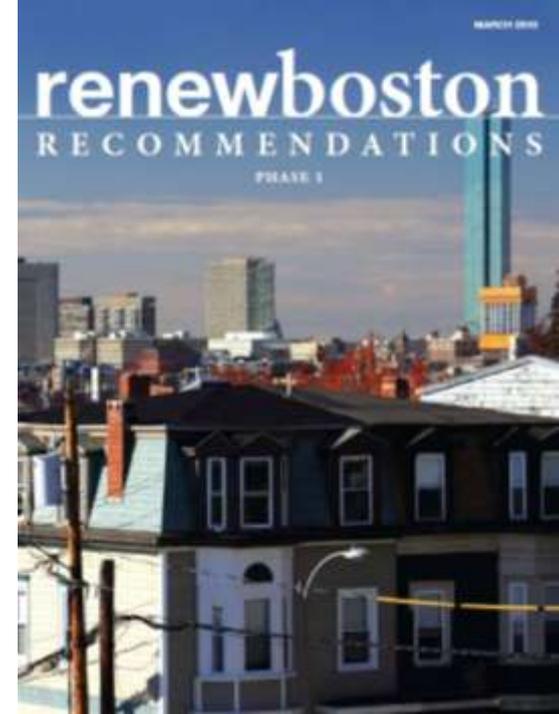


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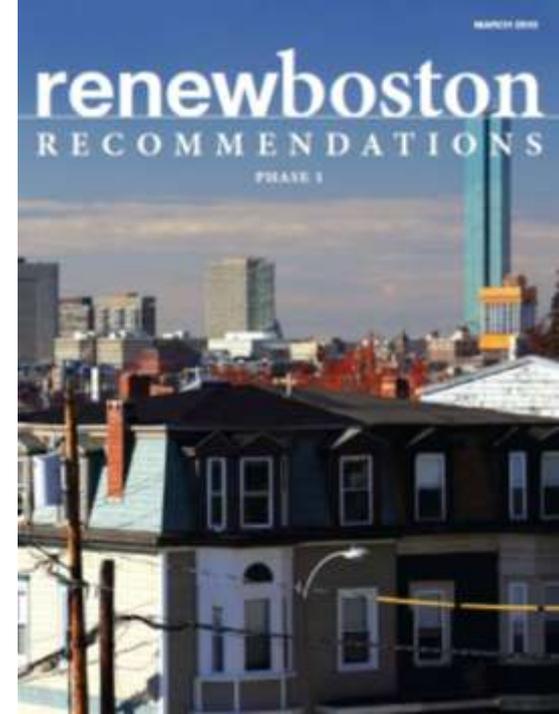
Connect utility programs with public, private, and community based networks that exist in Boston;





Save Energy, Save Money

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Catalyze Energy Efficiency across all sectors and neighborhoods of Boston

