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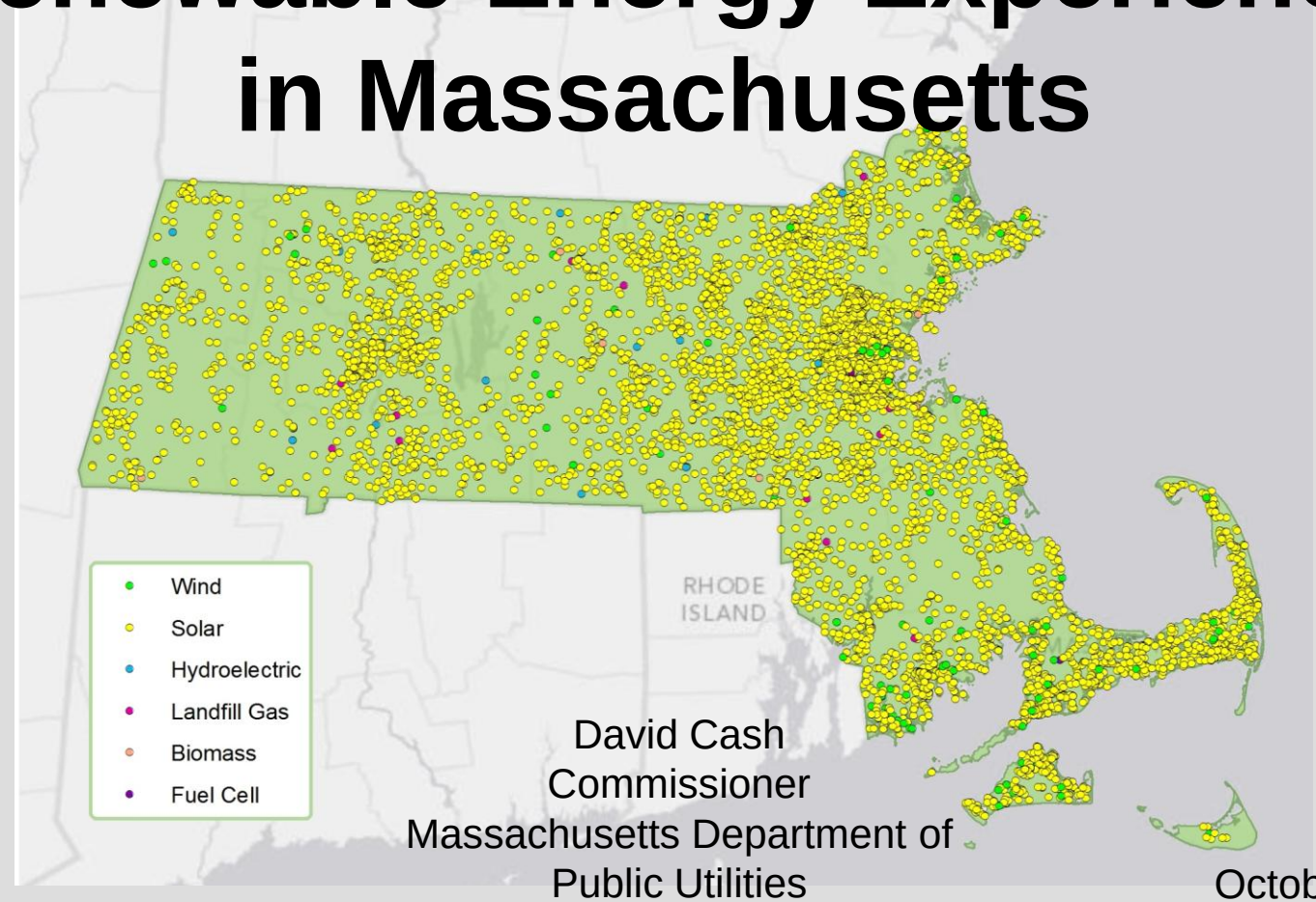
Renewable Energy Experience in Massachusetts



David Cash
Commissioner
Massachusetts Department of Public Utilities

October, 2013

Overview

- Success is driven by an integrated and comprehensive approach focused on:
  - incentives,
  - removing regulatory barriers,
  - lowering energy costs and price volatility
  - becoming more energy independent
  - increasing jobs
  - building the sector all across the value chain, and
  - Environmental improvement

The Package

- New stakeholder processes
- New laws and regulations to unleash both:
  - Energy Efficiency and Renewable Energy
- Align incentives for utilities and consumers
- Provide certainty (through requirements of PPAs)
- Remove permitting barriers
- Link state and towns
- Encourage new regional market rules that let energy efficiency and renewable energy participate

Stakeholder Process

- Stakeholder process at all phases, but especially in early phases
  - Developers, IPPs, electric customers (business/residential), finance/banks, utilities, decision-makers
- Results in political and economic sustainable decisions, based on
  - Salience
  - Credibility
  - Legitimacy

The Package

- New stakeholder processes
- New laws and regulations to unleash both:
  - Energy Efficiency and Renewable Energy
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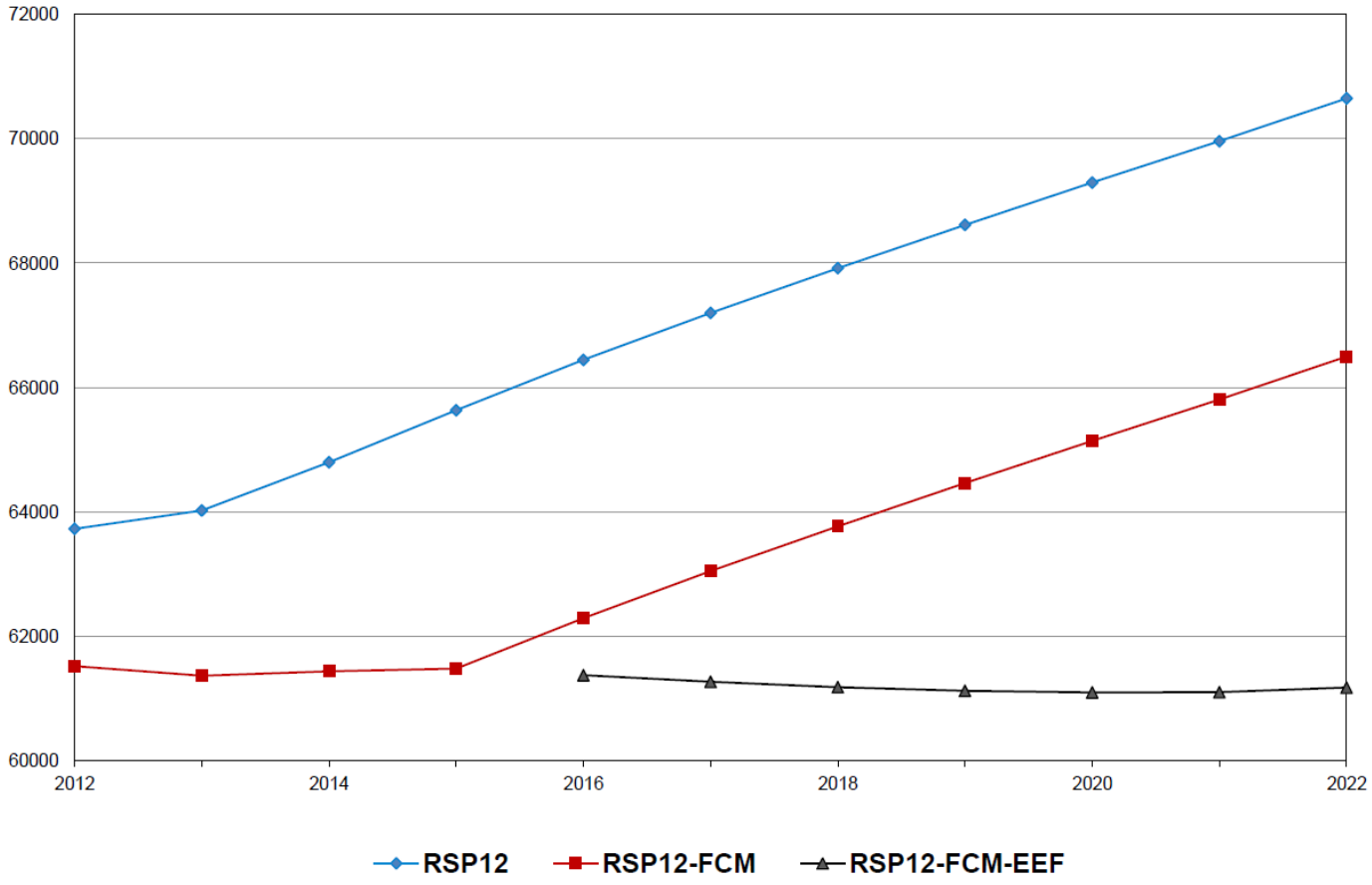
The Package

