

Strategic Action at the Science-Policy Interface

**Berlin Conference on the Human Dimensions
of Global Environmental Change**

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Academic Research (1994-2004)

- Focus on the science-policy interface in issues of sustainability
- On international team of social and natural scientists
- Based at Harvard University, U.S., led by Professor William Clark



Cases

- Water management in the Great Plains, U.S.
- Agricultural research and development in Mexico
- Use of El-Niño forecasting in the Pacific Islands and Eastern Africa

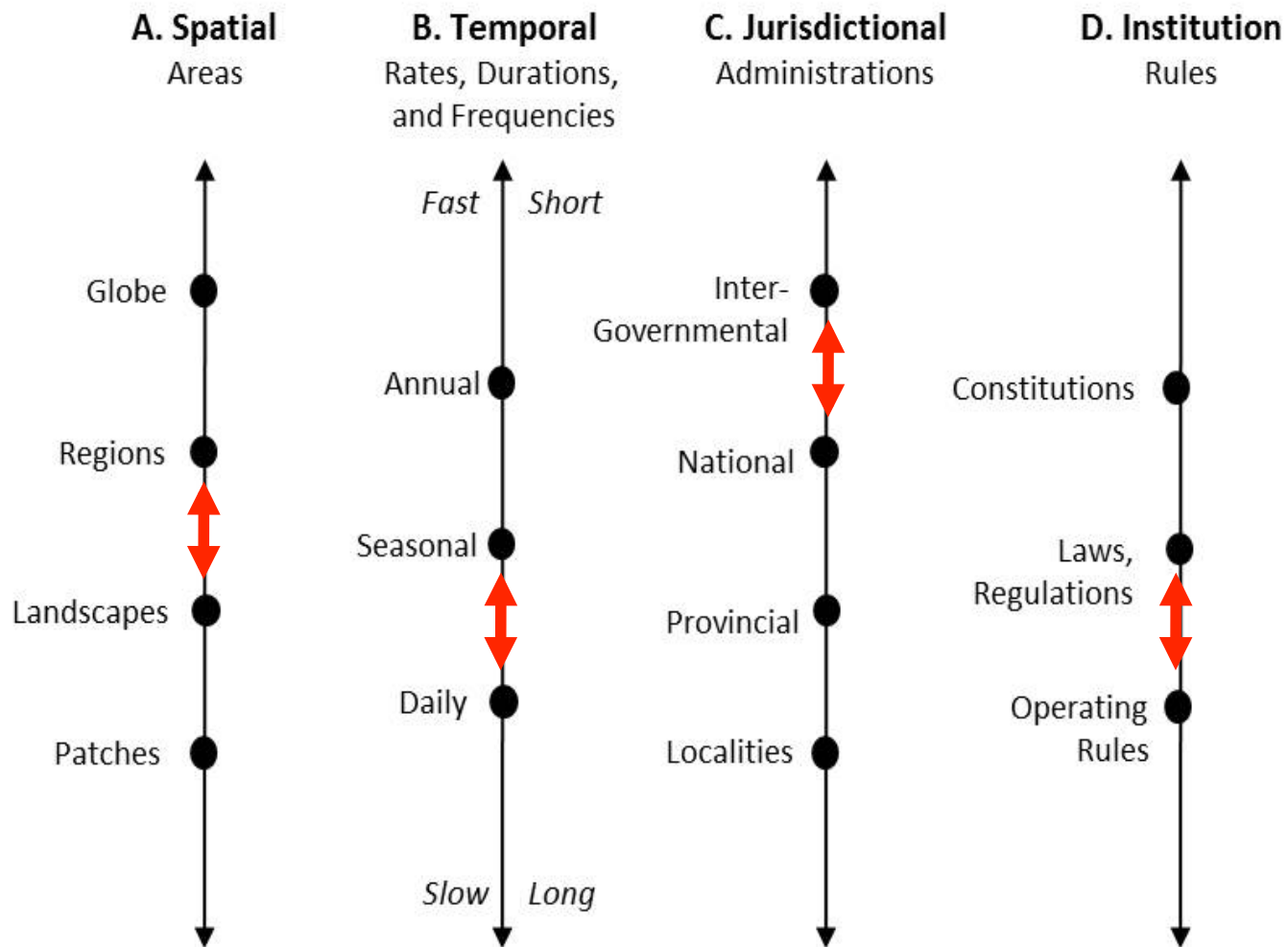


Findings: A Framework

- “Boundary work” is needed to better link
 - knowledge and action/ science and decision making
 - Across scales
 -simultaneously



Boundary work across scales



What Makes Effective Boundary Work?

