

GREENOVATE BOSTON

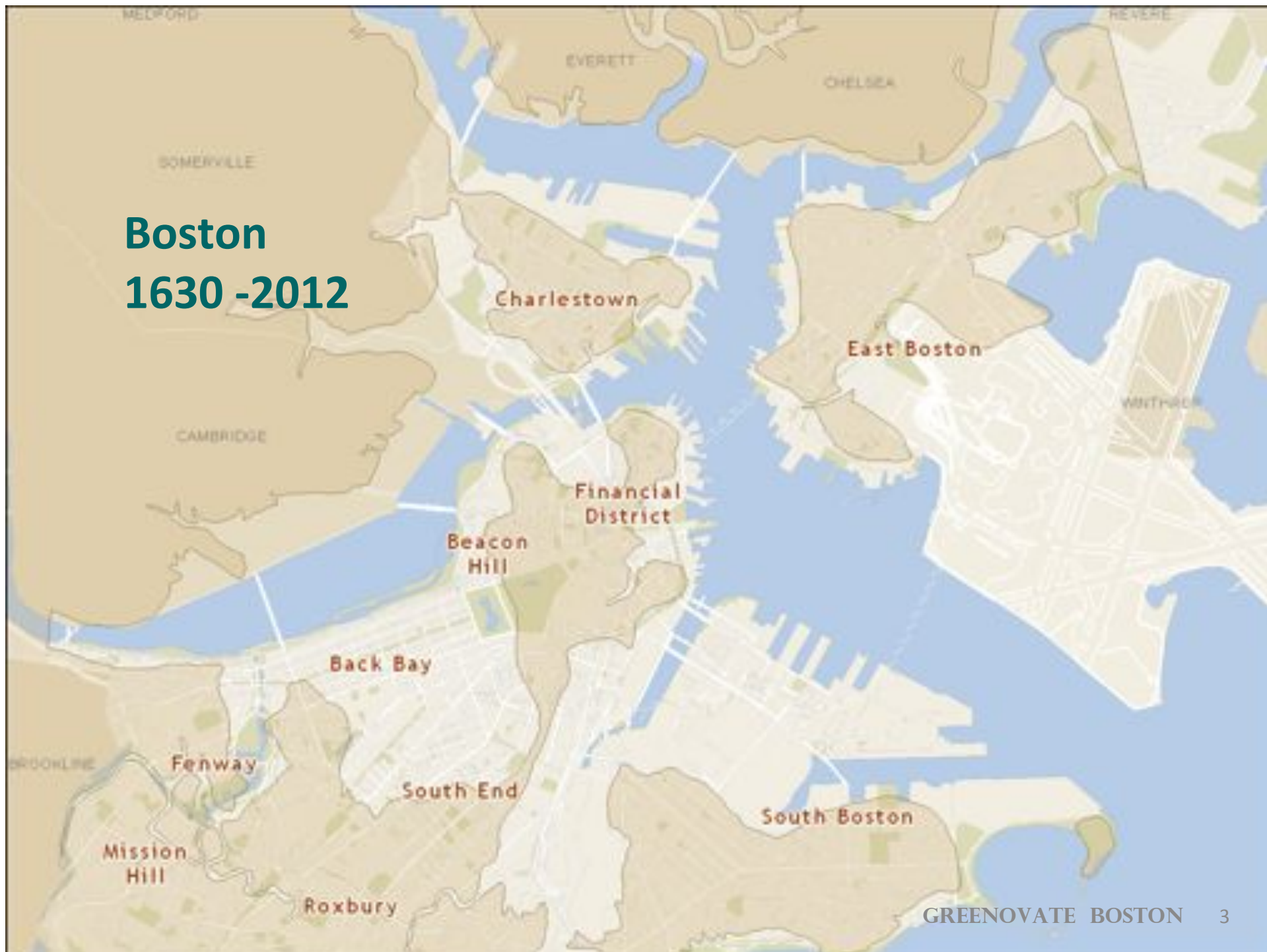


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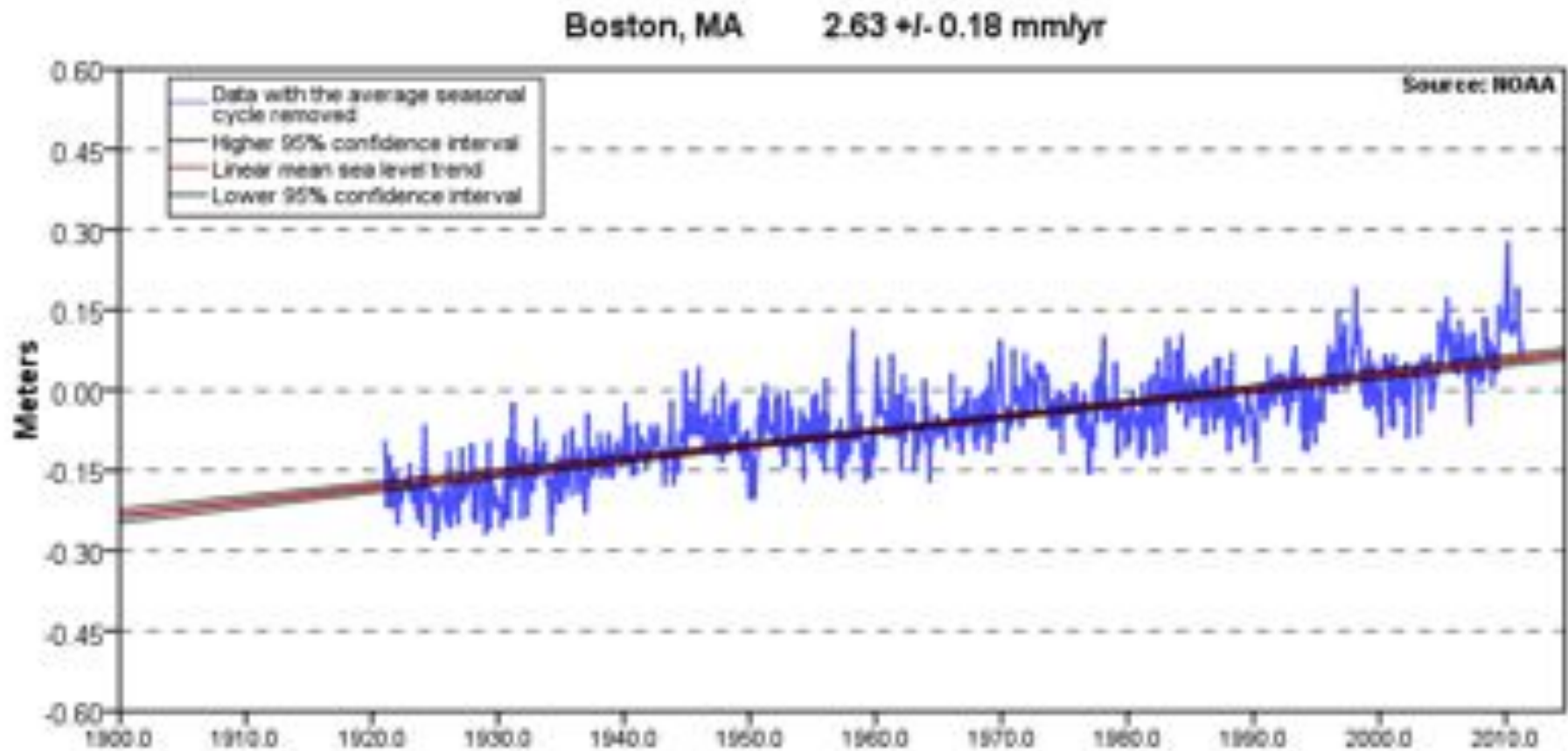
A stylized map of the Boston area in 1630. The land is represented by a solid tan color, and the water by a solid light blue color. The map shows the coastline of Boston, including the harbor and surrounding islands. The text "Boston 1630" is written in a bold, dark teal font on the left side of the map.