- Linking Energy & Environment
  - Creating the Executive Office of Energy and Environmental Affairs
- All cost-effective EE
  - Customers get $$ to retrofit
- De-coupling
  - Energy companies get $$ to sell less energy
- Renewable Energy Standards (Green Certificates)
  - Electric companies must provide a certain amount of renewable energy; $$ for those who make RE
  - Harmonized across the region
- Long-term Contracts
  - Electric companies must have LTCs w/ RE
- Net-metering
  - Customers can get $$ for “behind the meter” renewables
- Support for Green Communities
  - If a city or town steps up to the plate, the state will help
- ISO integration of RE
  - Planning
  - Incorporated into Wholesale Markets
  - Interconnection studies

MA Annual Energy: RSP12 Forecast (GWh)



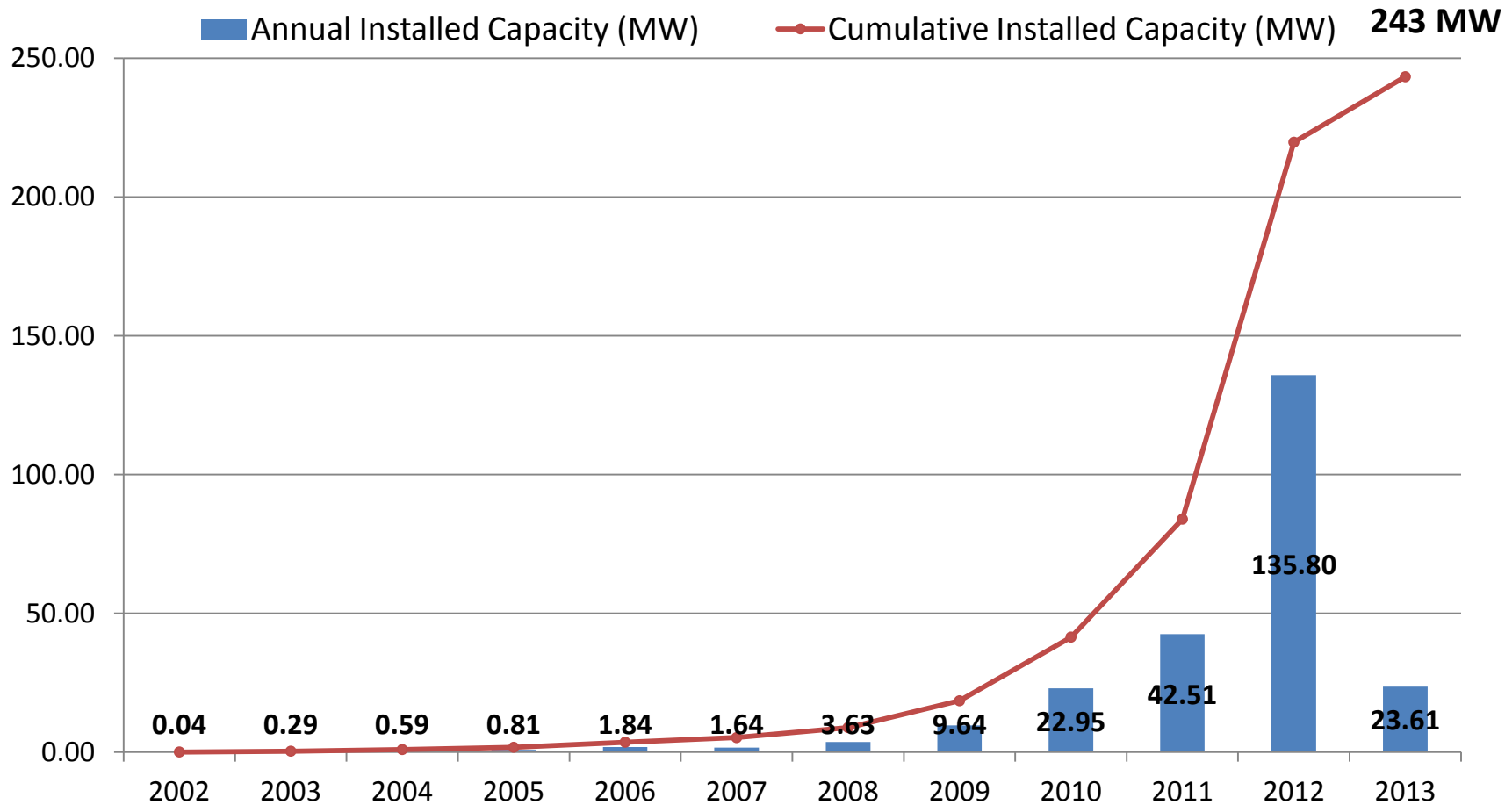
Baseline demand

w/ FCM including EE

w/ FCM including EE plus additional projected EE

Source: ISO-New England

Installed Solar Capacity in Massachusetts



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Average $/Watt Installed Costs for Solar PV