- Participation by stakeholders across the boundary on agenda setting, and possibly knowledge production
- Accountability across the boundary
- Production of “boundary objects” – e.g., maps, reports, models, etc.



Effective Boundary Work Results in Information that is.....

- Salient – Is it relevant to a decision maker?
- Credible – Is it technically adequate in handling of evidence?
- Legitimate – Is the process fair, unbiased and respectful of stakeholders?



On the Other Side of the Boundary: State Government (2004-present)

- Framework holds true as an academic matter
 - ...but more important...
- Framework can act as a guide for strategic planning
 - Building institutions
 - Tactical choices



Illustrations of Action at the Boundary

- Sustainable Water Management
 - Failure
 - Poor participation across boundaries
 - No credibility



Illustrations of Action at the Boundary

- Sustainable Water Management
 - Strategically moving beyond failure
 - Create an institution that will maximize participation for both negotiation and creation of science
 - Be transparent
 - Make sure interests/needs of participants are assessed throughout to assure transparency
 - 2 year-plus process!



Illustrations of Action at the Boundary

- School bus diesel emissions
 - Linking local concerns with high level decisions makers
 - Innovative public health scientist
 - Harvard credibility
 - Street credibility
 - What's important across the boundary?
 - Kids with asthma
 - Health care costs

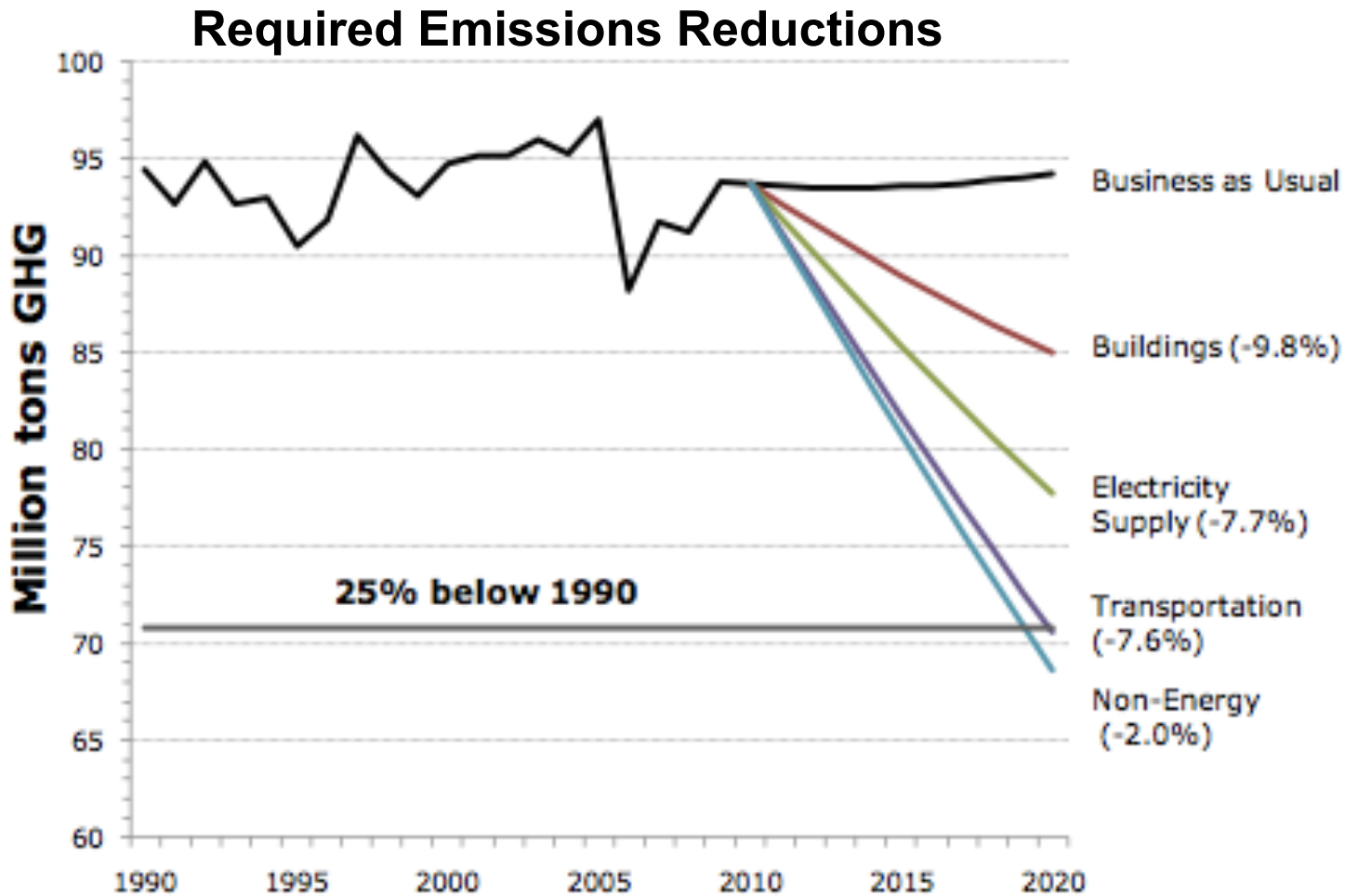


Illustrations of Action at the Boundary

- Clean Energy and/or Climate?
 - How to make information credible?
 - What's salient to whom?