**Boston
1630**

Boston 1630 -2012



SEA LEVEL R[↑]SE

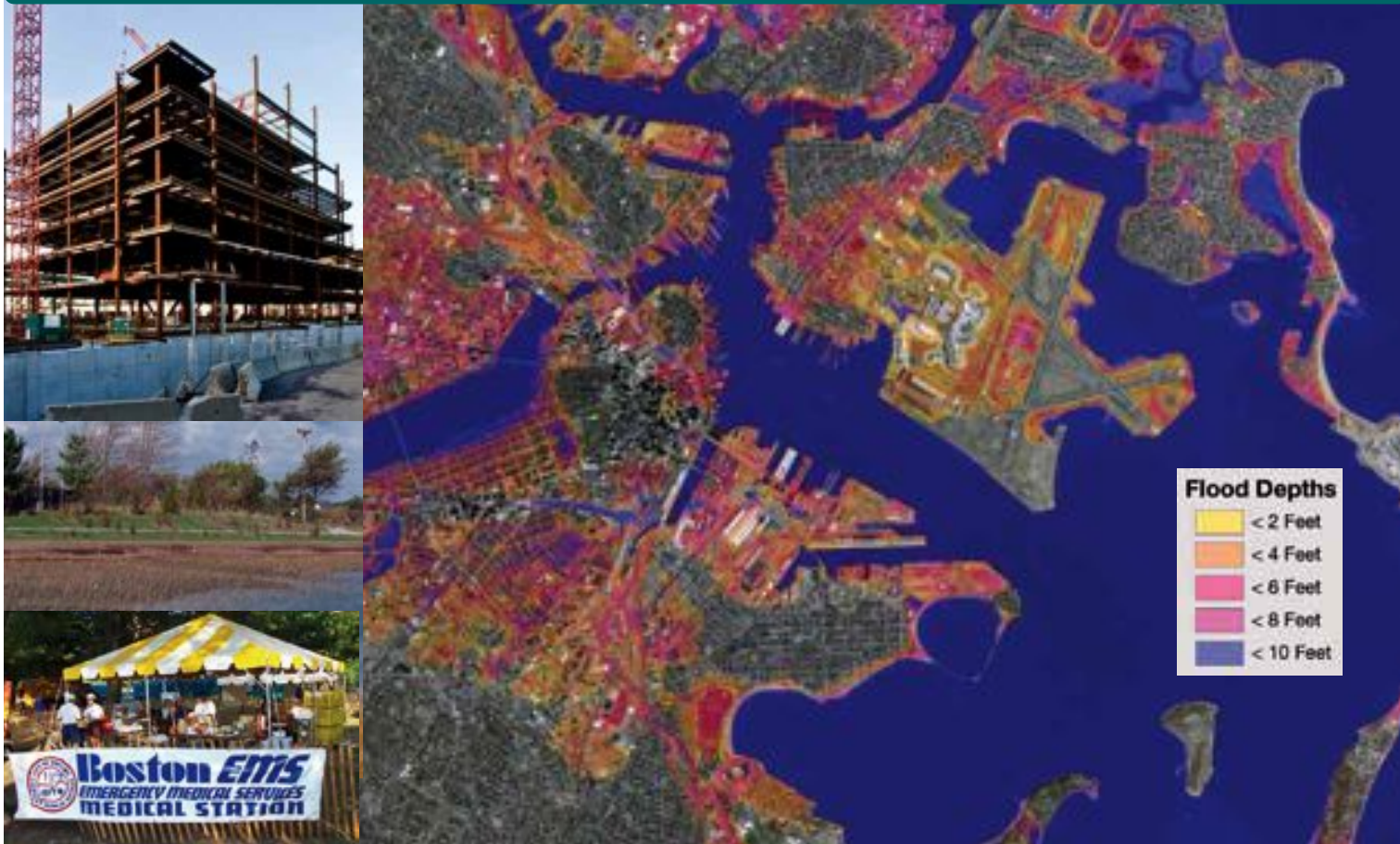




Preparing for Change:

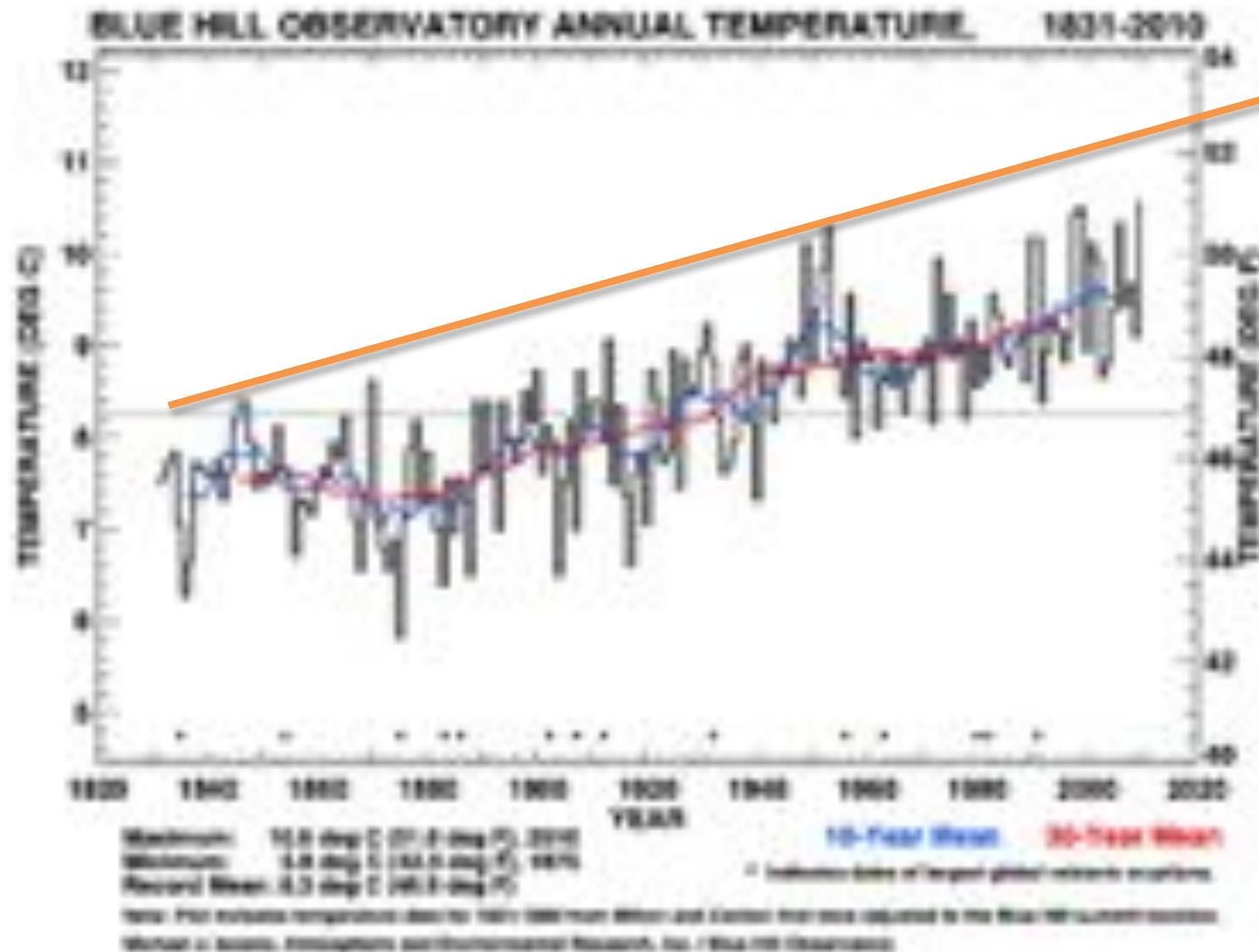
CLIMATE PREPAREDNESS (ADAPTATION)