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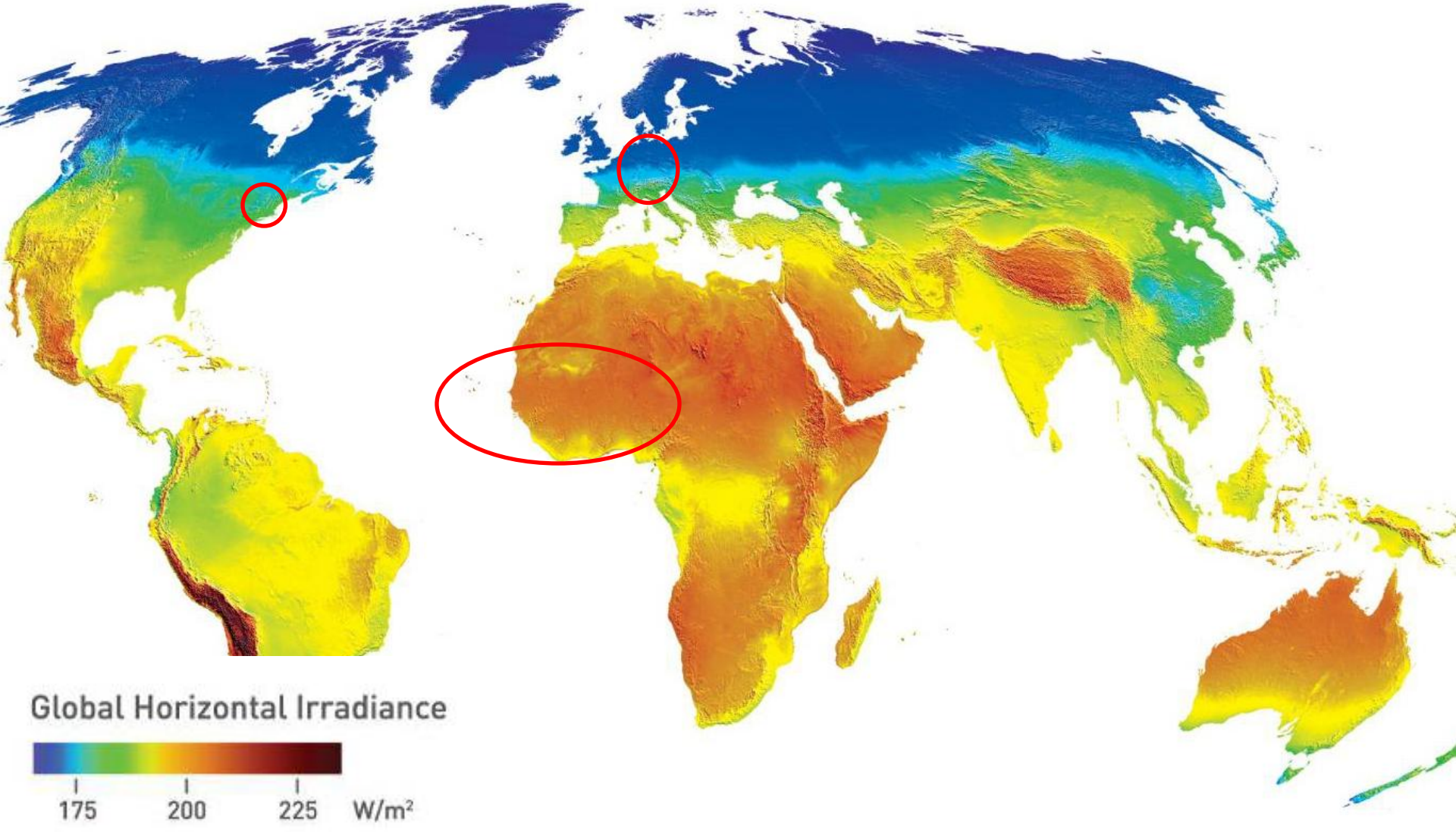
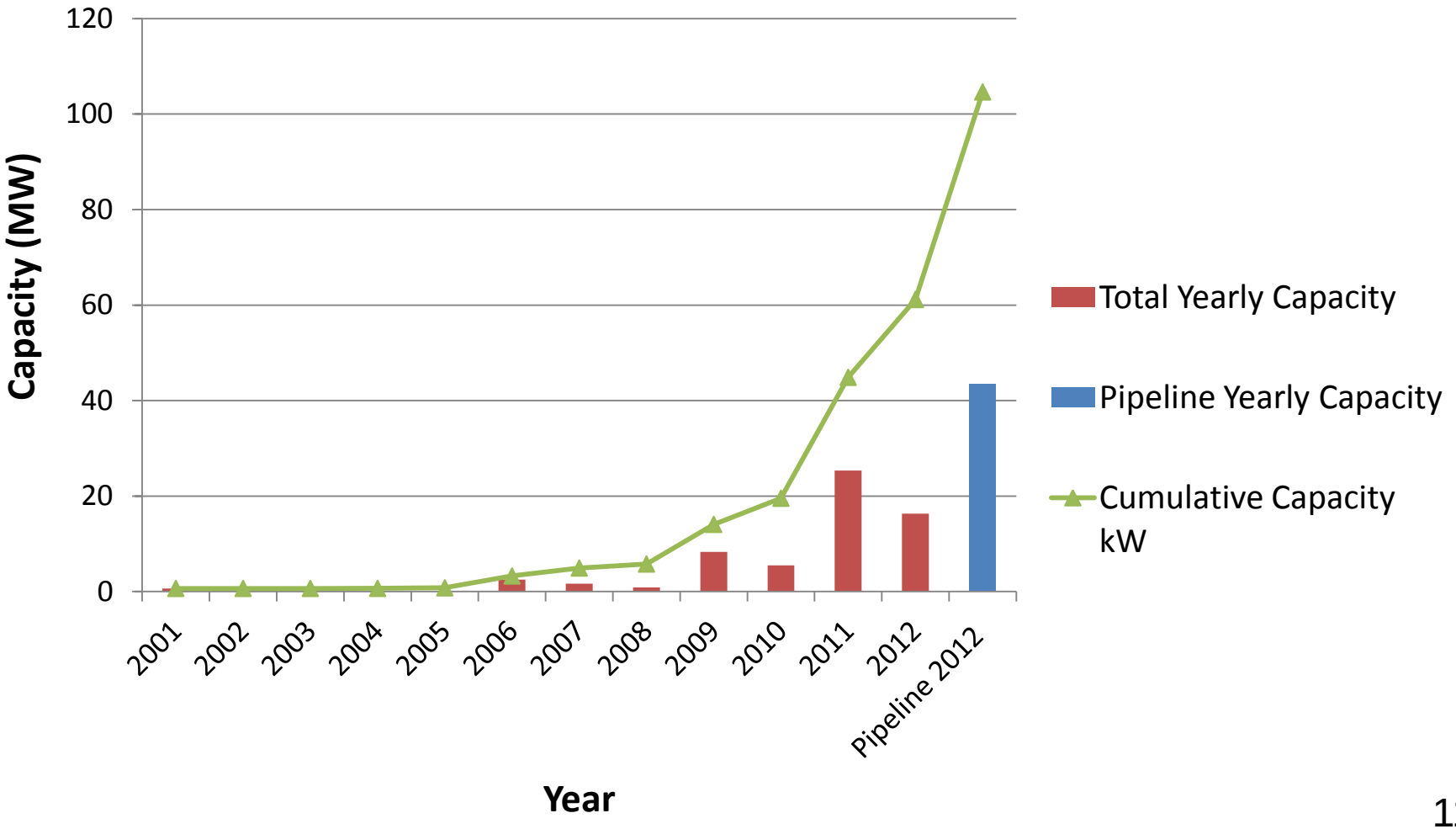


Yearly and Cumulative Wind Capacity (Installed and Pipeline)