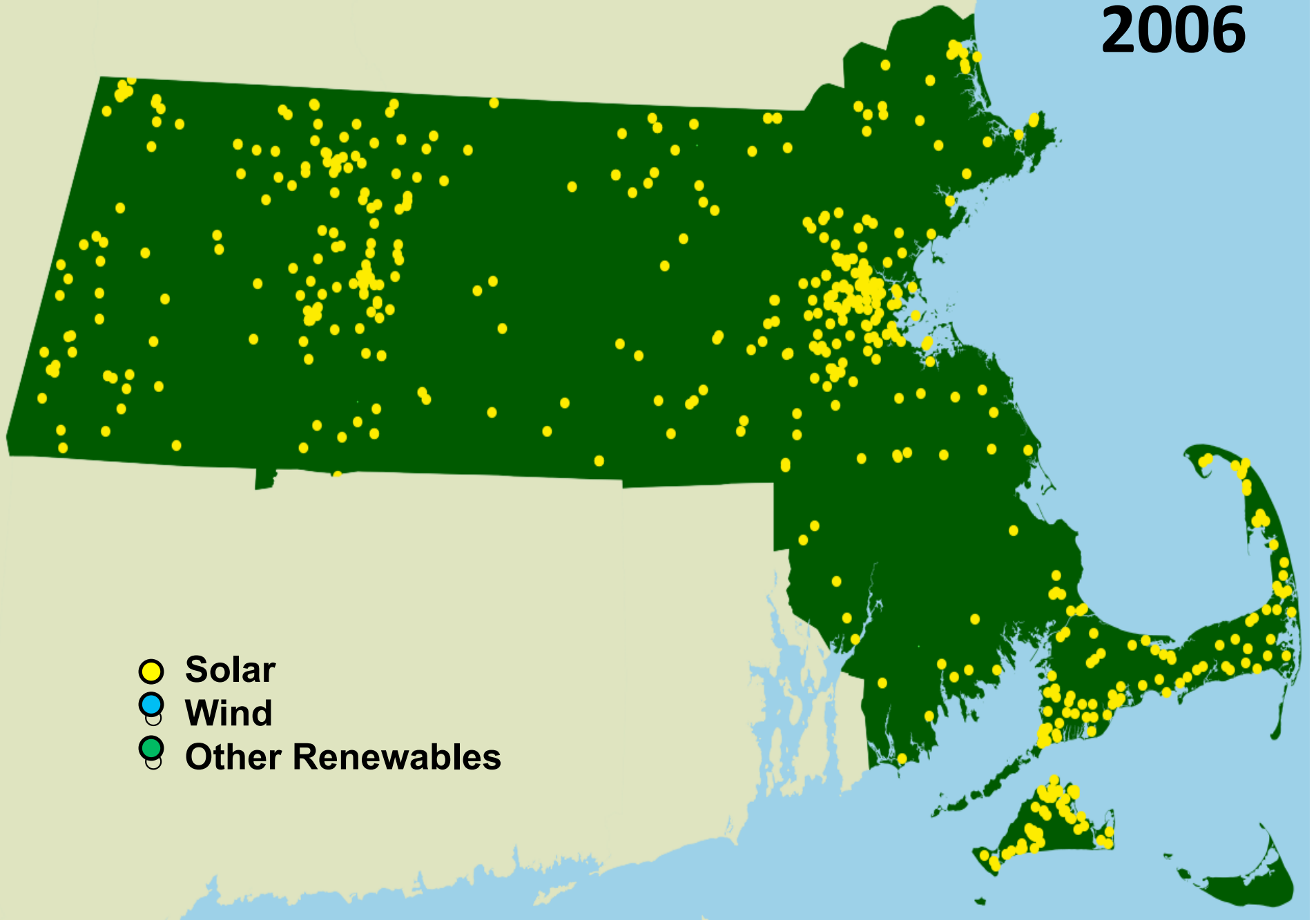


Massachusetts Global Warming Solutions Act of 2008 Requires