Increased Storm Flooding with Sea-Level Rise – Future Projections

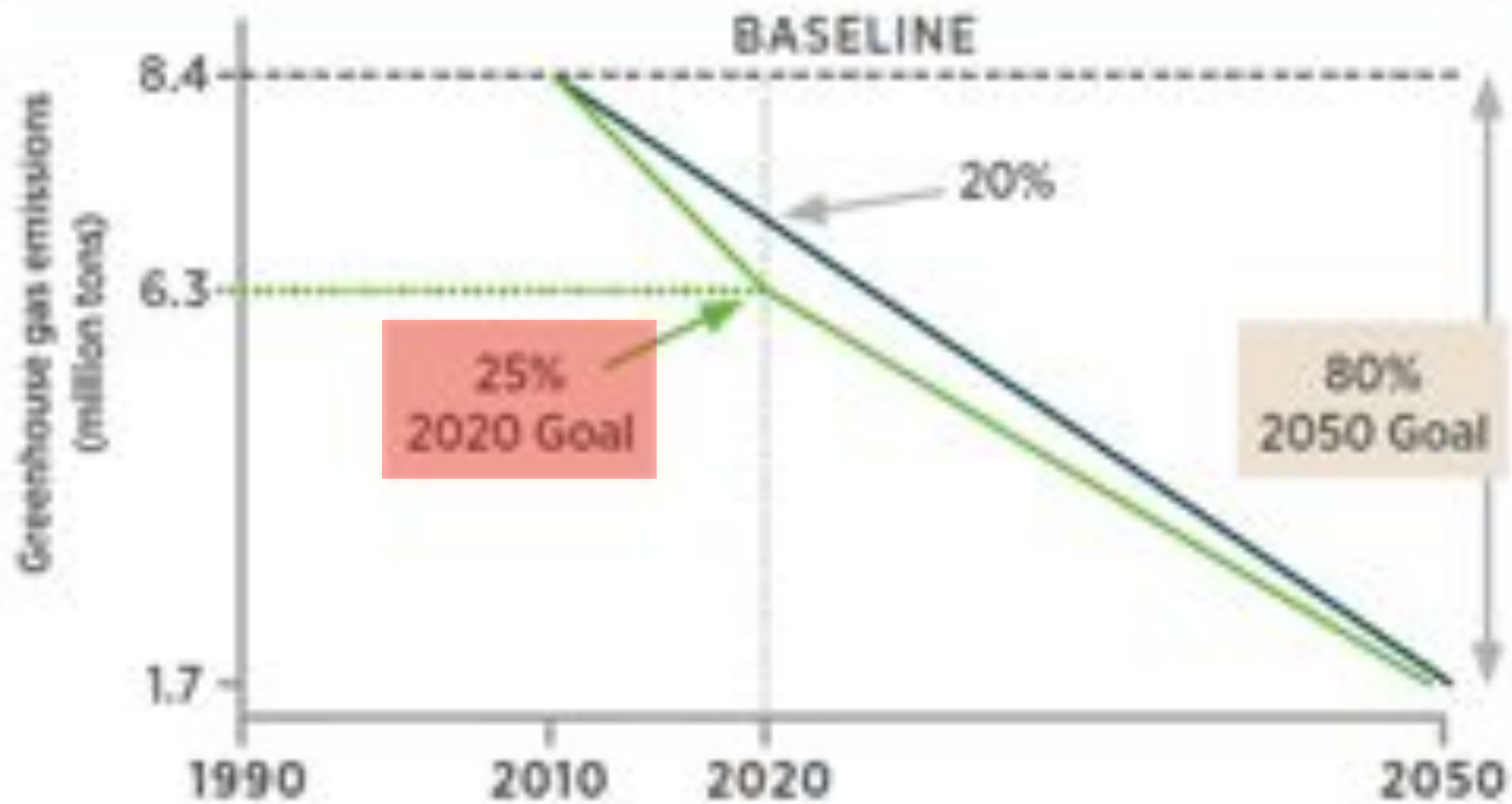


Minimizing Change, Climate Mitigation

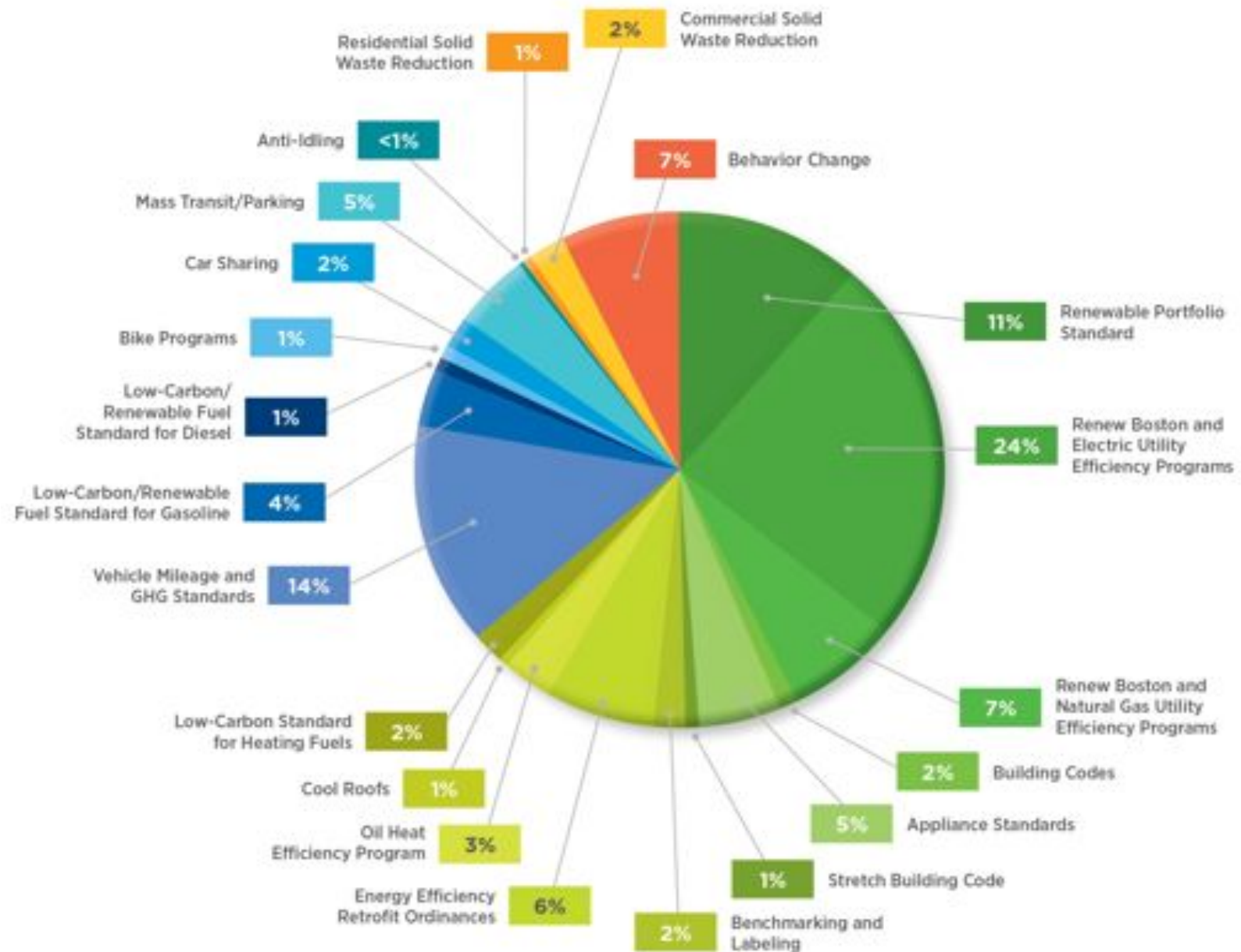
Blue Hills Meteorological Observatory Data



Greenhouse Gas Reduction Goals to 2050



2020 GHG Reductions by Program