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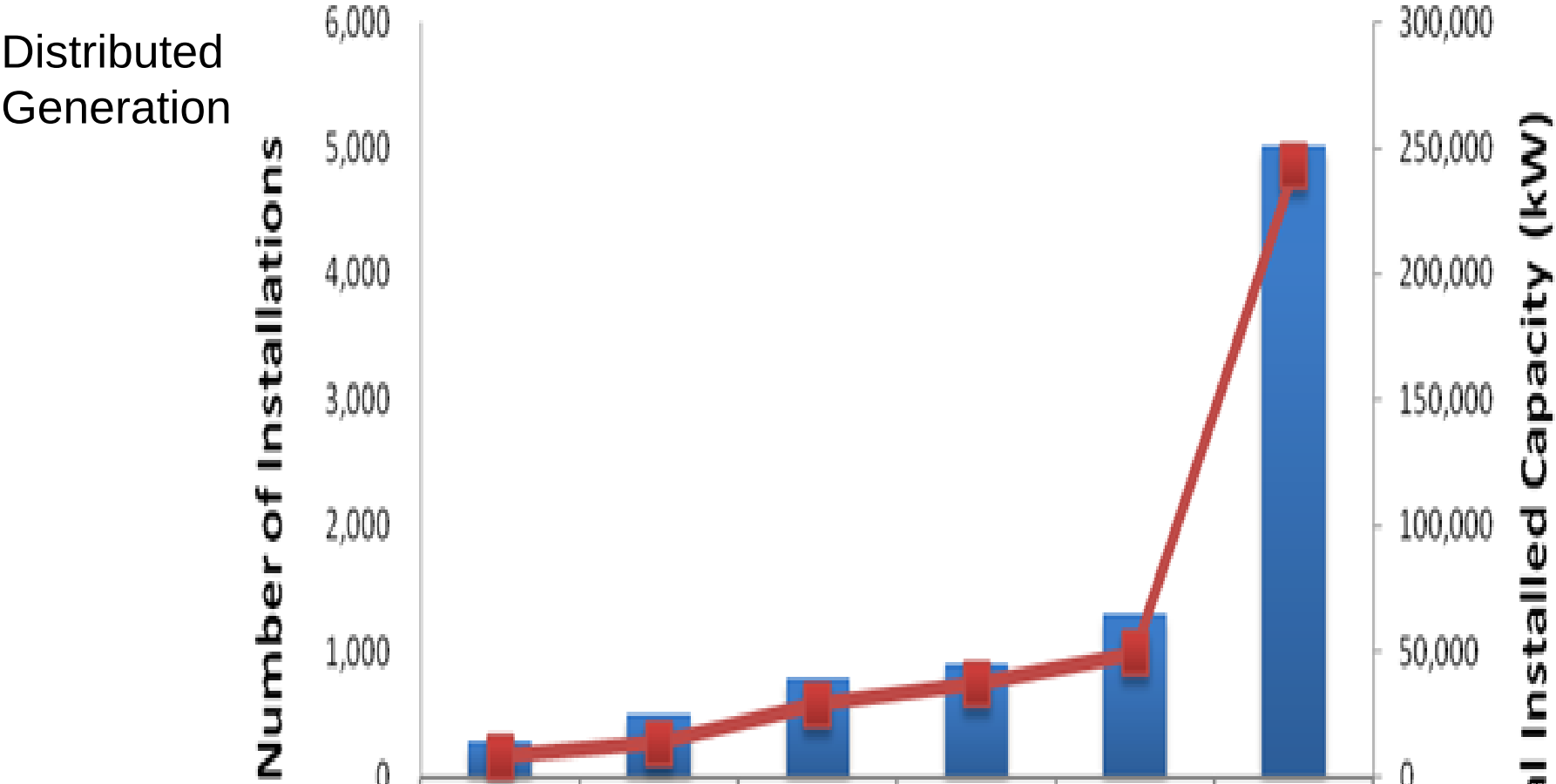
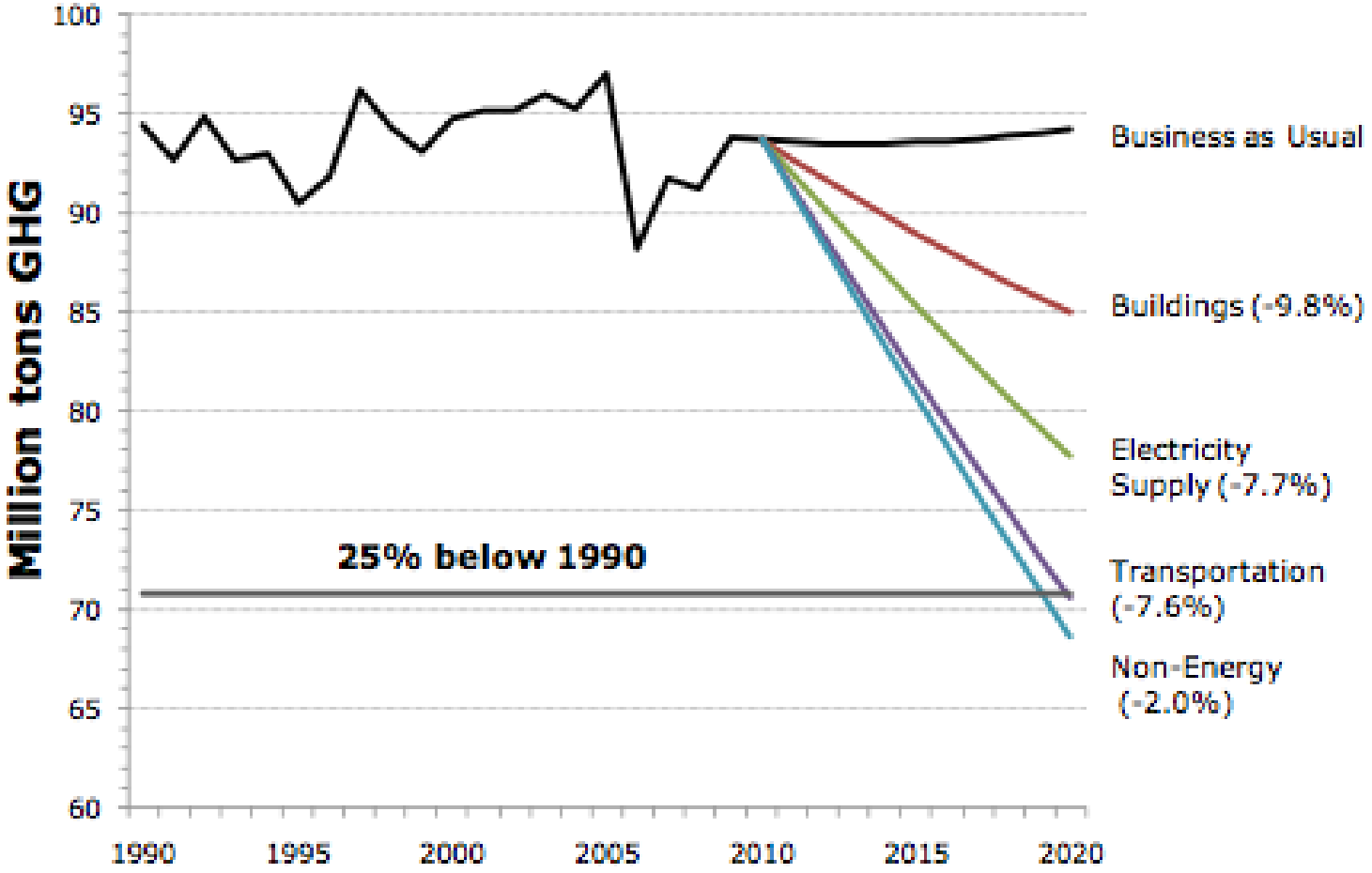
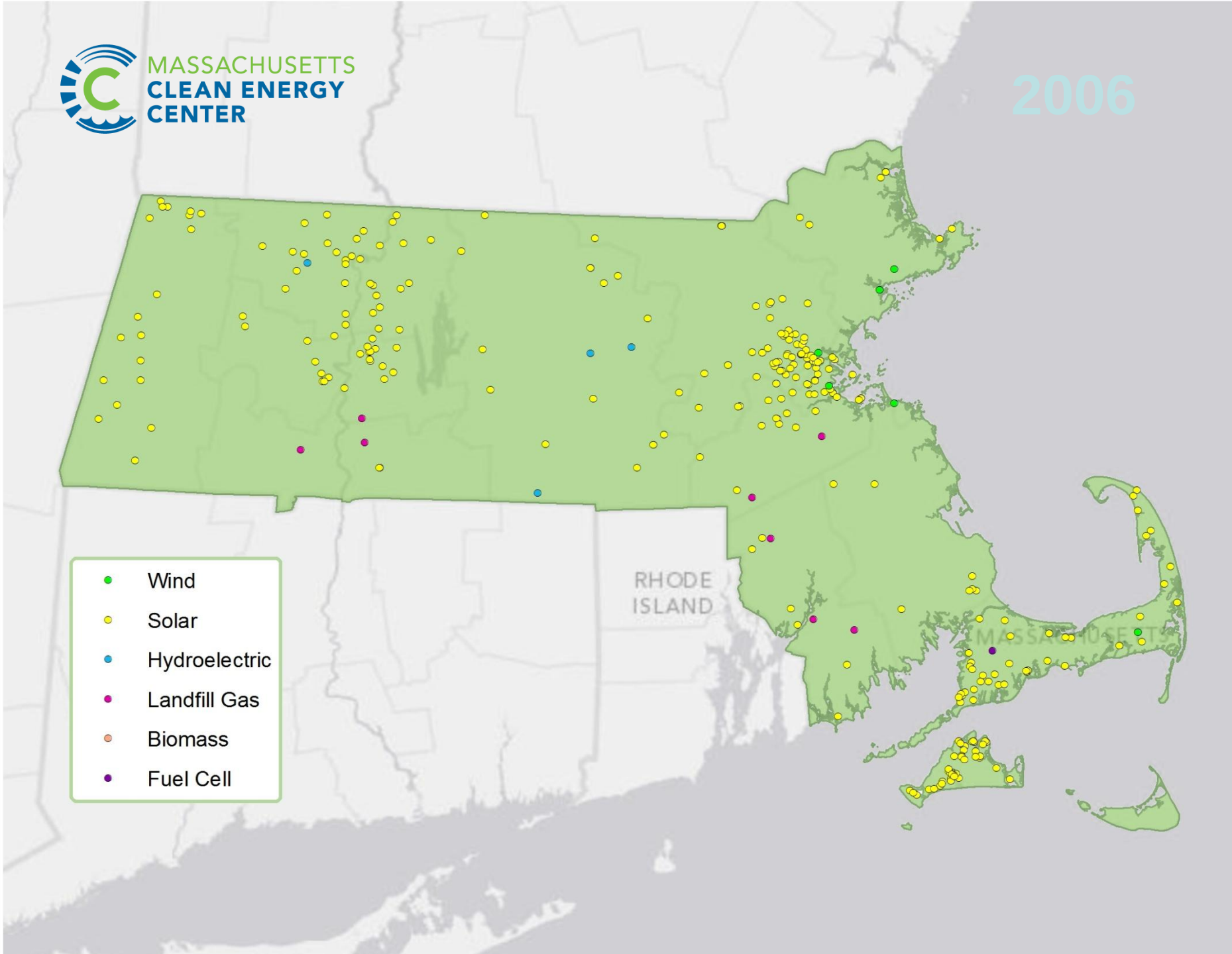
Distributed Generation