Steep Reductions



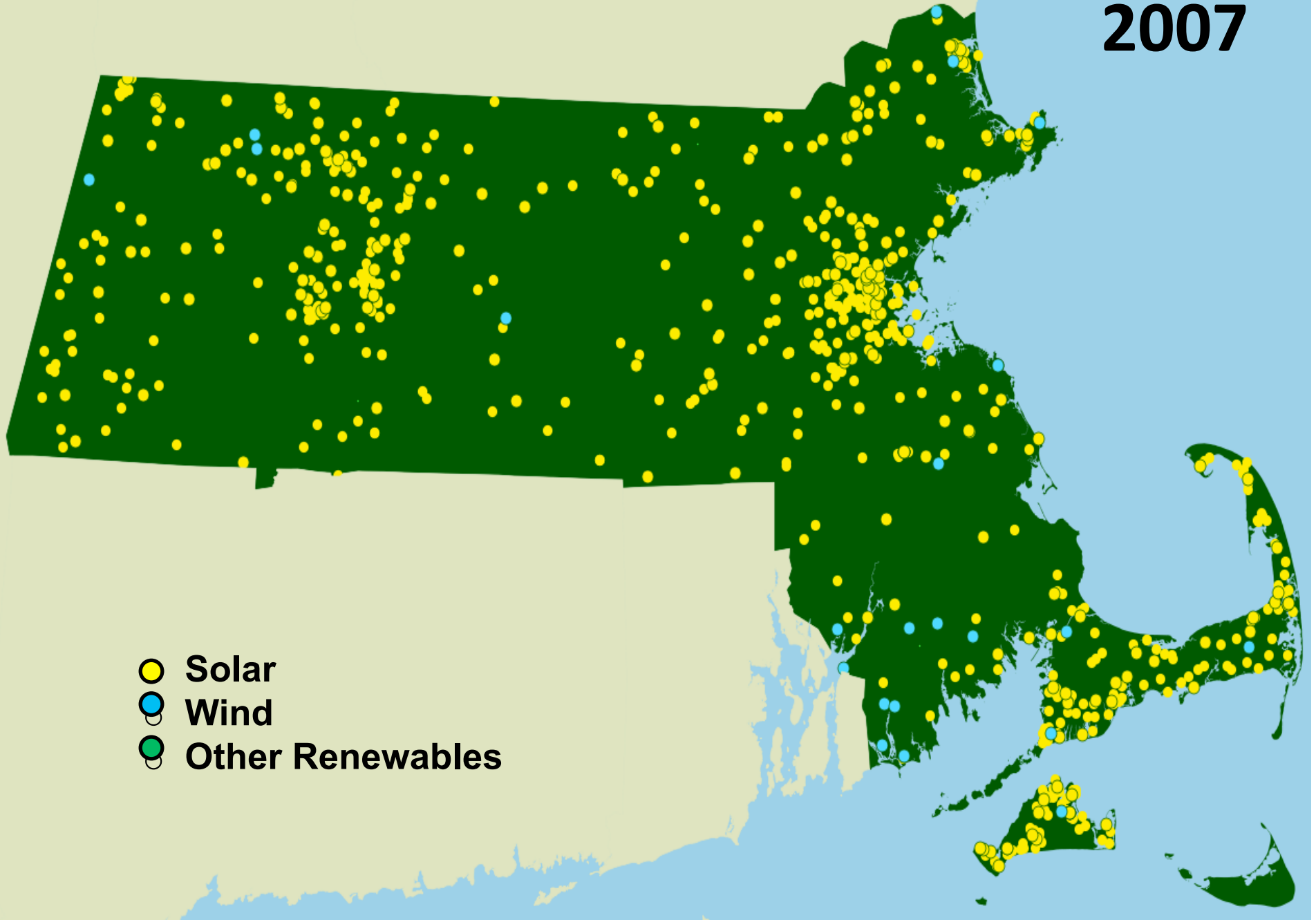
The Massachusetts Clean Energy Revolution

