



STATE OF VERMONT
House

Vermont House Committee on Energy and Technology

Testimony

H. 688 - An act relating to addressing climate change

Thursday, January 23, 2020

David W. Cash, Ph.D.

Dean

John W. McCormack Graduate School of Policy and Global Studies
University of Massachusetts Boston

Former Commissioner, Massachusetts Department of Public Utilities
Former Commissioner, Massachusetts Department of Environmental Protection

How Far Have We Come?

A Survey of Results

MA Clean Energy Sector Growth

FIGURE 5 | CLEAN ENERGY JOB GROWTH IN MASSACHUSETTS

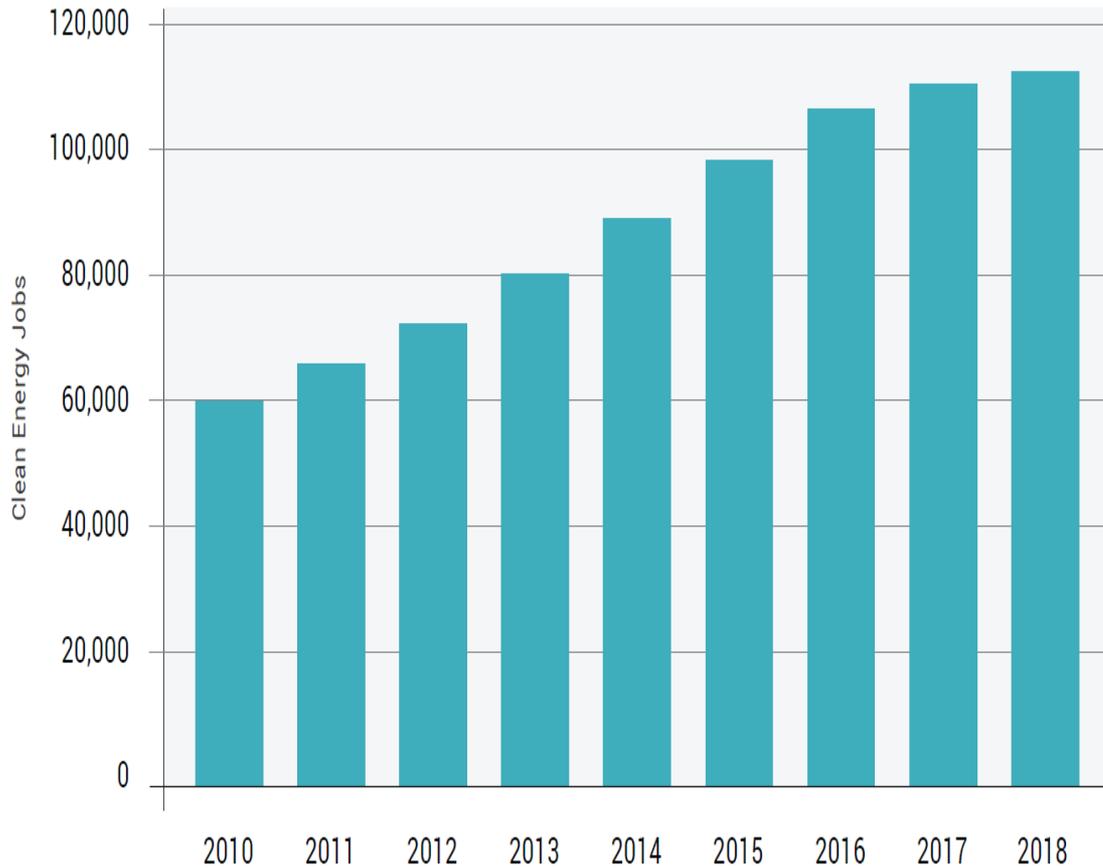
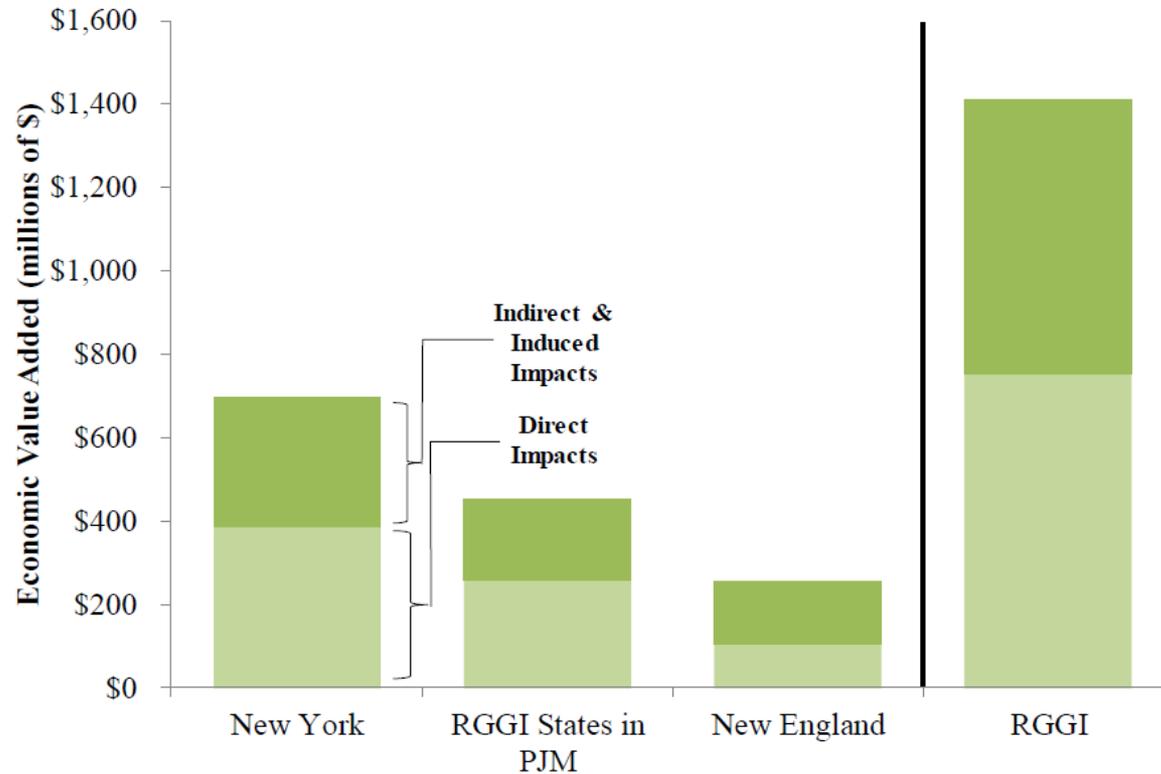
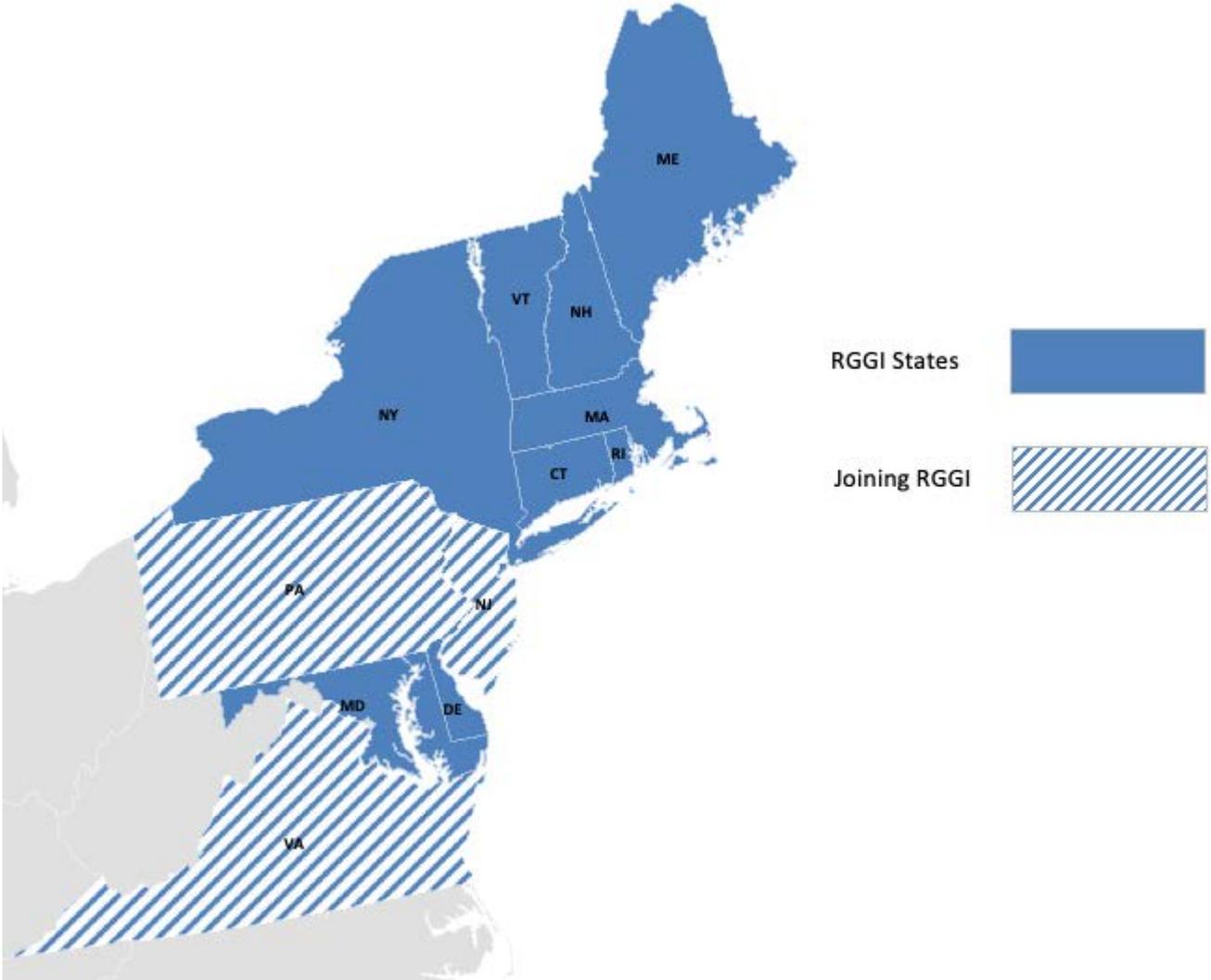