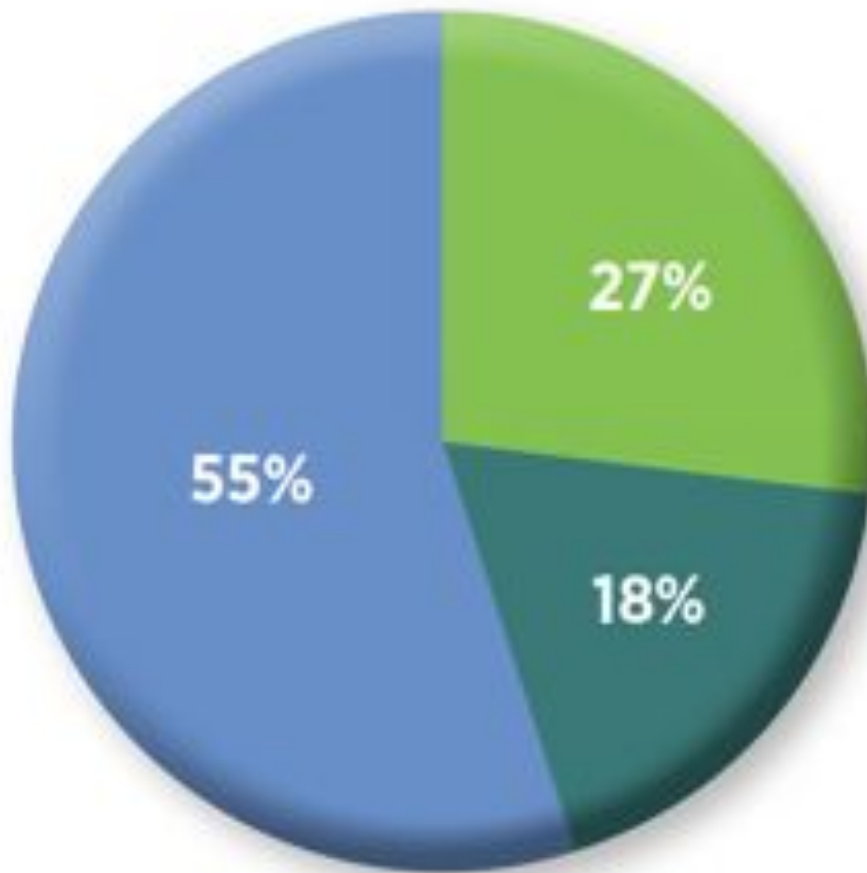
- **Advise** the City on the implementation of its Climate Action Plan
- **Engage** sector leadership in aligning their assets and initiatives to support the plan outcomes
- **Highlight** and promote best practice examples within and across sectors that advance The Climate Action Plan's goals