	2007	2008	2009	2010	2011	2012
Number of installations	283	496	790	896	1,296	5,020
Total Installed Capacity (kW)	8,247	13,341	28,746	37,192	49,369	242,485

Required Emissions Reductions

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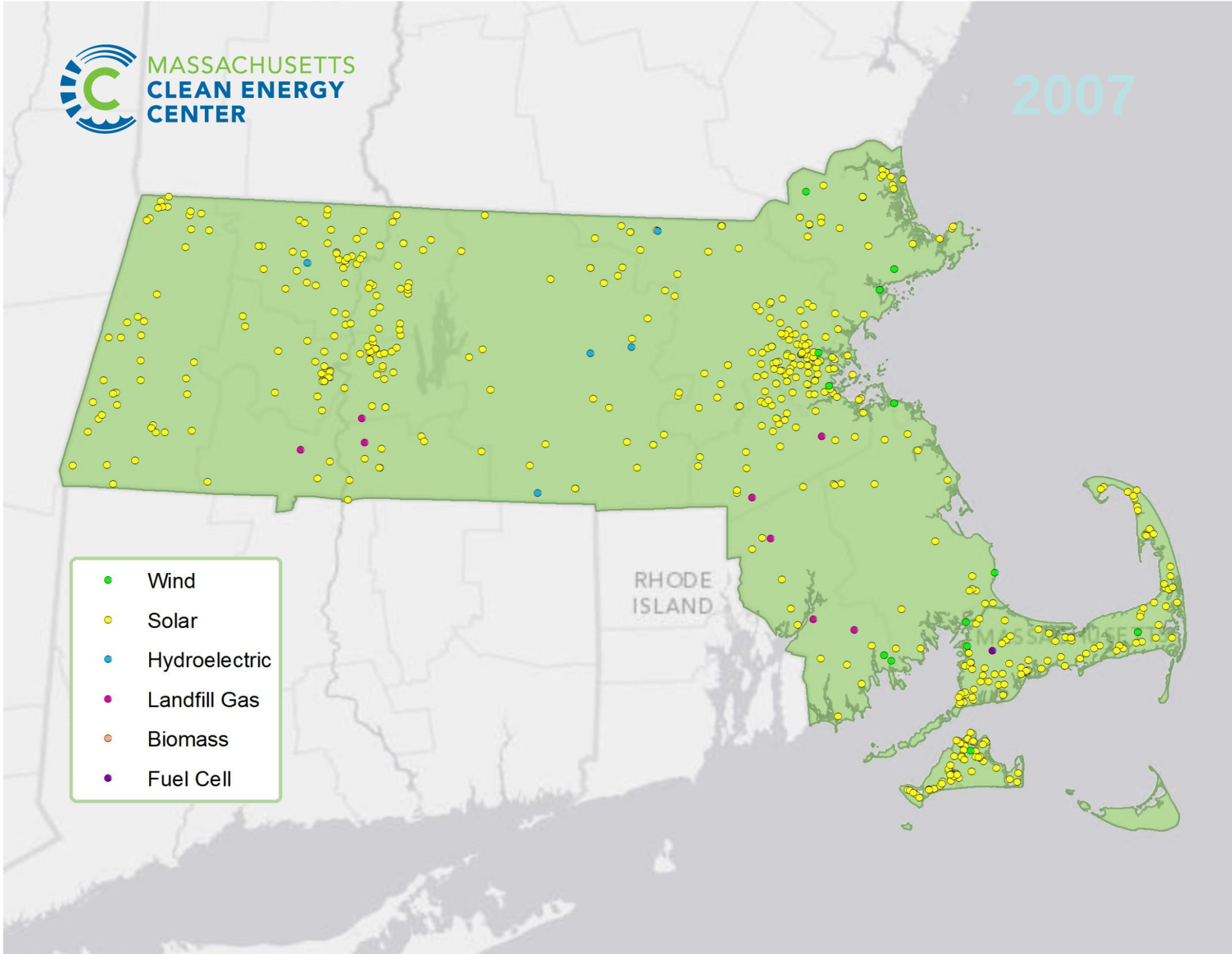
CENTER