Figure ES-2

Net Economic Impact of the Implementation of RGGI During the 2015-2017 Period (NPV, 2018\$)

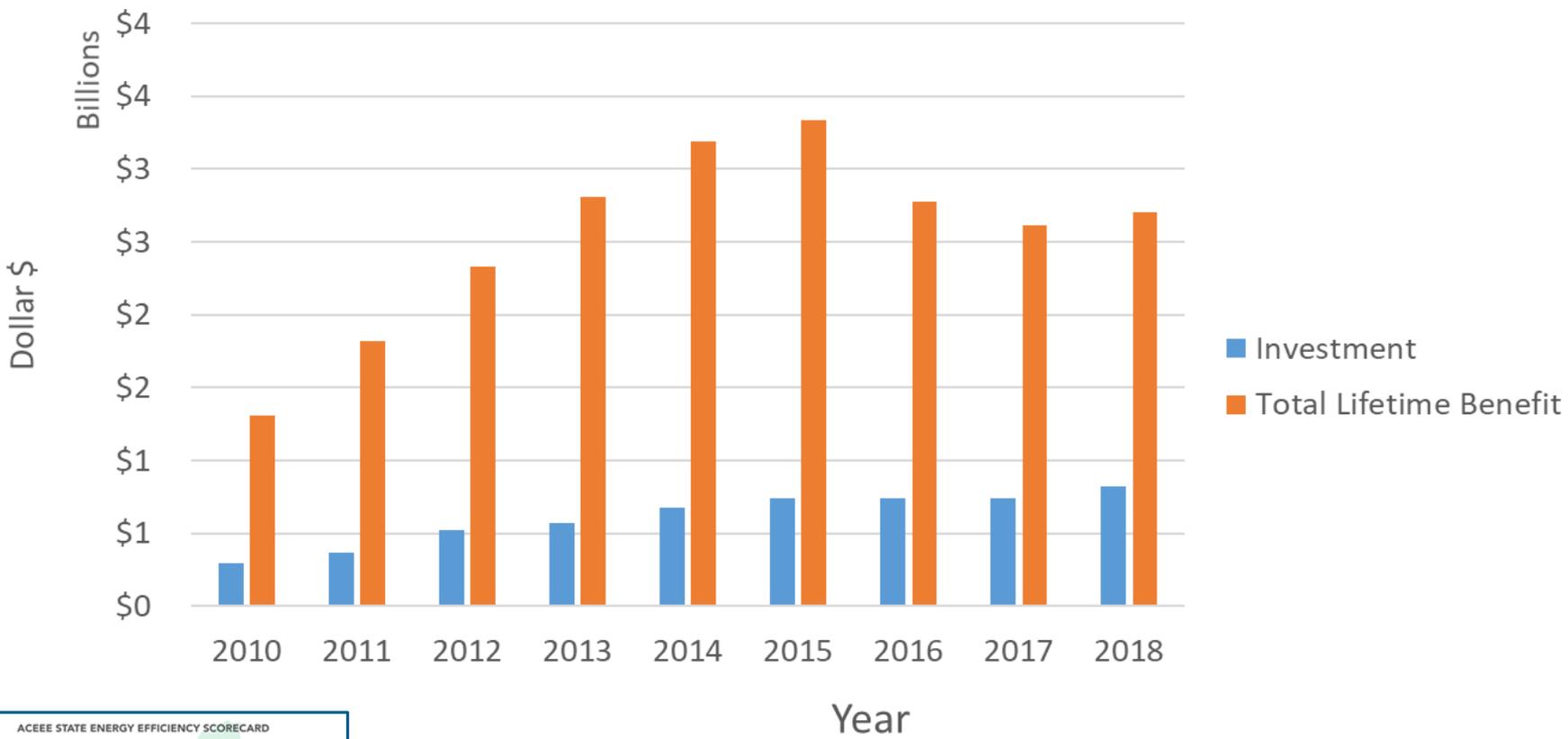


Regional Greenhouse Gas Initiative



Energy Efficiency: Cheapest “Source” of Energy

Energy Efficiency Investment and Benefits



ACEEE STATE ENERGY EFFICIENCY SCORECARD
RANKED MASSACHUSETTS

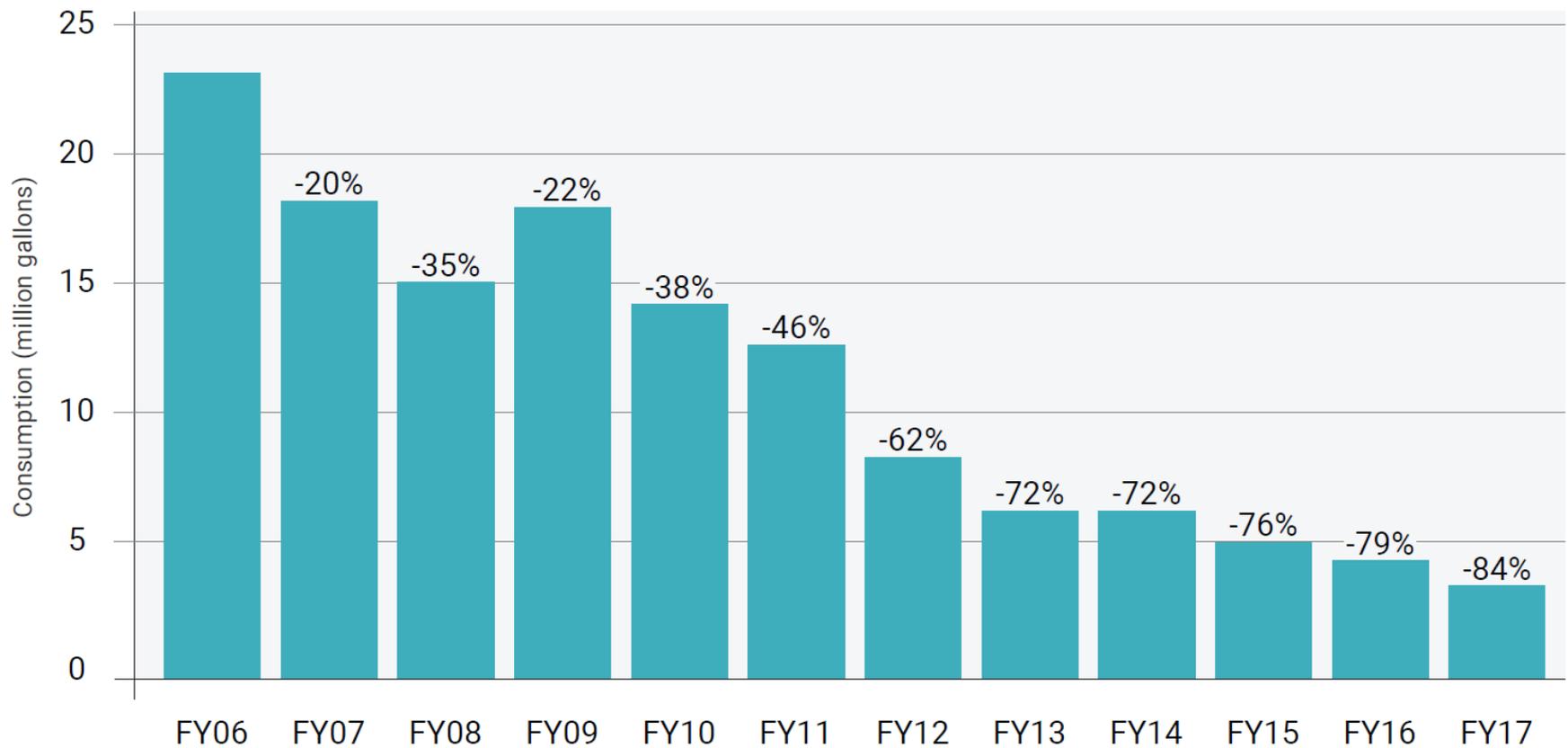