Boston's Current Greenhouse Gas Emissions

BY SECTOR

- Commercial/Industrial
- Residential
- Transportation





Buildings

2008 GHG emissions: **5.7 million tons** eCO₂
(71% of community total)

2020 reduction goal: **31%**

Primary Indicators: Total electricity, natural gas, and fuel oil use;
number of energy retrofit projects; renewable energy capacity

Green Building Strategies

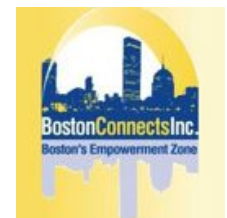
City Building and Affordable Housing – **LEED Silver, 2007**

Private Construction 1st in nation
Green Building Zoning
based on LEED, 2007

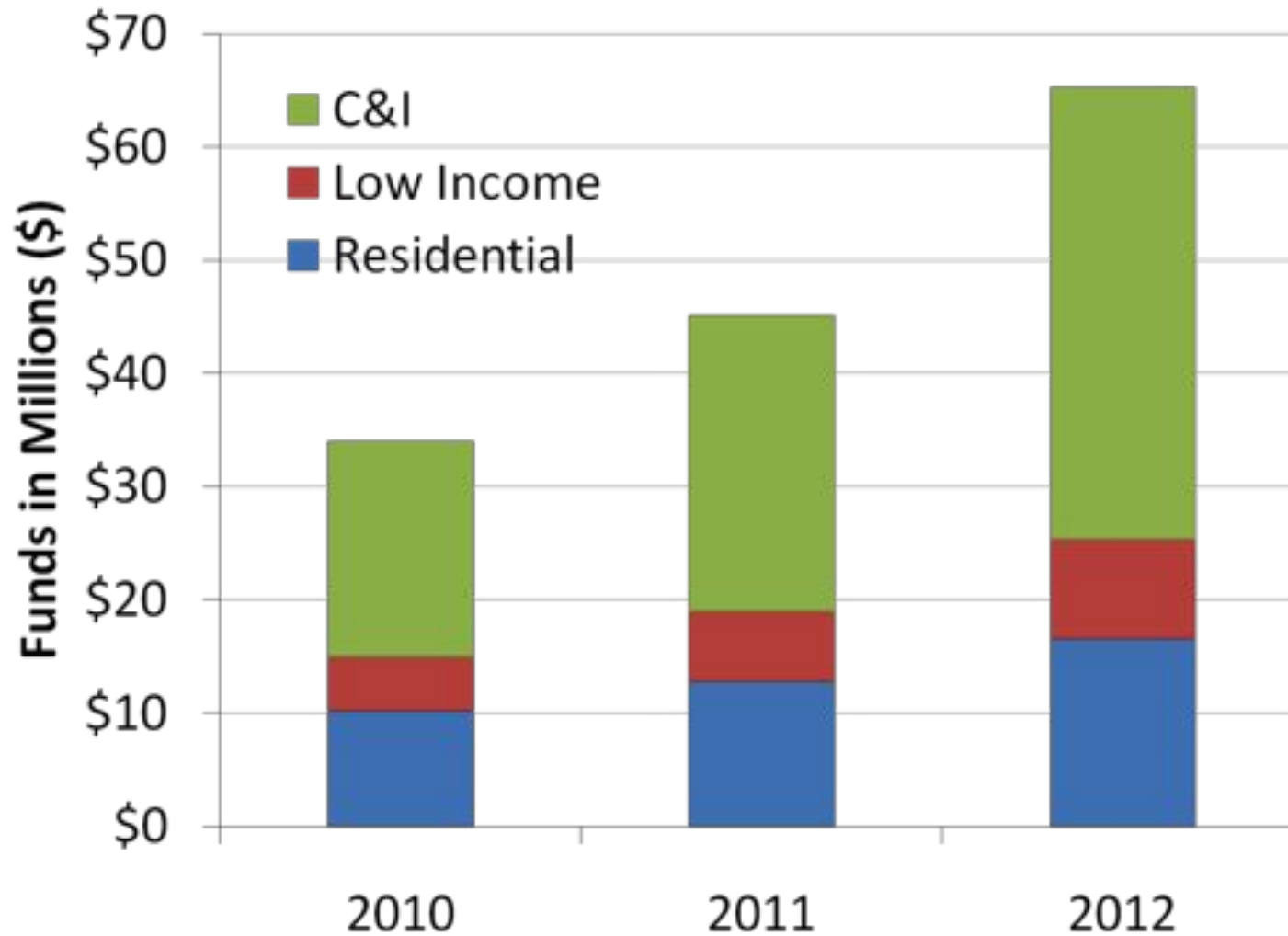
Stretch Energy Code,
20% BETTER energy performance 2010.