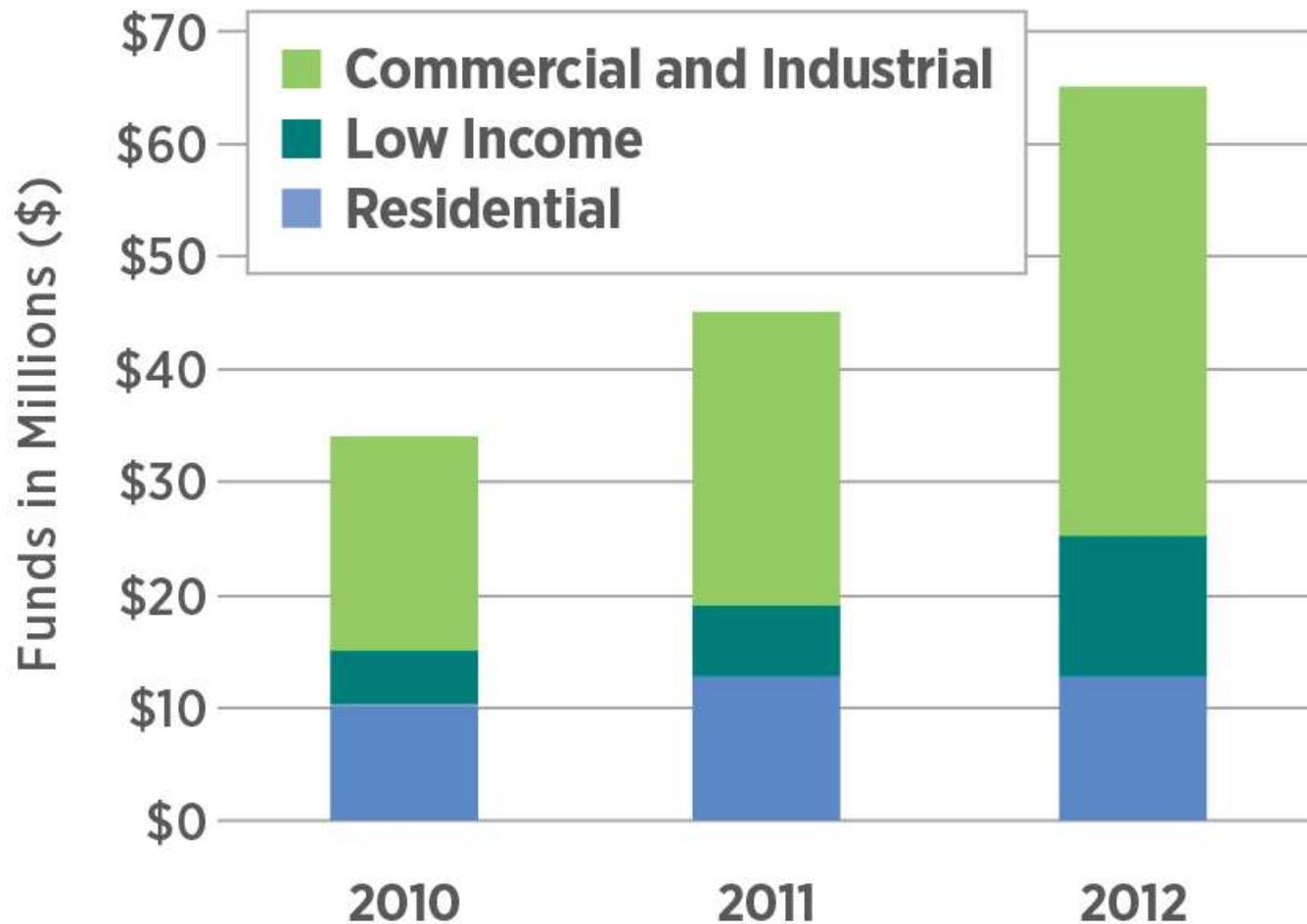
– break down historic barriers to EE;

Connect utility programs with public, private, and community based networks that exist in Boston;

Connect energy savings with local economic development and job creation



Projected Utility Efficiency Program Spending in Boston



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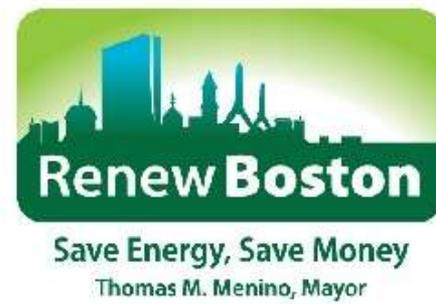