2006
Wind
Solar
Hydroelectric
Landfill Gas
Biomass
Fuel Cell
RHODE
ISLAND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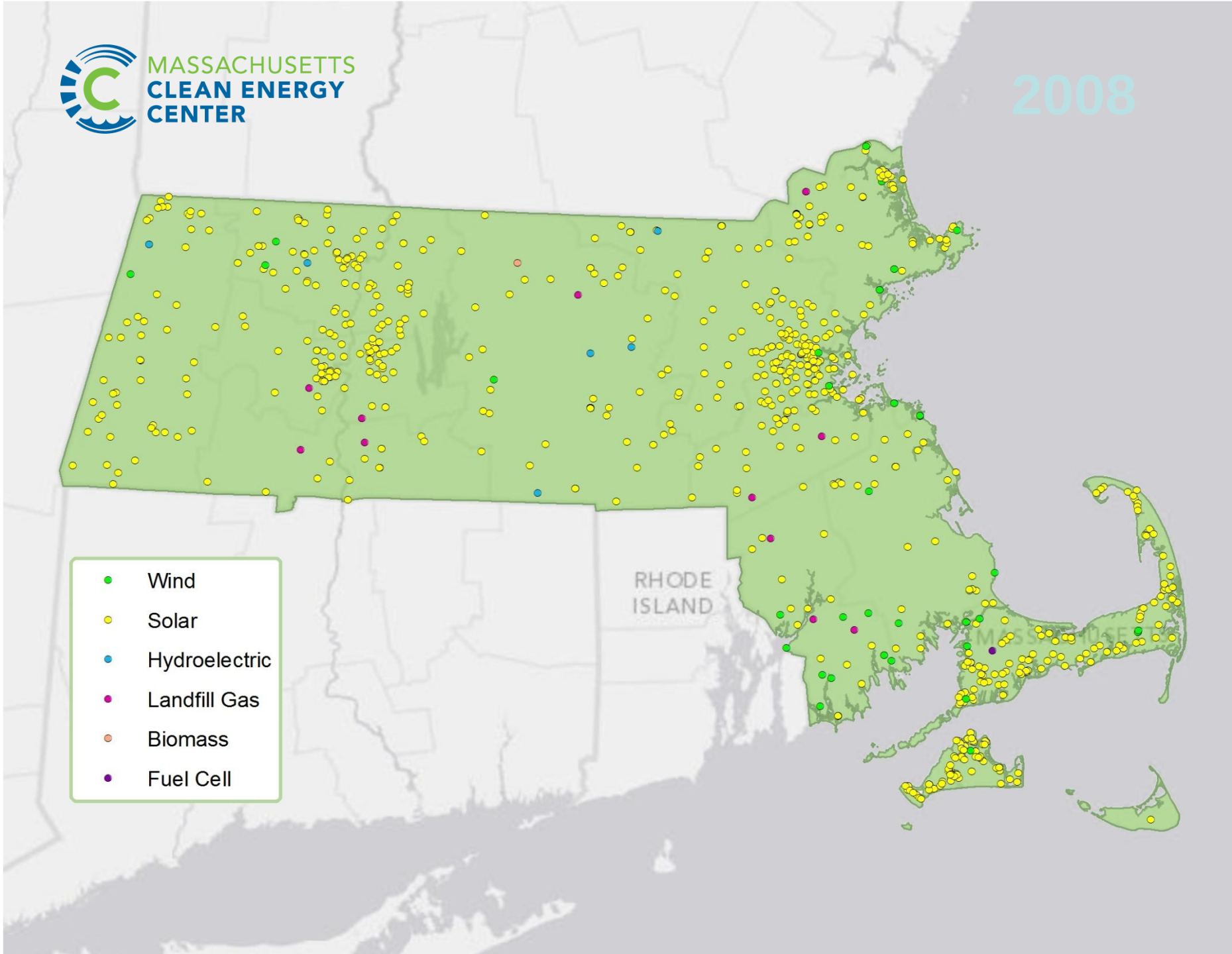
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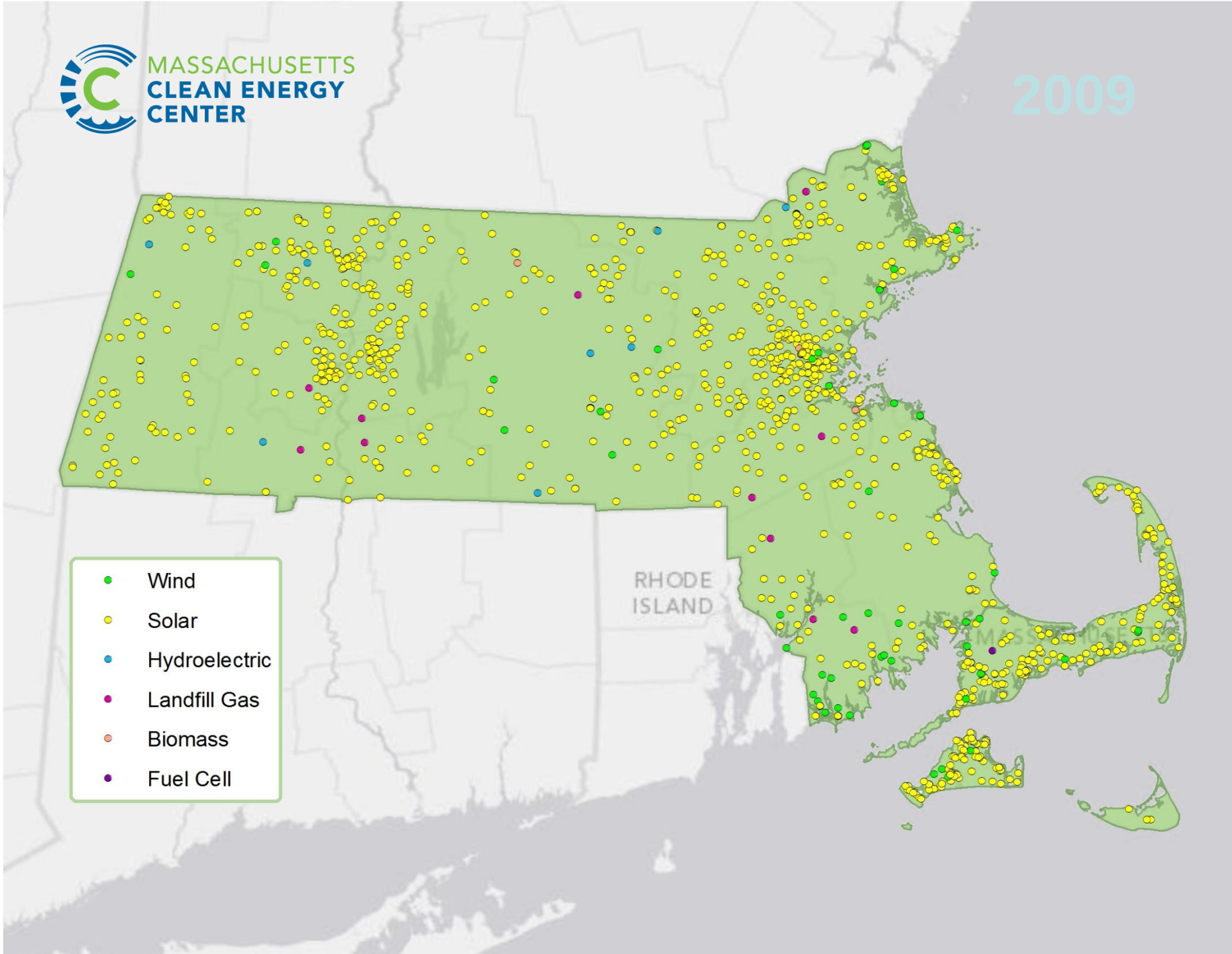