Brigham and Women's Hospital



Increased Funding: Energy Efficiency Programs



Renew Boston and Energy Efficiency

1 Outreach and Referral

2 Intake, Information, and Assistance

3 Financing Assistance

4 Job Creation and Contractor Support

5 Tracking and Strategy



By **2020**, assuming the utility programs continue as expected and the Boston community fully participates, Renew Boston and the utilities will make dramatic changes.

150,000 households (65% of total)

30,000 businesses (70% of total)



Renew Boston Pacesetters

1. Commit to Executive Involvement
2. Set Goals
3. Assess Potential Savings from Energy Efficiency
4. Agree on Multi-Year Road Map of Energy Savings
5. Invest in Energy Efficiency Opportunities
6. Track Energy Savings



Renew Boston
Green Energy. Smart Ideas.
Creating a Greener Boston.

Renew Boston Pacesetter Letter of Intent

Organization: _____

As an executive of the above named organization, I join with Mayor Thomas M. Menino in a commitment to meet the energy use reduction goals of the Renew Boston program and the City of Boston Climate Action Plan: a reduction of at least 20% by 2020. It is the goal of my firm/organization to reduce energy costs substantially by taking advantage of the commitment of NEM and National Grid to facilitate the participation of Boston businesses and institutions in all available energy efficiency assistance and incentive programs. As applicable, we will work with our property managers, tenants, engineers and other partners to adopt these commitments. As Renew Boston Pacesetters, we will take the following steps:

1. **Commit to Executive Involvement.** We will engage our organization's financial and operational executives to work with the utility companies, and Renew Boston, setting energy efficiency investments criteria that are appropriate to our business circumstances and goals.
2. **Set Goals.** We will set quantitative goals for energy use reductions by 2020 and particular interim years, measured in kWh, therms or Btu, and we will publish our goals publicly with Renew Boston.
3. **Assess Potential Savings from Energy Efficiency.** We will work with National Grid and NEM and authorized vendors and contractors to complete the no-cost energy audits or whole building assessments offered by the utility companies for our site of facility and look for energy opportunities. We will also consider paying for up to half of a more detailed feasibility study (generally up to \$25,000 in return for matching funding from NEM, National Grid or source identified by Renew Boston).
4. **Agree on Multi-Year Road Map of Energy Savings.** We will develop a "road map" or other document identifying the level of reduction our organization is committed to make in its energy usage within the City of Boston and identifying a package of rebates and other financial and technical assistance. If savings are sufficient, this could take the form of a Memorandum of Understanding with NEM or National Grid setting explicit goals for energy use reductions and listing energy efficiency investments to be implemented over a period of at least three years.
5. **Invest in Attractive Energy Efficiency Opportunities.** We will make investments in energy-saving or clean energy measures as funded with rebates and incentives through appropriate gas and electric, utility and state programs.
6. **Track Energy Savings.** We will provide quarterly data on our consumption of electricity, natural gas and other energy (i.e., oil, steam, electricity and thermal energy from CHP and district energy systems) to Renew Boston (directly or through Portfolio Manager), and we will authorize all our utility and energy companies to provide data on our facilities' energy savings and energy usage to Renew Boston for the purpose of tracking greenhouse gas reductions over time.

Signature & Date: _____

Name & Position: _____

Manager with responsibility for follow up: _____

Best Date (Month/Day/Year): _____

Green Collar Job Growth

Boston clean energy
industry more than

64,000 jobs



2011: **6.7%** increase in jobs

2012: **15%** projected increase





Transportation

2008 GHG emissions: **2.3 million tons** eCO₂
(27% of community total)

2020 reduction goal: **28%**

Primary Indicators: Vehicle miles traveled, mode share

Launched Earth Day
4.21.11, 61 stations in
downtown Boston w/
600 bikes, 0 – 29:59 min
\$0.00, Annual
Membership \$85,
100,000 rides in 1st 2
months, cycle 3 seasons,
30,000 casual members



Hubway

BIKE SHARE



Electric Cars & Charging Stations



A background photograph showing a family of four (two men, a woman, and a young child) standing outdoors next to a blue recycling bin. The bin has a white recycling symbol and the text "Recycling" on it. The family is dressed in casual attire, and the setting appears to be a residential street with houses and trees in the background.