\$6.5 Million in EECBG to Boston Renew Boston

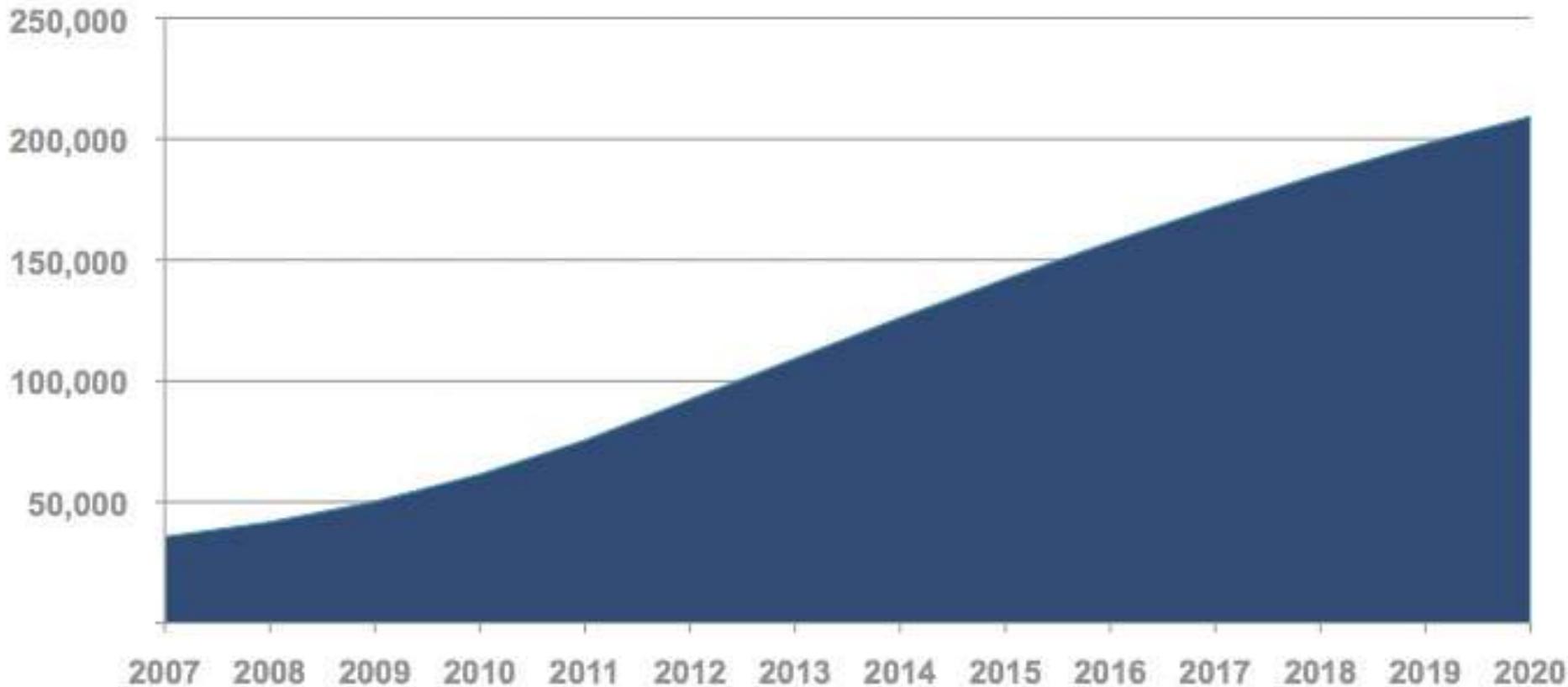
- Leverages more than **\$20 million** dollars in state, utility and private funds
- Weatherizes over **3,000 additional homes** in Boston
- Creates more than **100 green-collar jobs**
- Reduces GHG emissions by **40,000 metric tons** annually
- Installs more than **500kw of clean energy** capacity within the City



Residential Participation Goal



The participation goal is to serve 150,000 households from 2010 through 2020.



Renewable Energy

- 11.7% of City's bulk electricity purchase comes from green power
- Wind Zoning – Article 88
- Moon Island Project
- Solar Boston