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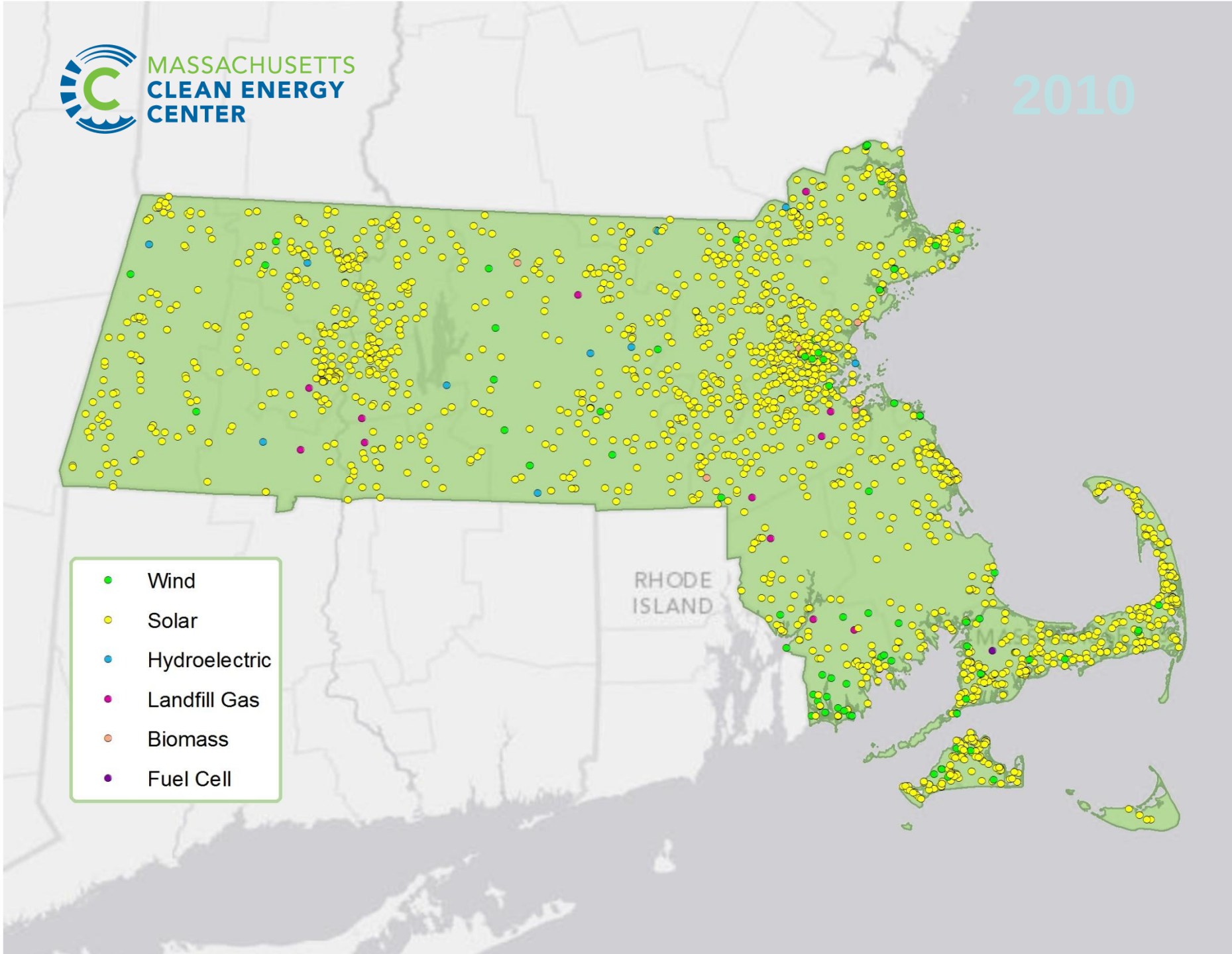
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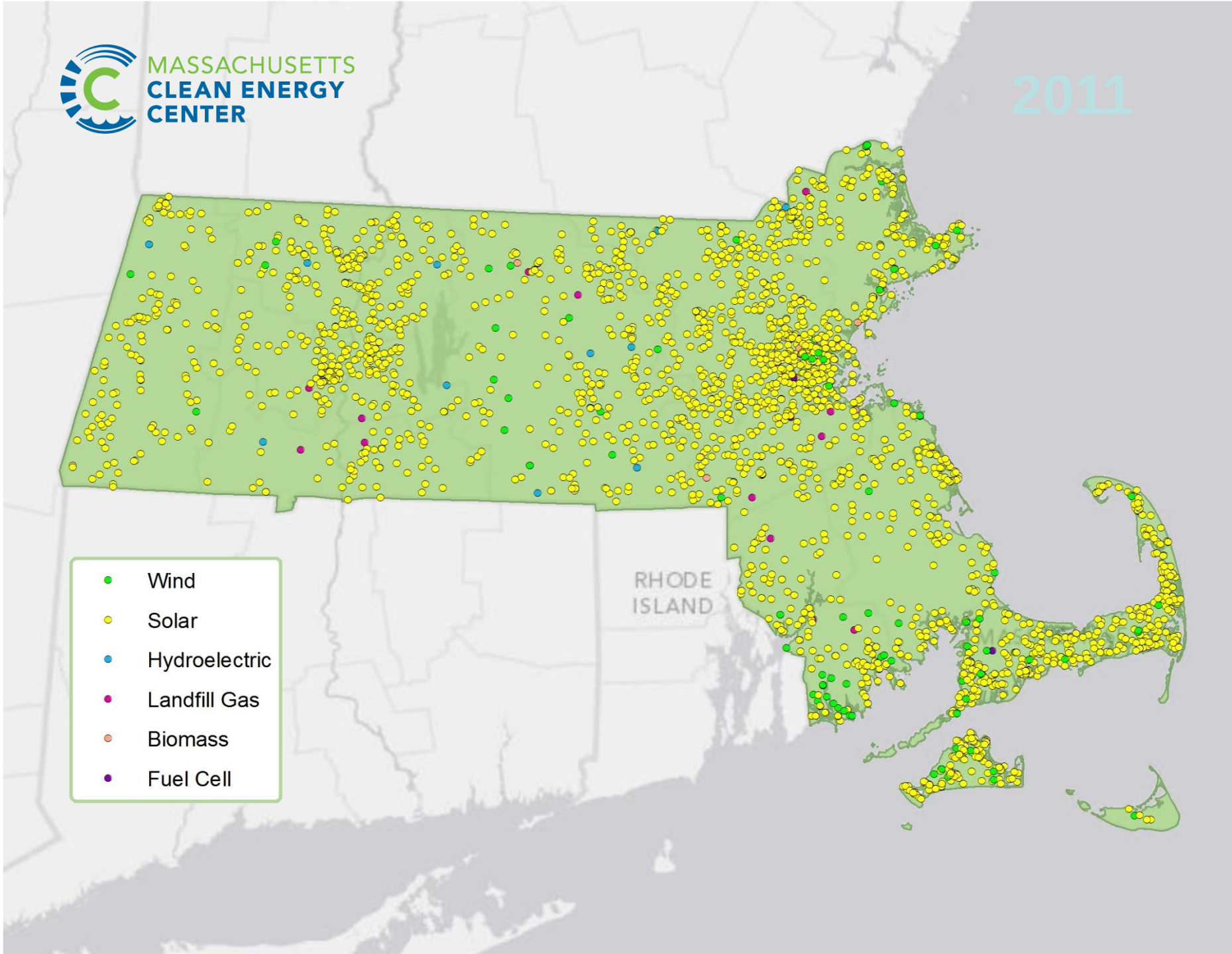
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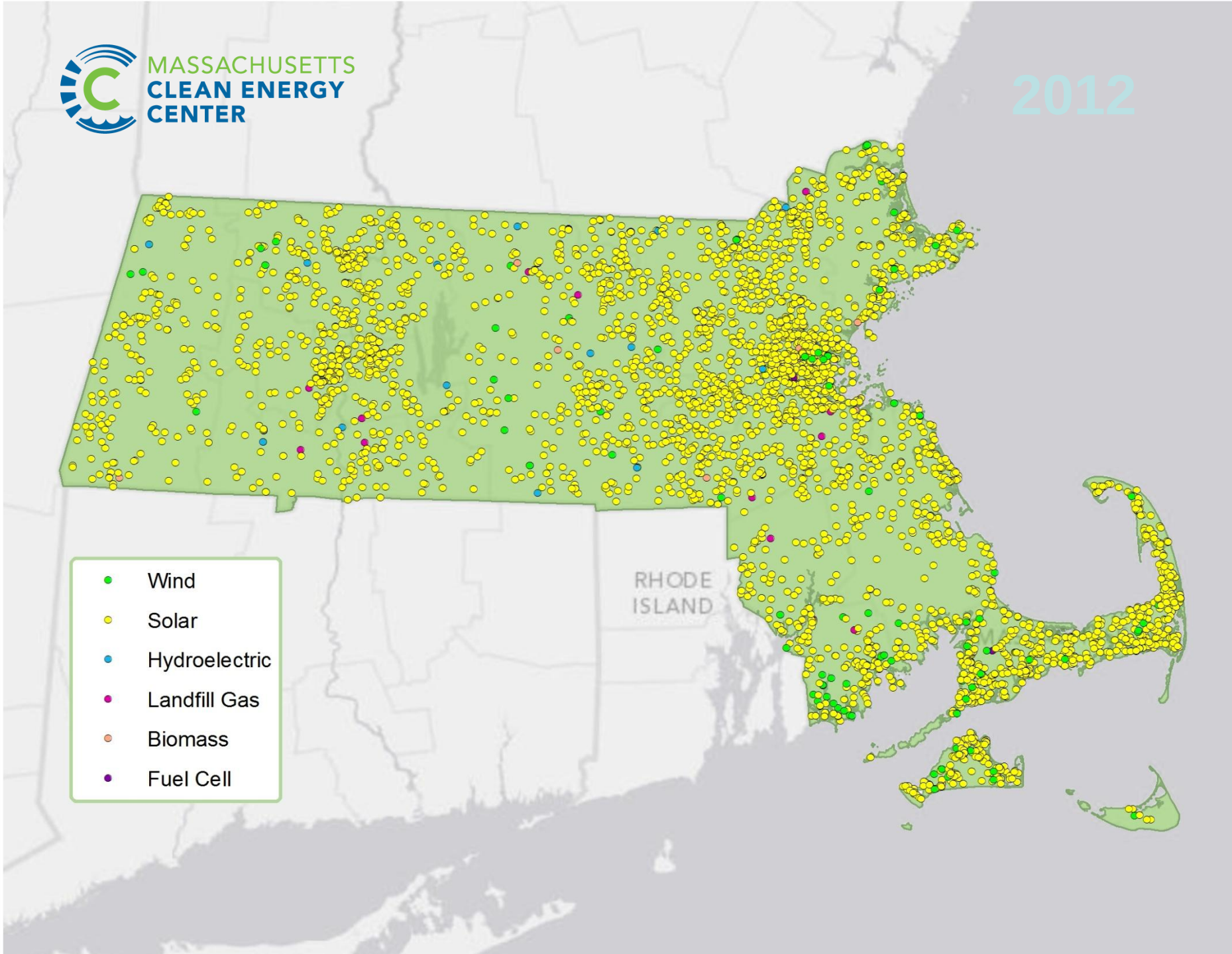