Solid Waste/Recycling

2008 GHG emissions: **0.18 million tons** eCO₂
(2% of community total)

2020 reduction goal: **40%**

Primary Indicators: Total solid waste, diversion rate



Municipal Operations

2008 GHG emissions: **0.2 million tons** eCO₂
(2% of community total)

2020 reduction goal: **25%**

Primary Indicators: Total electricity, natural gas, diesel fuel, and gasoline use

The Energy Budget

Commodity

Fiscal 2011

Electricity \$ 28.4 million

Natural Gas \$ 12.9 million

Oil/Gasoline/Diesel \$ 5.2 million

Water/Sewer, etc. \$ 5.2 million

TOTAL: \$ 51.7 million



Enhancing Energy and Financial Management

- Track energy use to identify energy and financial savings.
- Design retrofit plan to maximize
 - energy savings within capital budget constraints
 - operating budget savings in subsequent fiscal years.
- Expand renewable energy installations
 - offsets utility-provided energy use
 - hedges future utility price increases.



67,000 street lights throughout the City

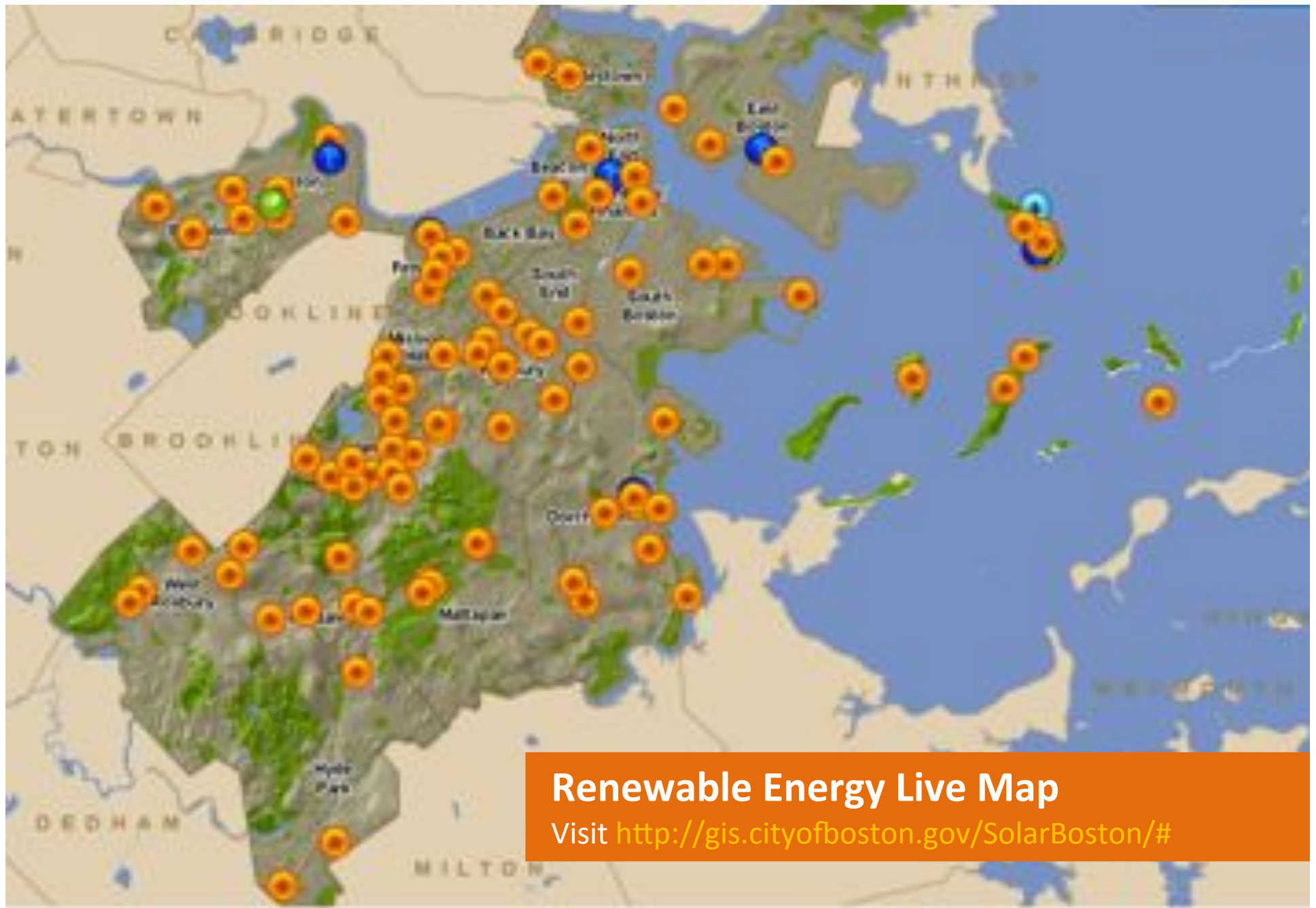
of these, 2800 are gas lights and 1500 are fire alarm lights

LEDs offer **50-80%** energy savings

Expected savings = **\$1.5 million/year**

LEDs are designed to last over 12 years

Long life and high  reliability



Renewable Energy Live Map

Visit <http://gis.cityofboston.gov/SolarBoston/#>





“Our sustainability agenda is improving our environment and public health while stimulating our growing clean tech economy and creating jobs. Each of these initiatives speak to the core values of Bostonians.”

– Thomas M. Menino, Mayor



GREENOVATE BOSTON



Growing Boston Greener

100,000 New Trees By 2020



East Boston



Roxbury



West Roxbury

Increase Tree Canopy to **35%** by **2030**