Deer Island 1.2 MW



Boston City Hall Demonstration Project



Harvard Business School, Boston 36.5 kW

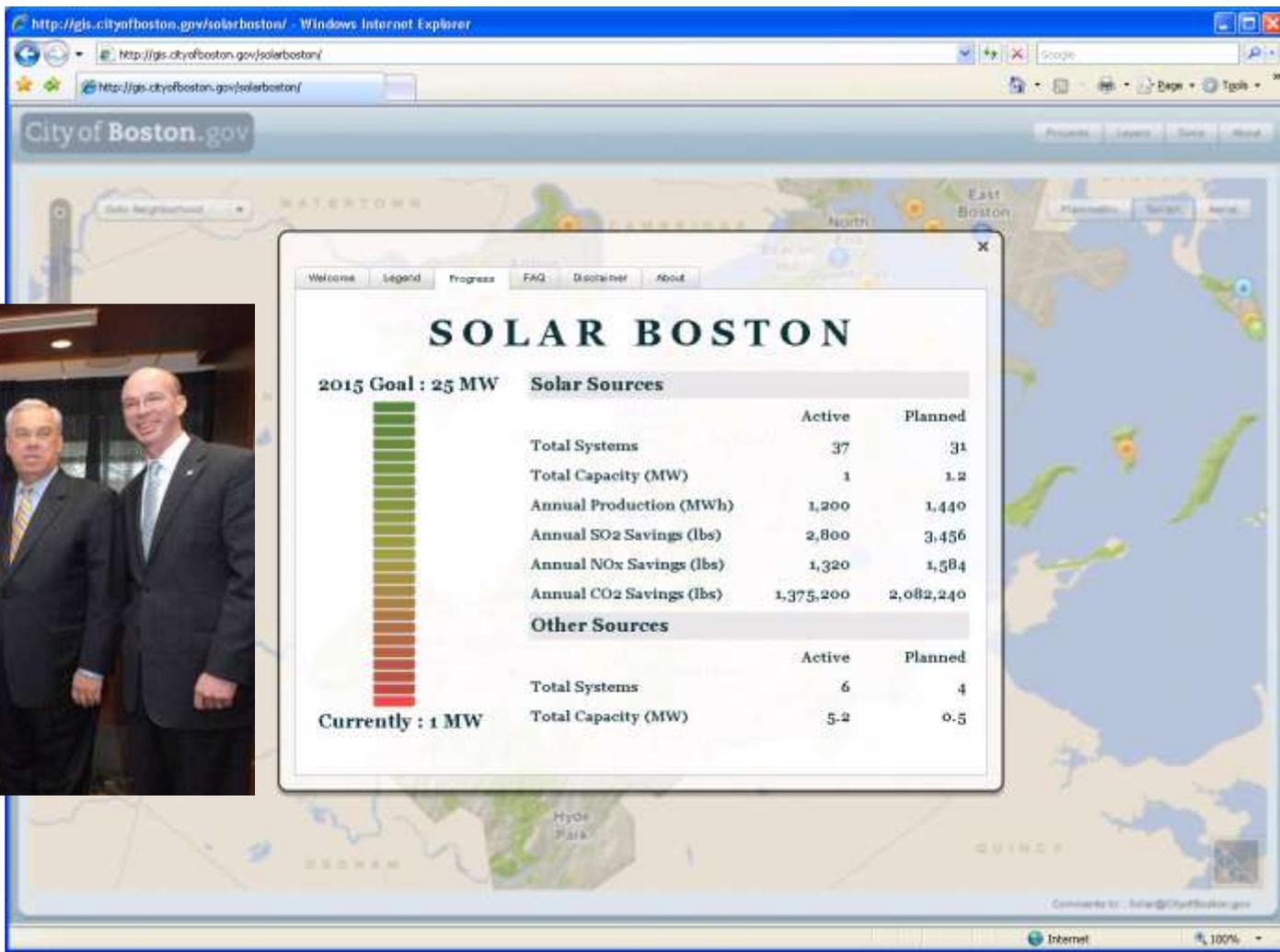


Solar Boston – Solar America City

25 MW by 2015

Measuring Solar Progress

500% increase since 2008



Sustainable Transportation

Promote MBTA mass transit

Discourage driving through parking policy and price signals

Expand bike and pedestrian opportunities

Expand EV and car sharing access



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Boston Complete Streets

- **Multi-modal:** Safe, comfortable & accessible for all users
- **Green:** Sustainable materials, storm water management & reduced energy consumption
- **Smart:** efficient & maximize technological advances



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Adaptation – Building a Resilient Future

Adaptation should have equal priority in Boston's Climate Action plan

Focus on Sea Level Rise, Heat Waves, and Extreme Weather

Assess vulnerability, with a focus on vulnerable populations

Include adaptation in all planning, identify “no regrets,” “low cost” and “wait and see” strategies