2006



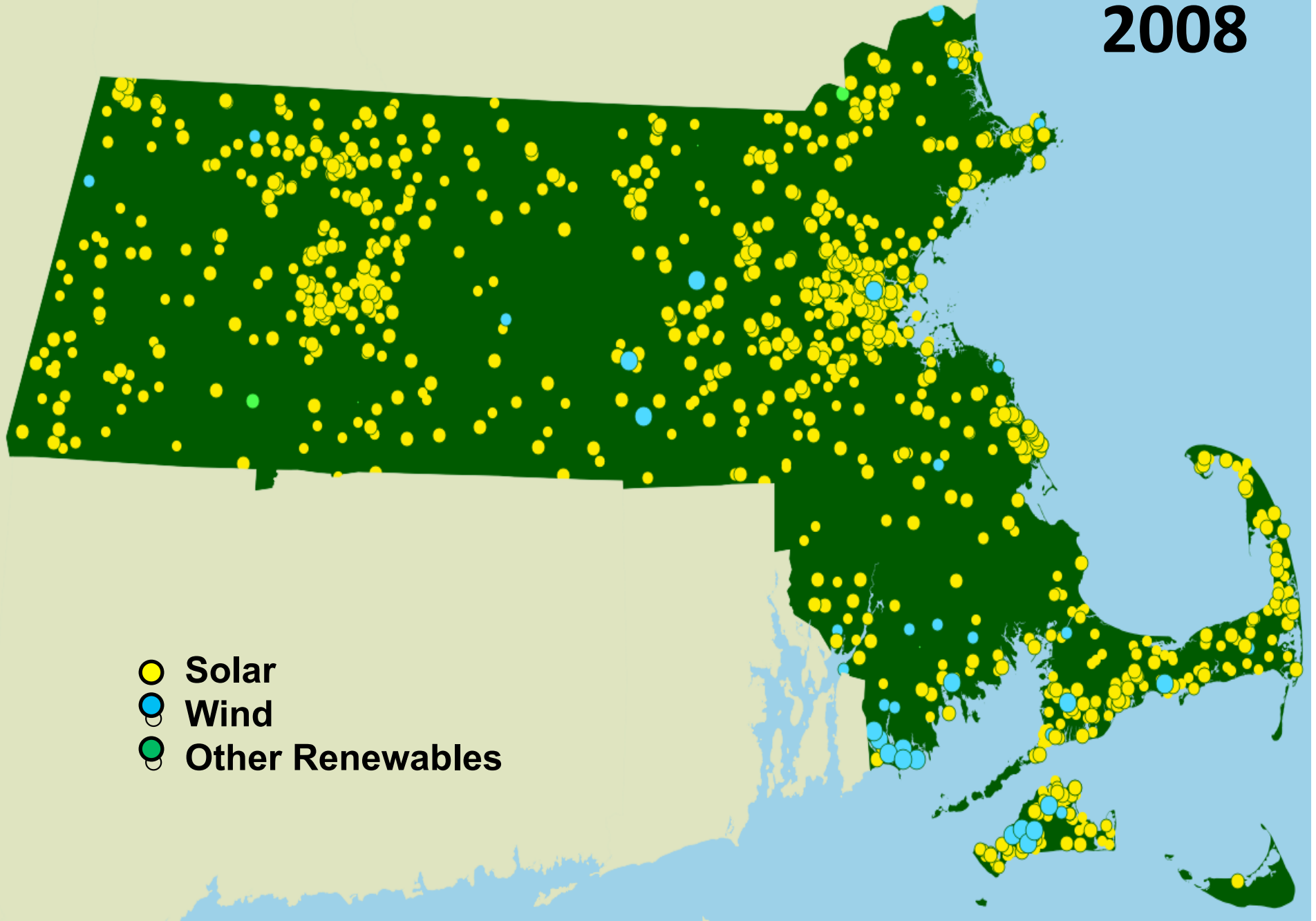
The Massachusetts Clean Energy Revolution