Source: American Council for an Energy Efficiency Economy

<https://www.massavedata.com/Public/TimeSeries>

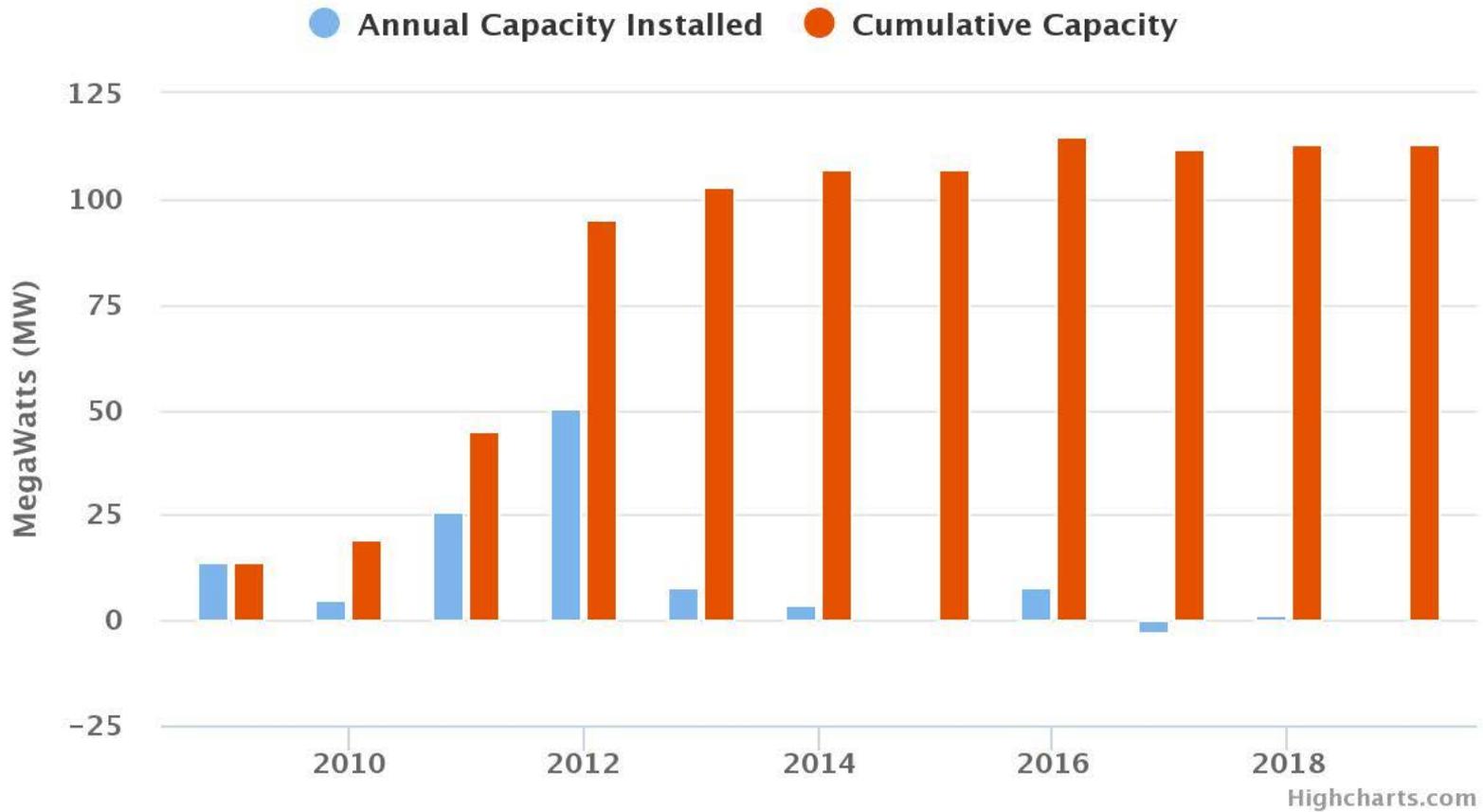
Leading by Example

FIGURE 11 | HEATING OIL CONSUMPTION IN STATE FACILITIES: FY2006–FY2017



Installed Wind Capacity in Massachusetts

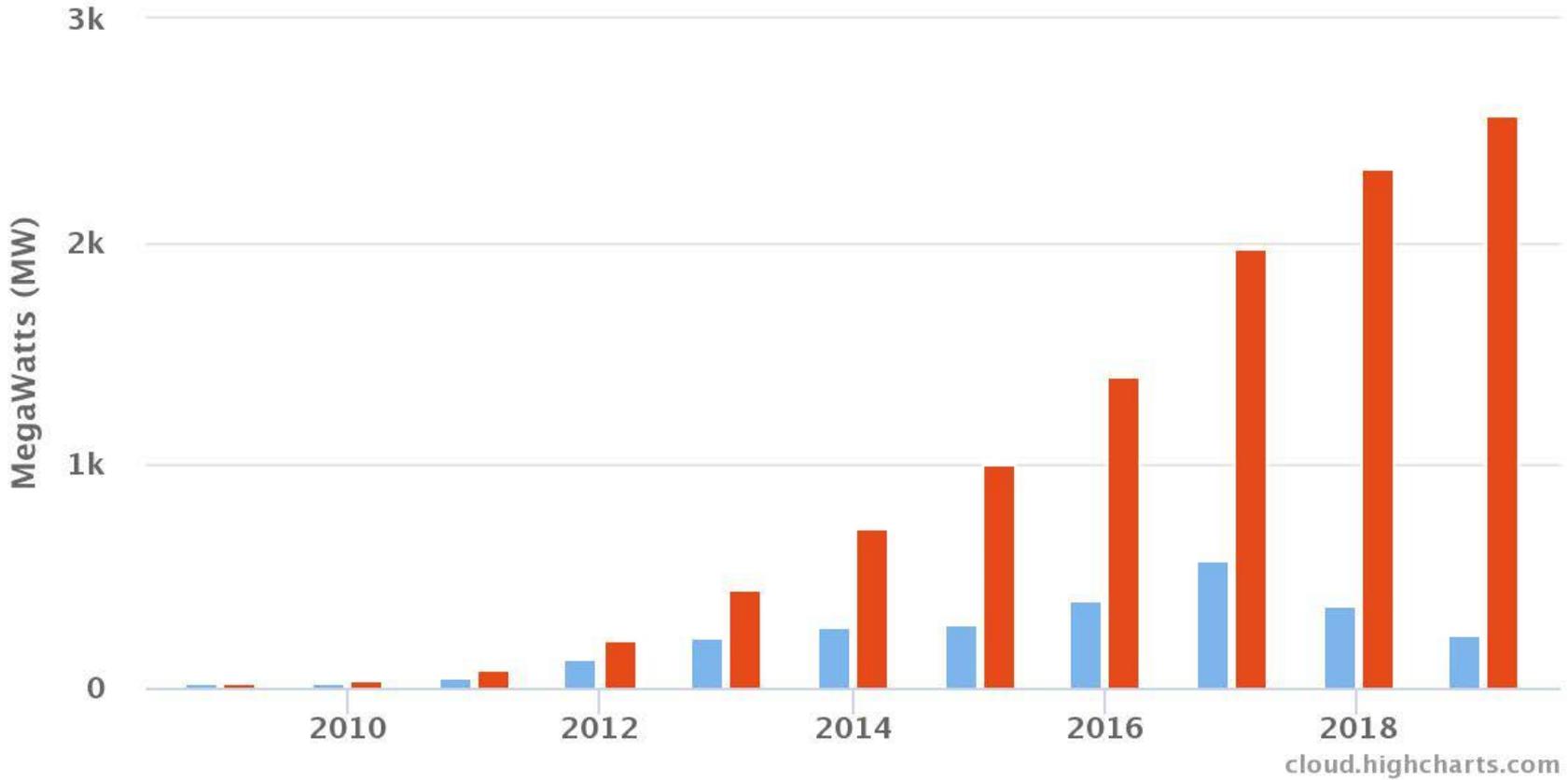
Pre-2009-2019



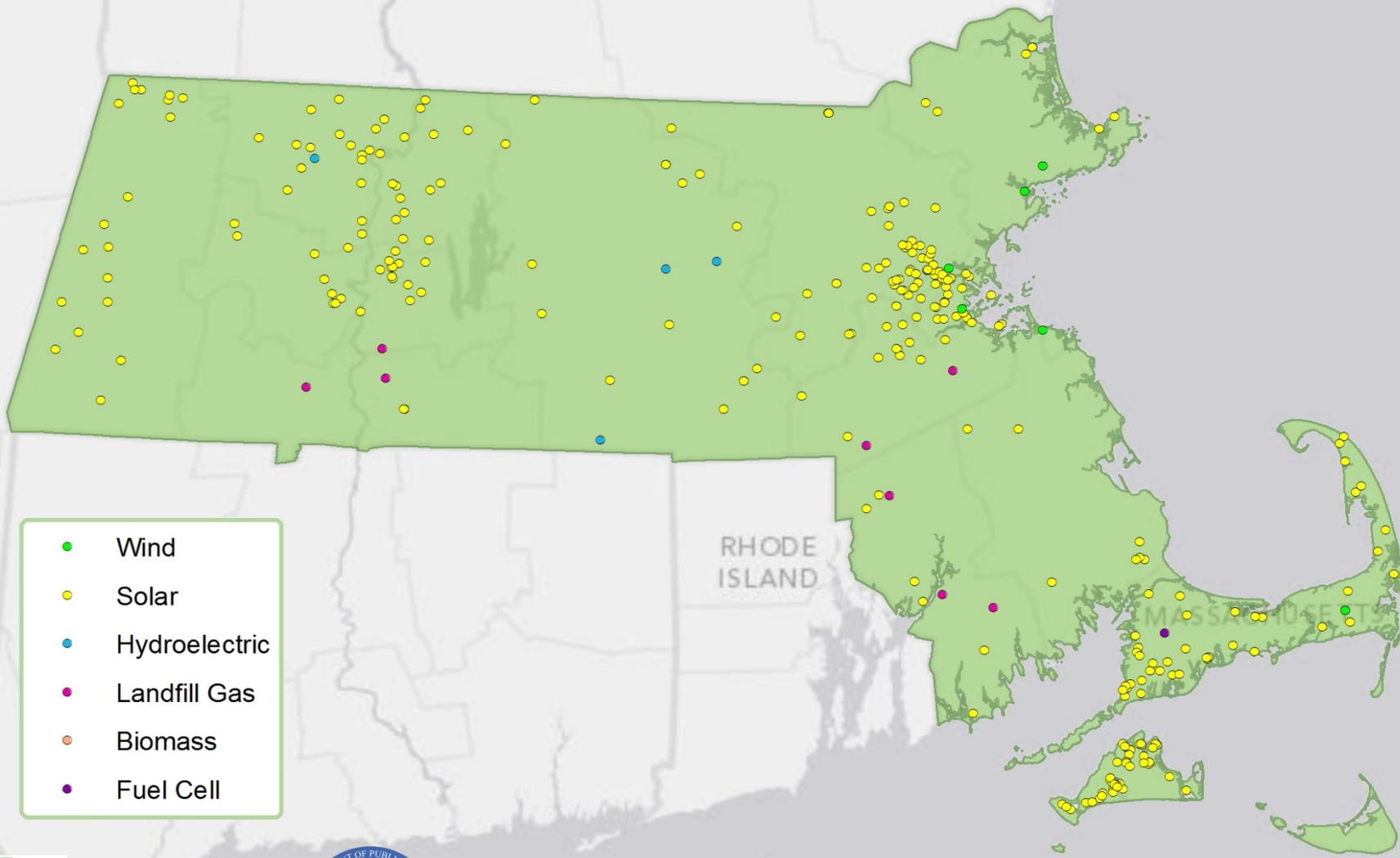
Installed Solar Capacity in Massachusetts