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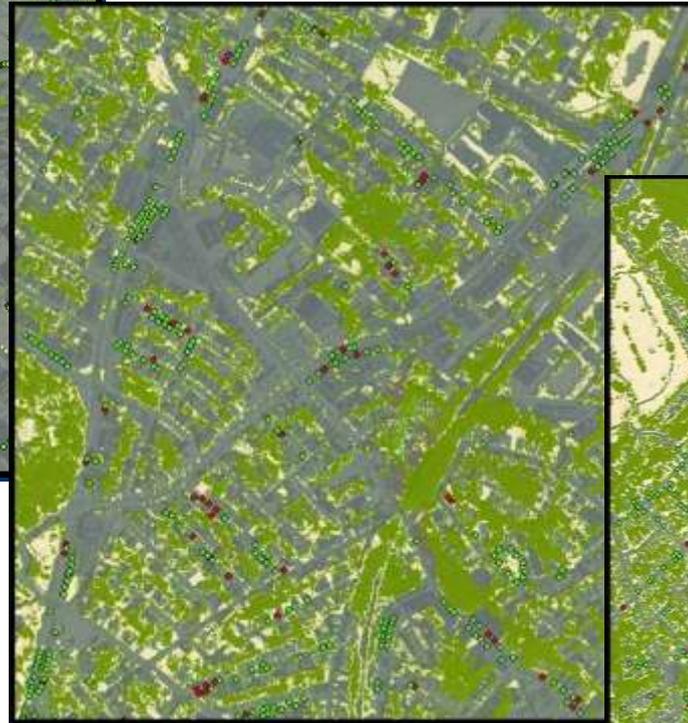
Extreme Climate Impacts – Long Wharf January 2010