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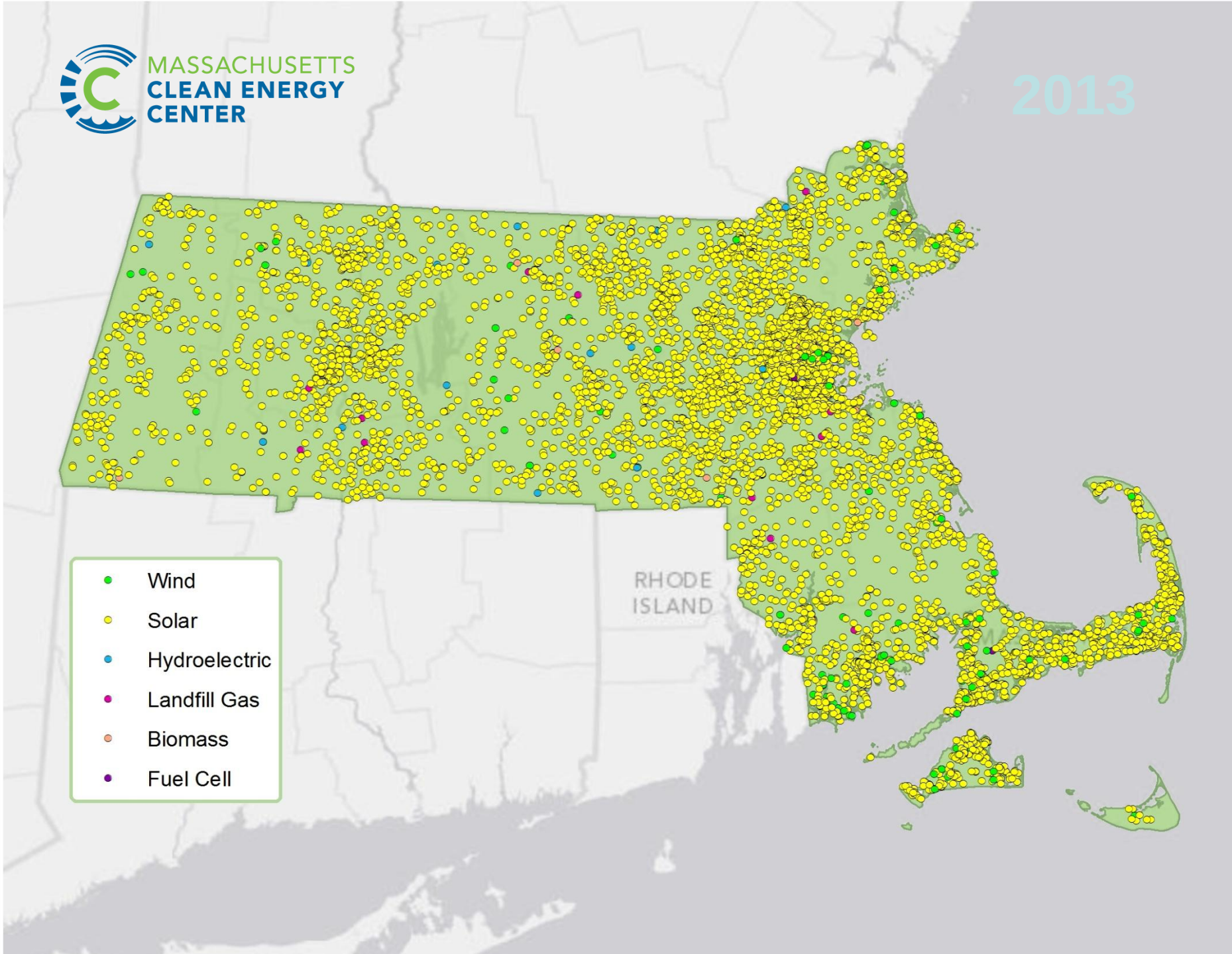
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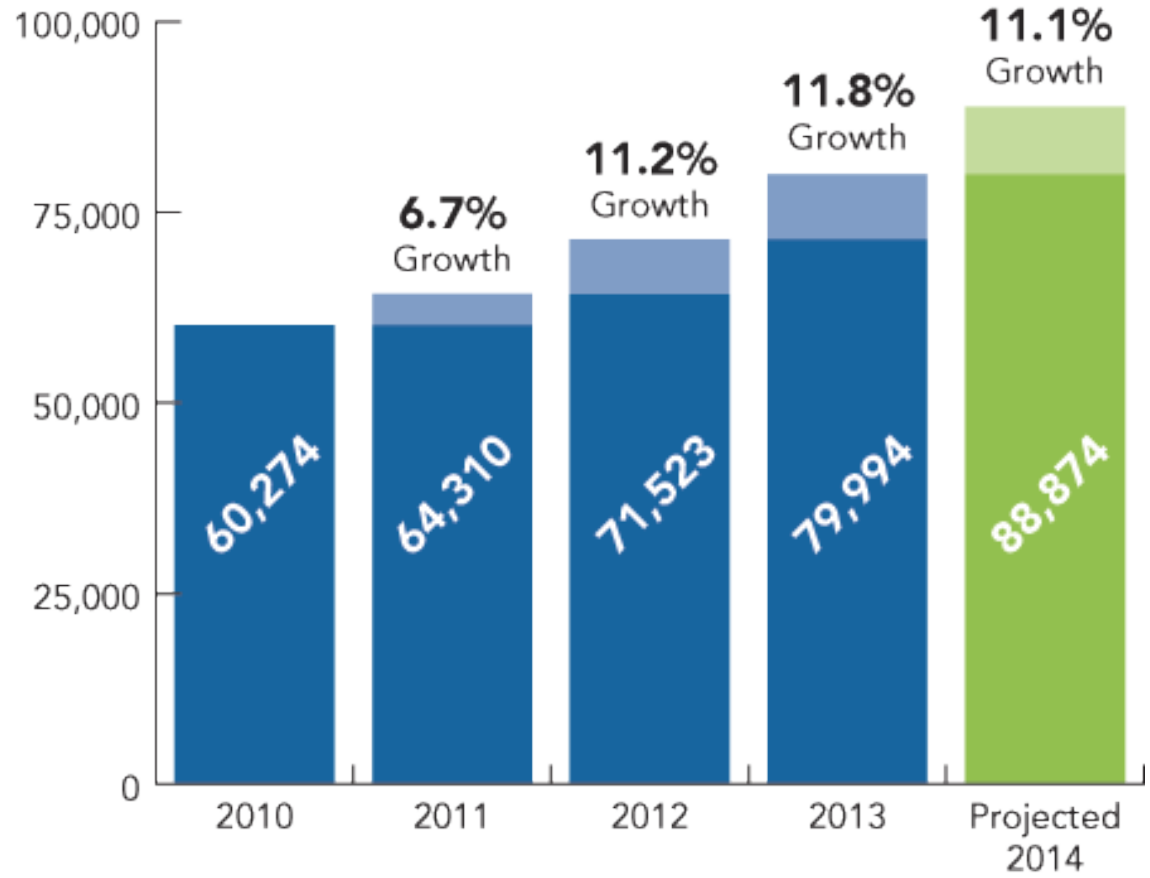
Clean Energy Sector Growth



2013 Massachusetts Clean Energy Industry Report
http://www.masscec.com/content/2013-clean-energy-industry-report