Pre-2009-2019

● Annual Capacity Installed ● Cumulative Capacity



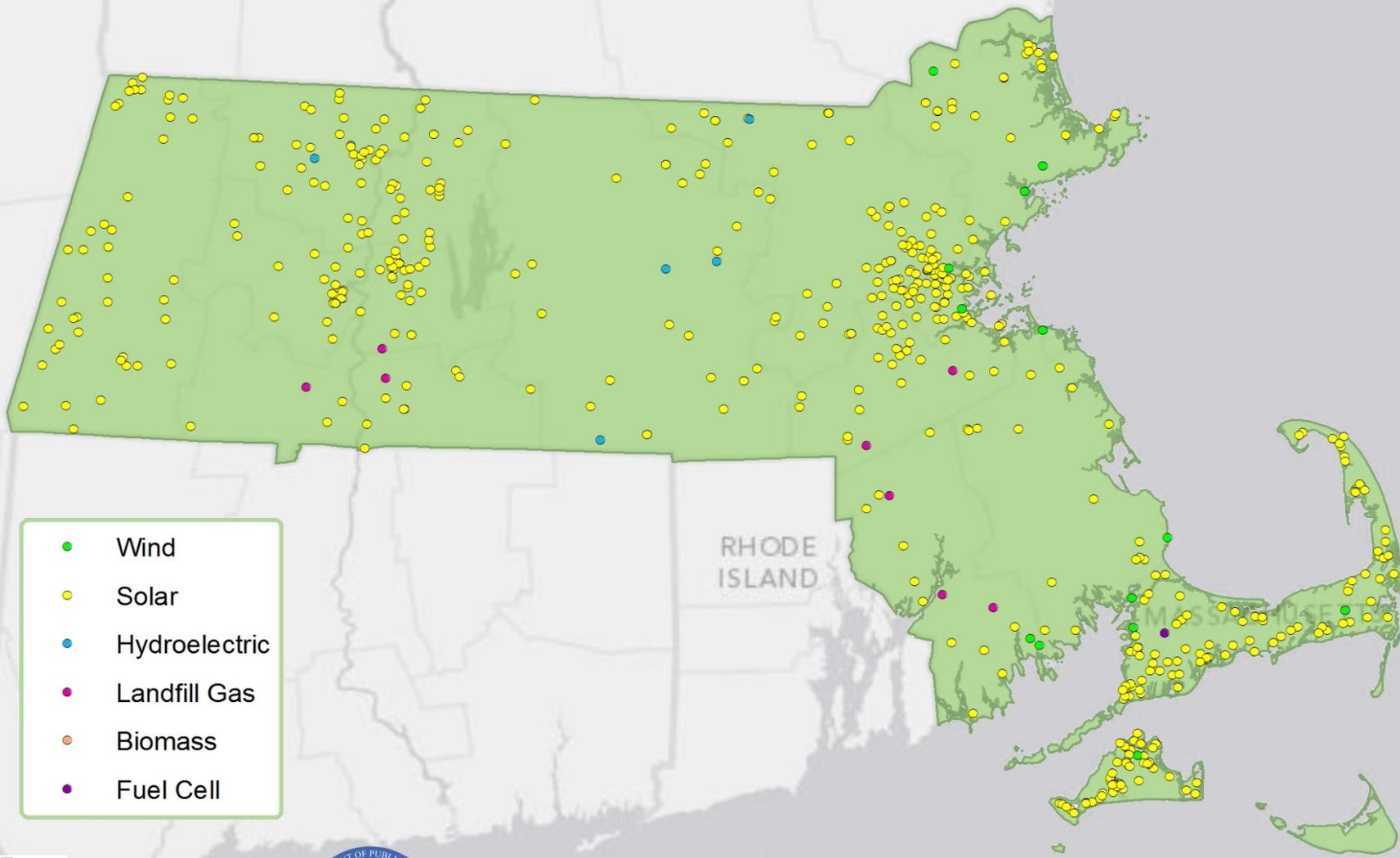
2006



- Wind
- Solar
- Hydroelectric
- Landfill Gas
- Biomass
- Fuel Cell



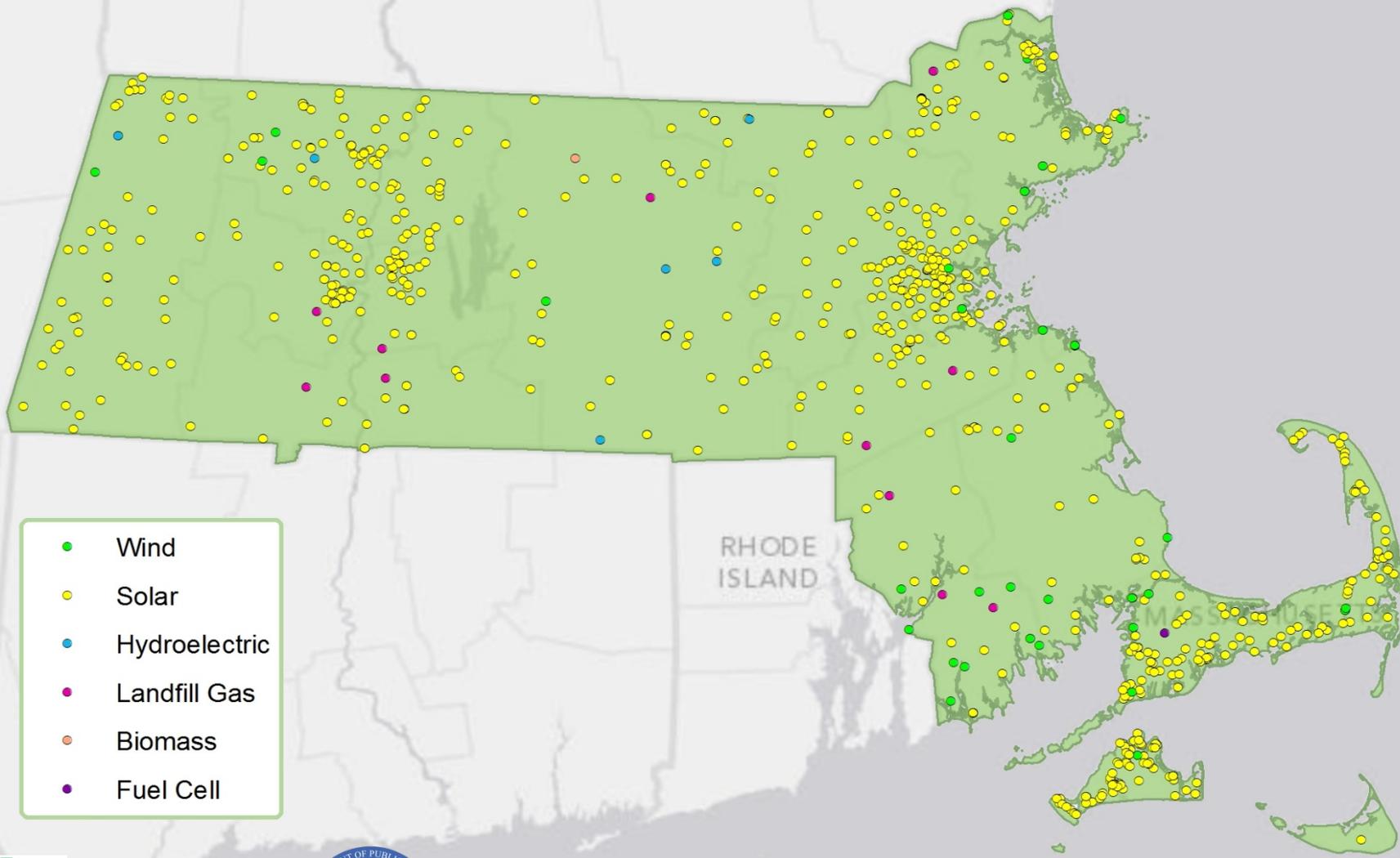
2007



- Wind
- Solar
- Hydroelectric
- Landfill Gas
- Biomass
- Fuel Cell



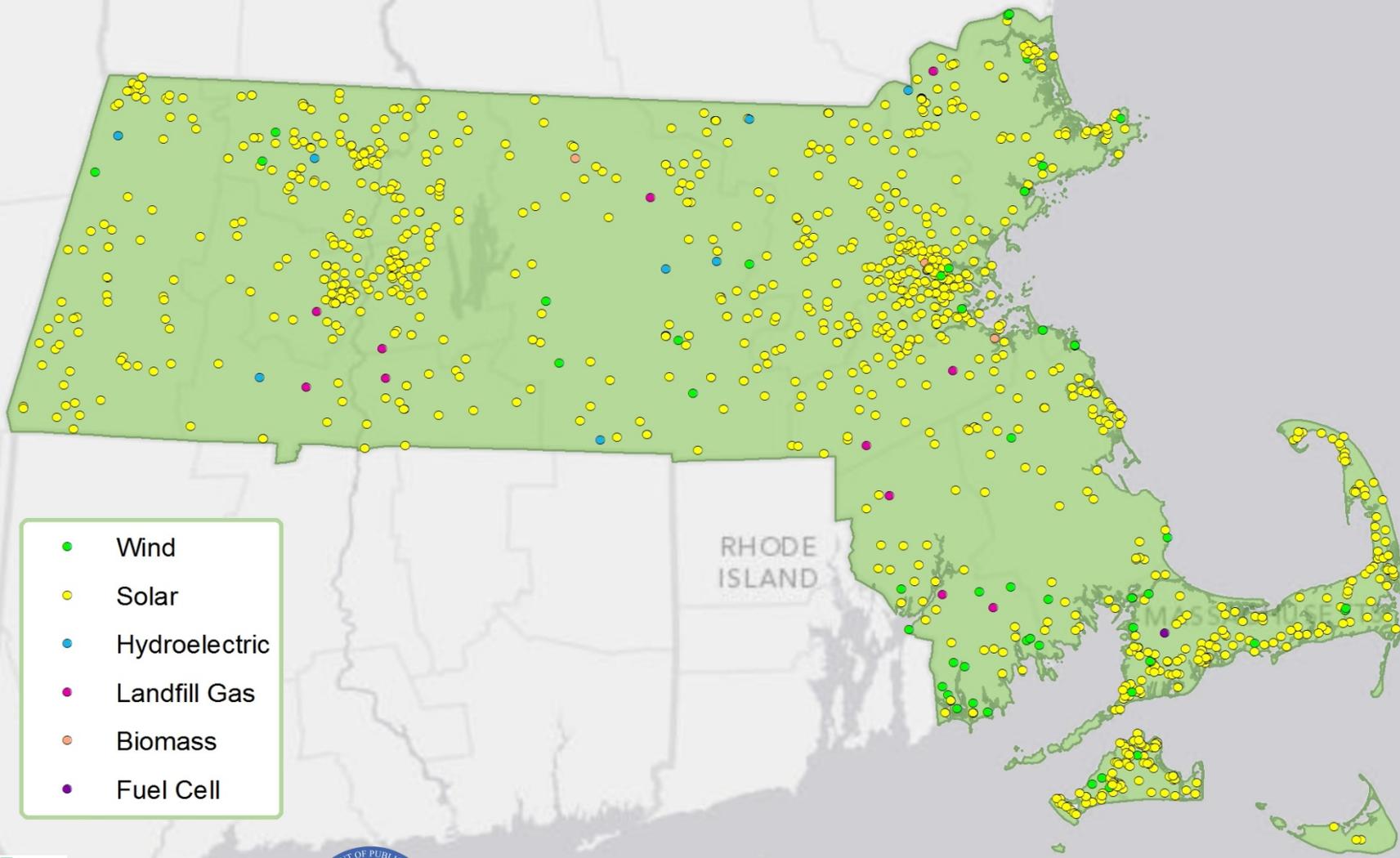
2008



- Wind
- Solar
- Hydroelectric
- Landfill Gas
- Biomass
- Fuel Cell



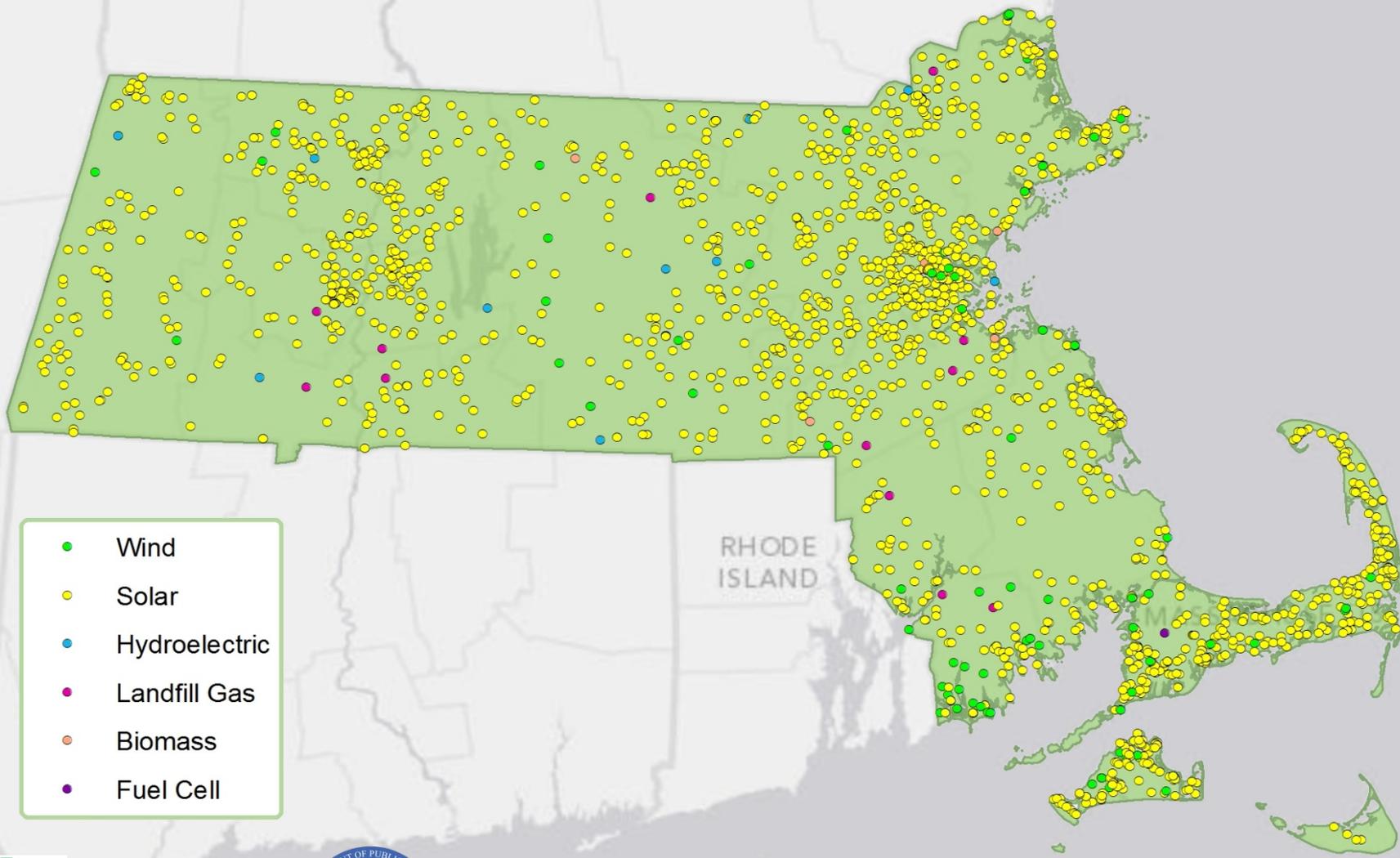
2009



- Wind
- Solar
- Hydroelectric
- Landfill Gas
- Biomass
- Fuel Cell



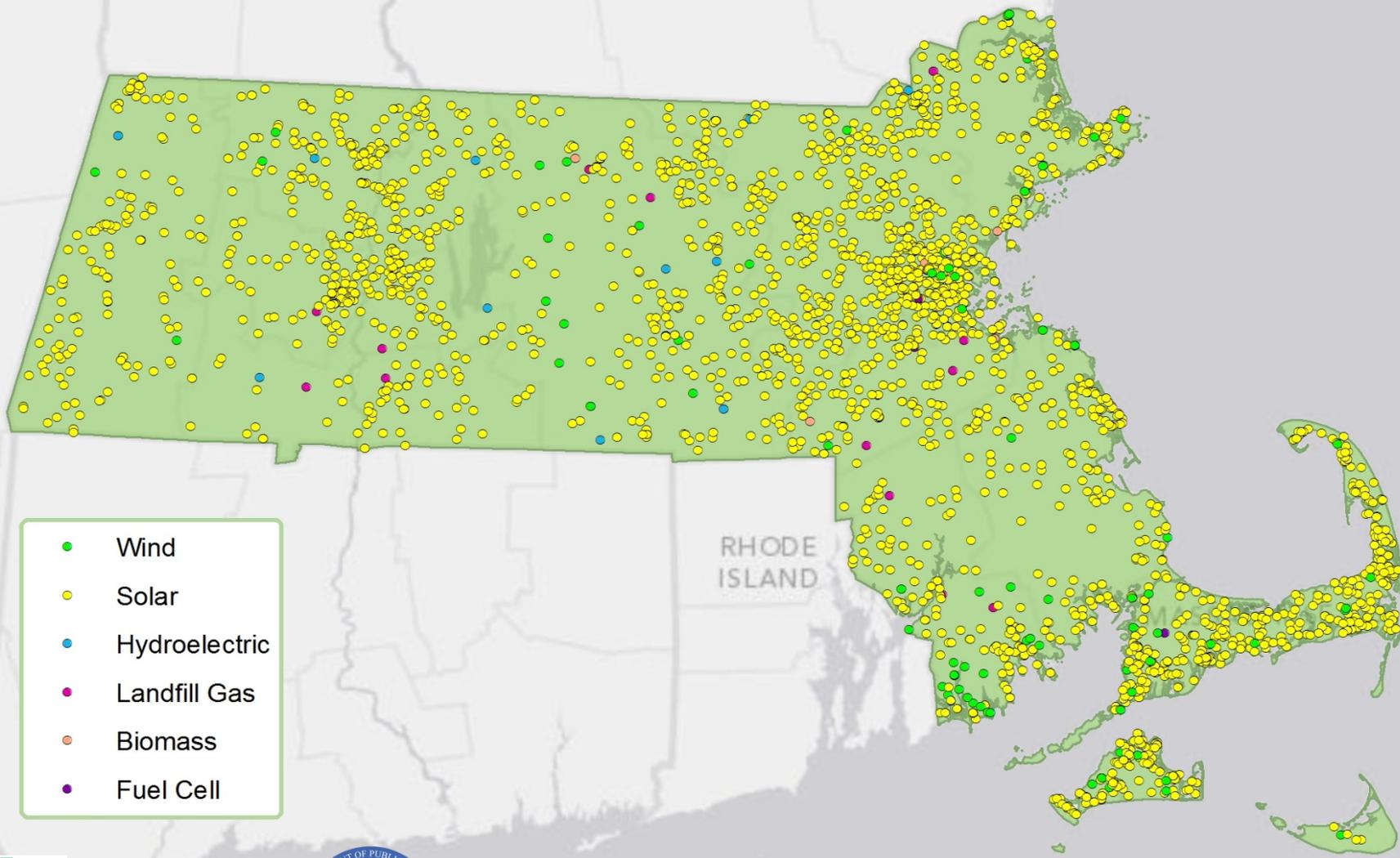
2010



- Wind
- Solar
- Hydroelectric
- Landfill Gas
- Biomass
- Fuel Cell



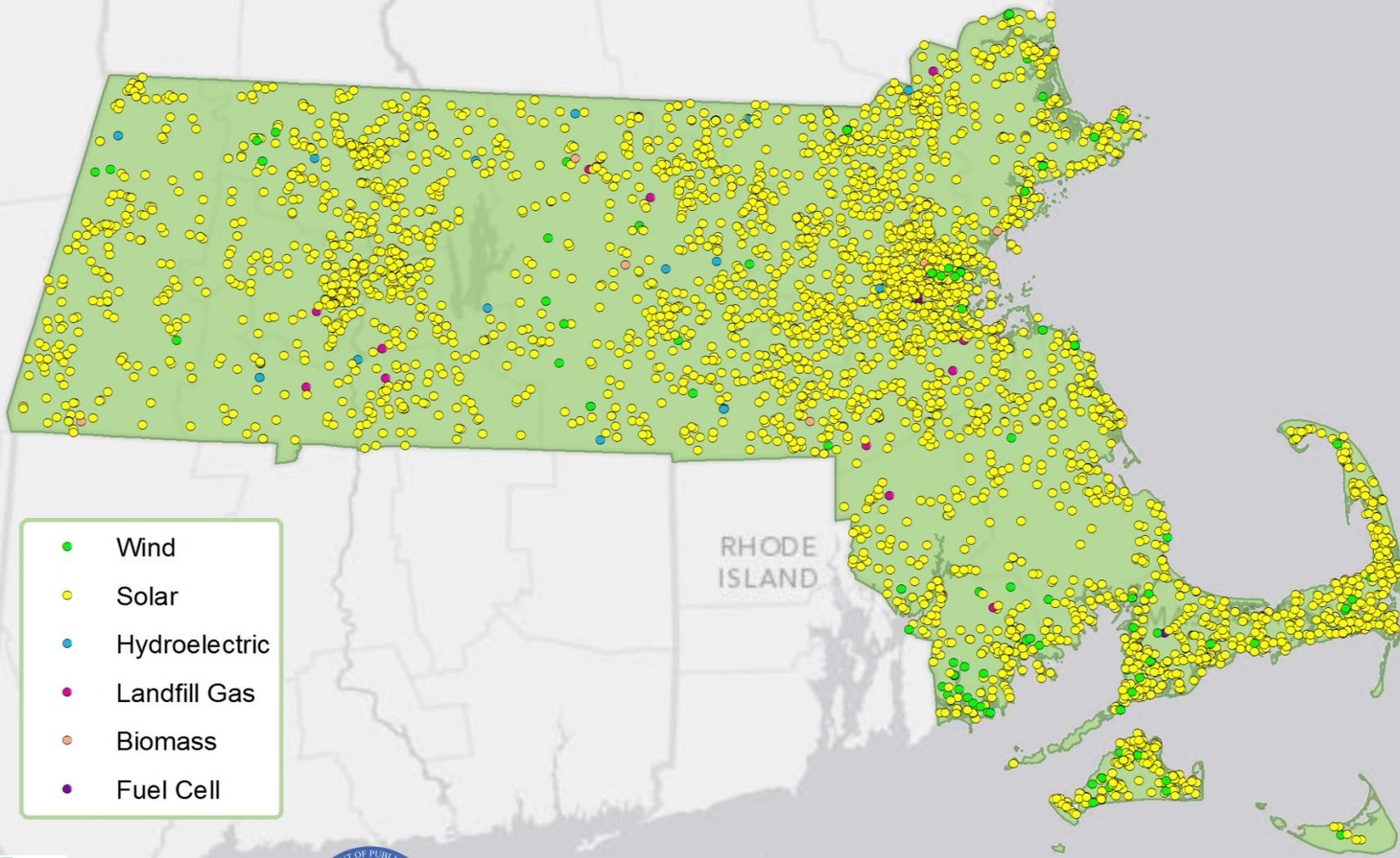
2011



- Wind
- Solar
- Hydroelectric
- Landfill Gas
- Biomass
- Fuel Cell