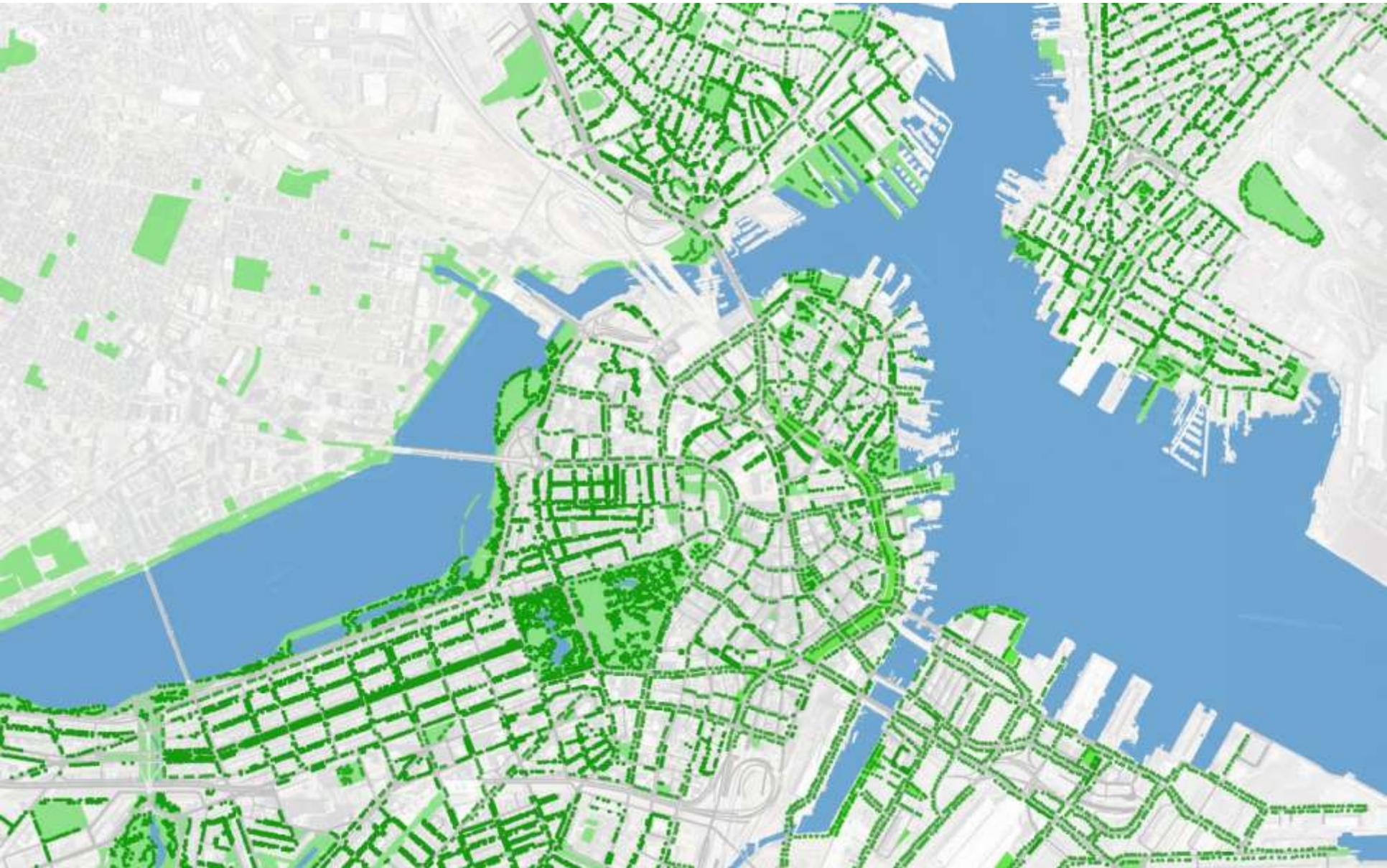


Growing Boston Greener

100,000 New Trees By 2020



Increase Tree Canopy to 35% by 2030



Clean Tech Cluster / Green Jobs

Boston is a clean tech hub – sector continues to grow in Innovation District



Green Jobs Boston Partnership – preparing local residents to enter and climb this good paying career ladder

Bringing savings to local residents and businesses, stimulating local economies



Net Savings from Greenhouse Gas Reduction Measures

NET COST (\$ per ton of reduction)

NET BENEFIT (\$ per ton of reduction)

Low-Carbon and Renewable Fuel Standards -64
 Renewable Portfolio Standard -64

0 Solid Waste Reduction
 81 Cool Roofs
 132 Natural Gas Utility Efficiency Programs
 137 Behavior Change—Transportation
 137 Vehicle Mileage and GHG Standards
 198 Bike Programs
 198 Car Sharing
 198 Mass Transit/Parking Programs
 256 Oil Heat Efficiency Program
 274 Anti-Idling
 286 Behavior Change—Buildings
 286 Benchmarking and Labeling
 286 Energy Efficiency Retrofit Ordinances
 323 Stretch Building Code or Equivalent
 379 Electric Utility Efficiency Programs
 430 Building Codes
 430 Appliance Standards

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Economic Benefit of Climate Action

\$ 2 Billion in Net Savings by 2020

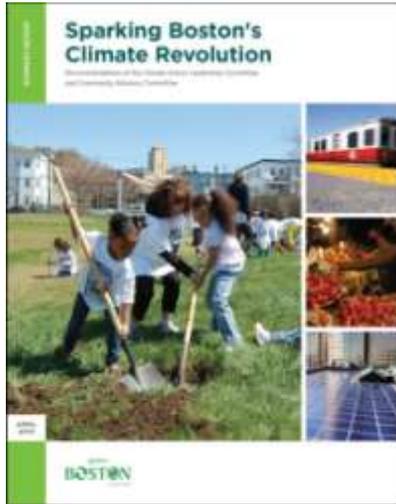
	Cumulative GHG Reductions through 2020 (thousand tons)	Total Net Savings (\$ million)
Buildings	6,750	\$ 1,670
Transportation	3,130	\$ 410
Solid Waste	140	\$ 0
TOTAL	10,020	\$ 2,070



“Our green agenda will improve our environment and public health while stimulating our growing green economy. Together, we are turning ‘Beantown into Greentown.’”

– Mayor Thomas M. Menino





www.cityofboston.gov/climate



Save Energy, Save Money

Thomas M. Menino, Mayor

www.renewboston.org

james.hunt@cityofboston.gov