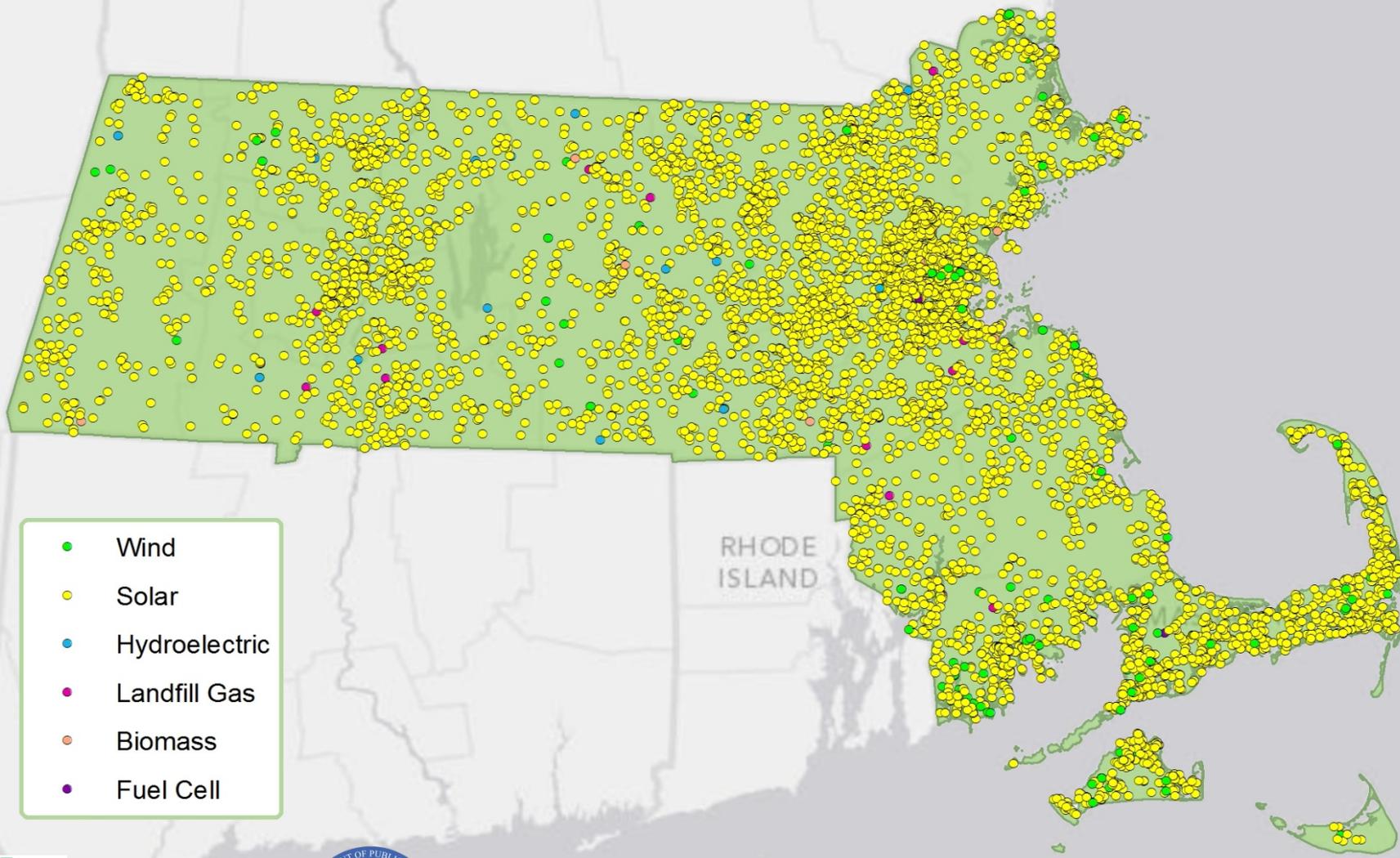
2012



- Wind
- Solar
- Hydroelectric
- Landfill Gas
- Biomass
- Fuel Cell



2013

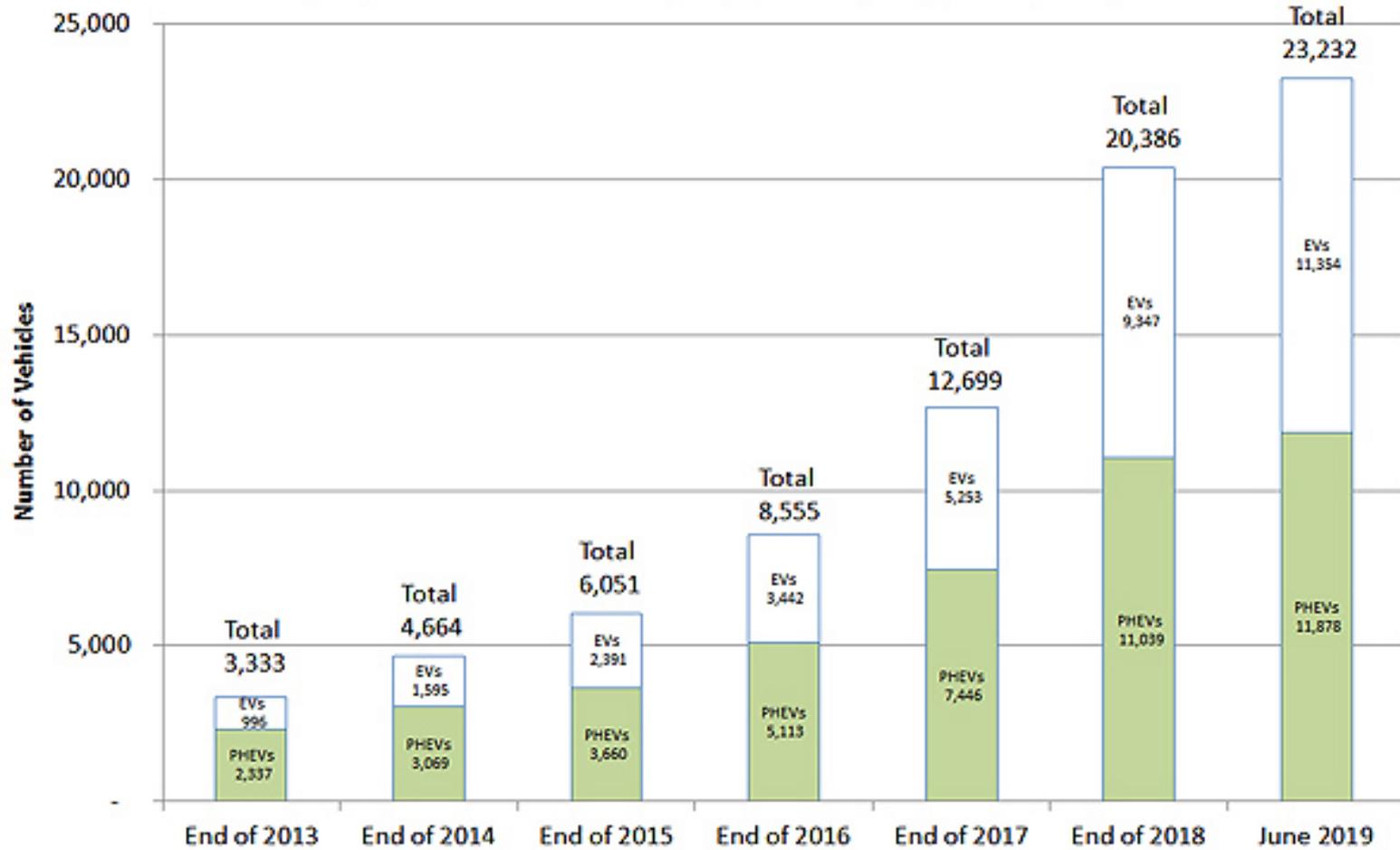


- Wind
- Solar
- Hydroelectric
- Landfill Gas
- Biomass
- Fuel Cell

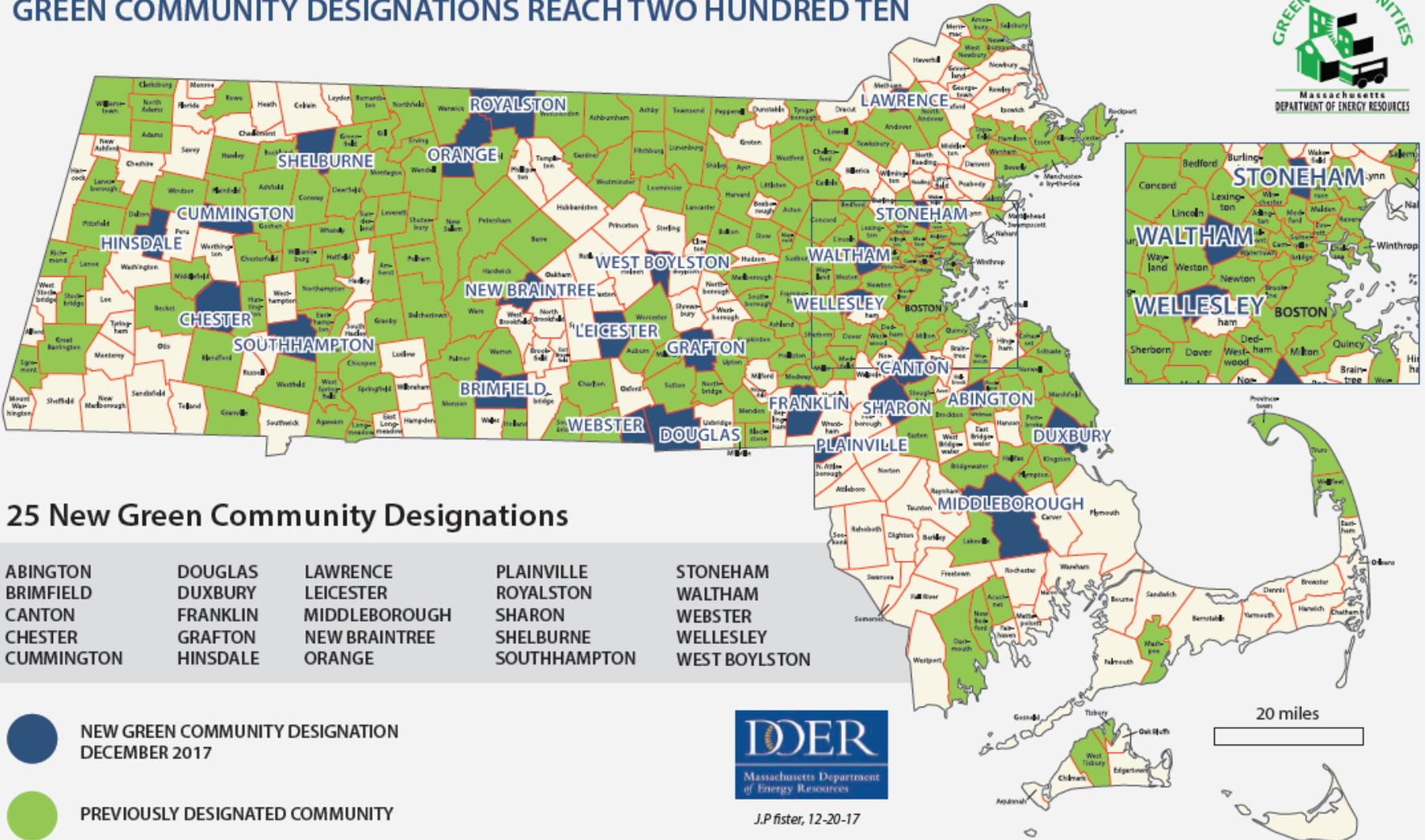


Massachusetts Electric (EV) and Plug-in Hybrid Electric (PHEV) Vehicles

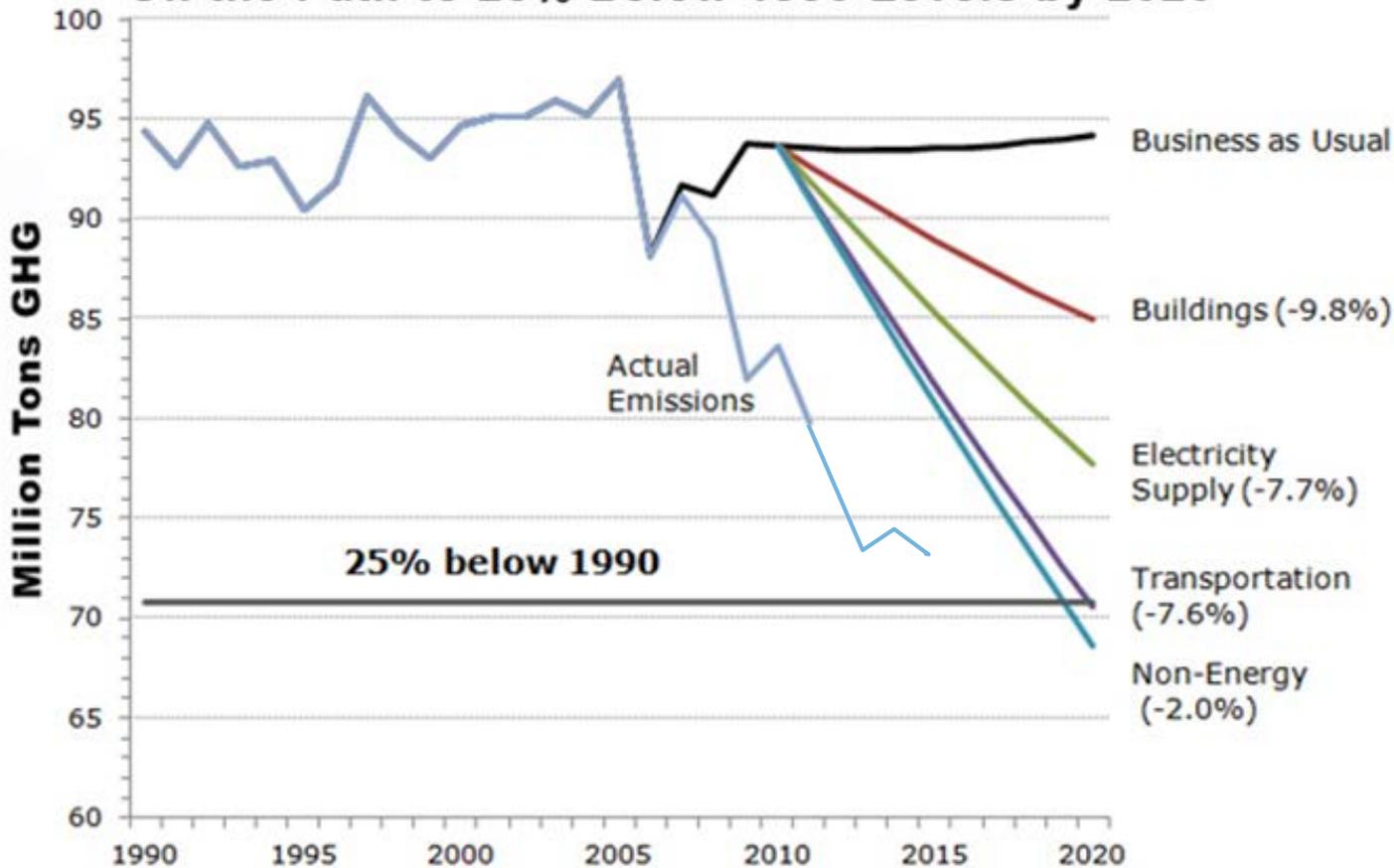
(Change over 74 Months: EVs: 1,352%; PHEVs: 1,049%; Total: 1,179%)



GREEN COMMUNITY DESIGNATIONS REACH TWO HUNDRED TEN



Massachusetts GHG Emissions: On the Path to 25% Below 1990 Levels by 2020



Getting to There from Here:

**Principles of a Comprehensive Climate and
Clean Energy State Action**

Principles of a Comprehensive Climate and Clean Energy State Action

- Vision: Anchor in economic impacts and environmental protection
 - Connect to everyday lives
- Overarching and foundational legislation
- Comprehensive and complementary policies
- Transparent and Inclusive Process

Principles of a Comprehensive Climate and Clean Energy State Action (continued)

- Vision: Anchor in economic impacts and environmental protection
 - Connect to everyday lives
 - Jobs
 - Cost savings
 - Convenience
 - Avoiding negative impacts

Principles of a Comprehensive Climate and Clean Energy State Action

- Overarching and foundational legislation

A Global Warming Solutions Act framework

- Broad and enforceable economy-wide emission goals
- Implement market-based approaches
- Science-based
- Requires monitoring and tracking
- Local through global connections
- Address resilience

Principles of a Comprehensive Climate and Clean Energy State Action (continued)

- Comprehensive and complementary policies
 - Legislation
 - Green Communities Act
 - Oceans Act
 - Biofuels Act
 - Multiple energy acts (2012, 2016, 2018)
 - 3,200 MW Offshore wind
 - PUC reform

Principles of a Comprehensive Climate and Clean Energy State Action (continued)

- Comprehensive and complementary policies
 - Regulatory reform
 - PUC reforms
 - De-coupling
 - Grid modernization
 - MEPA
 - Permitting

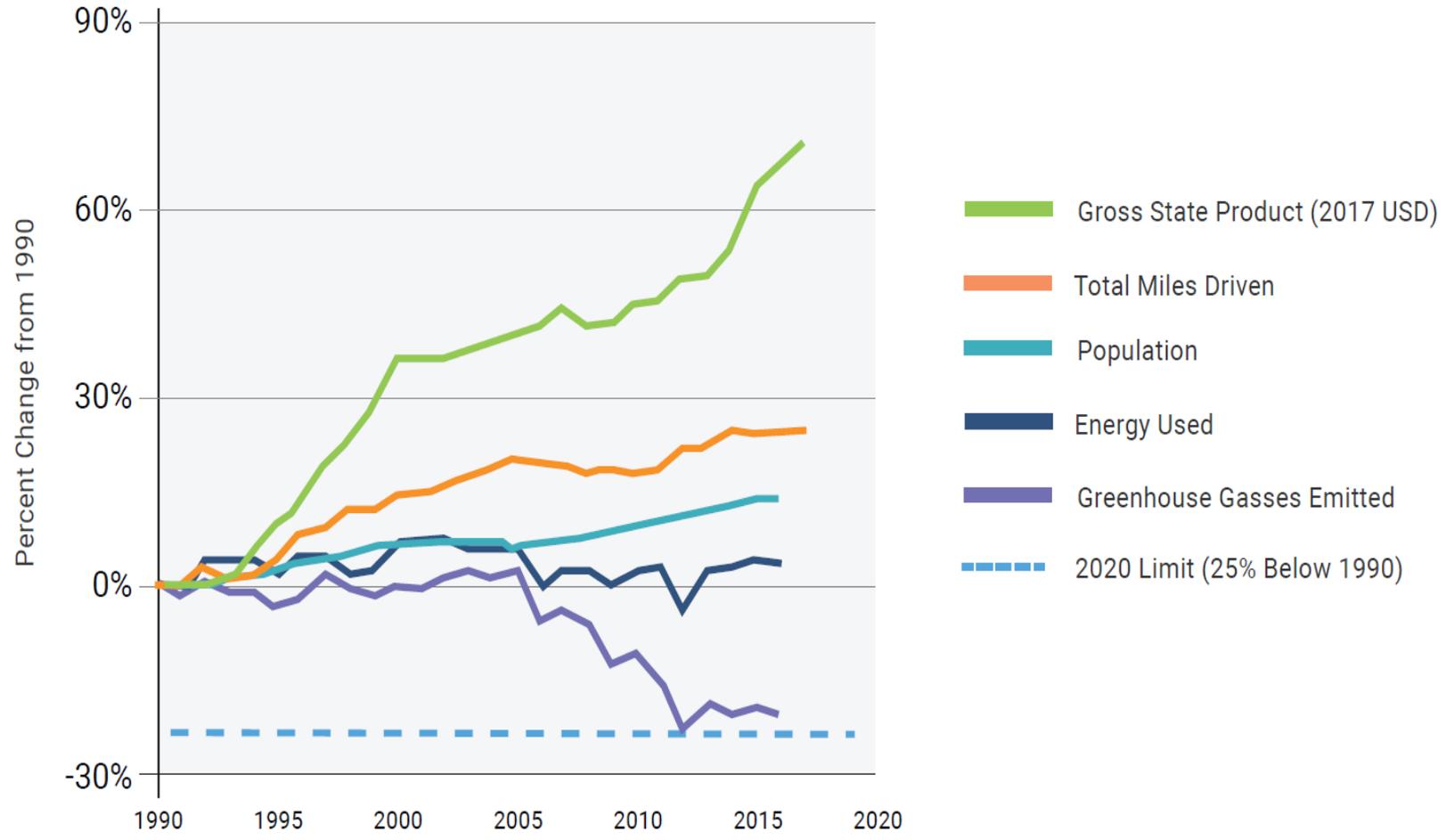
Principles of a Comprehensive Climate and Clean Energy State Action (continued)

- Comprehensive and complementary policies
 - Executive Action
 - “Along-the-value chain economic support”
 - Municipal engagement
 - Leading by Example
 - Mass Clean Energy Center
 - Northeast Clean Energy Council
 - Greentown Labs
 - Engage with regional and federal actions

Principles of a Comprehensive Climate and Clean Energy State Action (continued)

- Transparent and Inclusive Process
 - Focus on salience, credibility and legitimacy
 - Advisory committees
 - Inclusive
 - Attentive to leadership
 - Technical working groups
 - Statewide effort

FIGURE 3 | TRENDS OF GROWTH IN GSP, VMT, AND POPULATION WHILE GHG EMISSIONS ARE DECREASING AND ENERGY USE HAS BEEN STABLE



Thank you!

David W. Cash, Ph.D.

Dean

John W. McCormack Graduate School of Policy and Global Studies

University of Massachusetts Boston

100 Morrissey Blvd.

Boston, MA 02125-3393 USA

Office: +1-617-287-5511

Cell: +1-617-794-9431

david.cash@umb.edu