2007



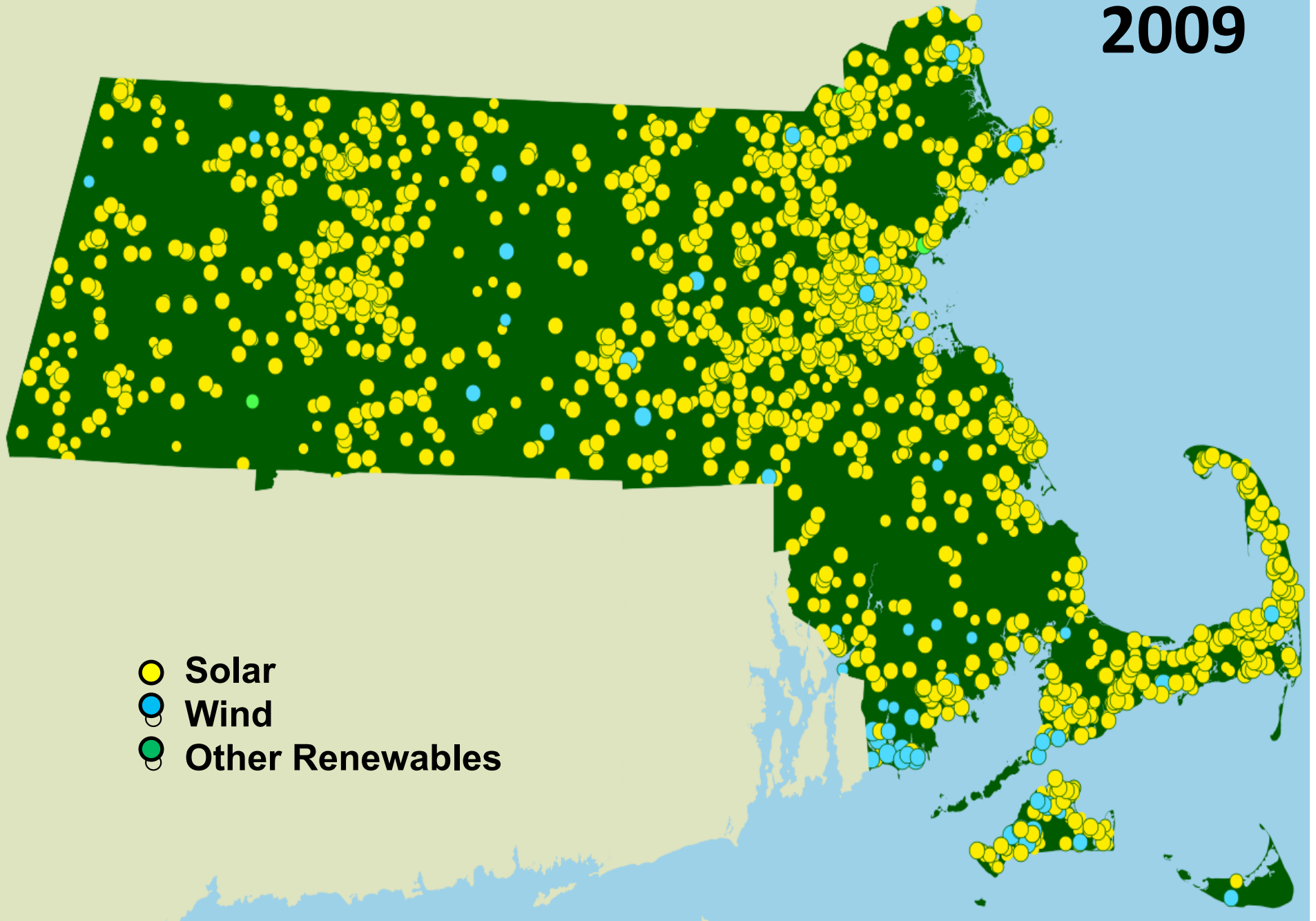
The Massachusetts Clean Energy Revolution

2008



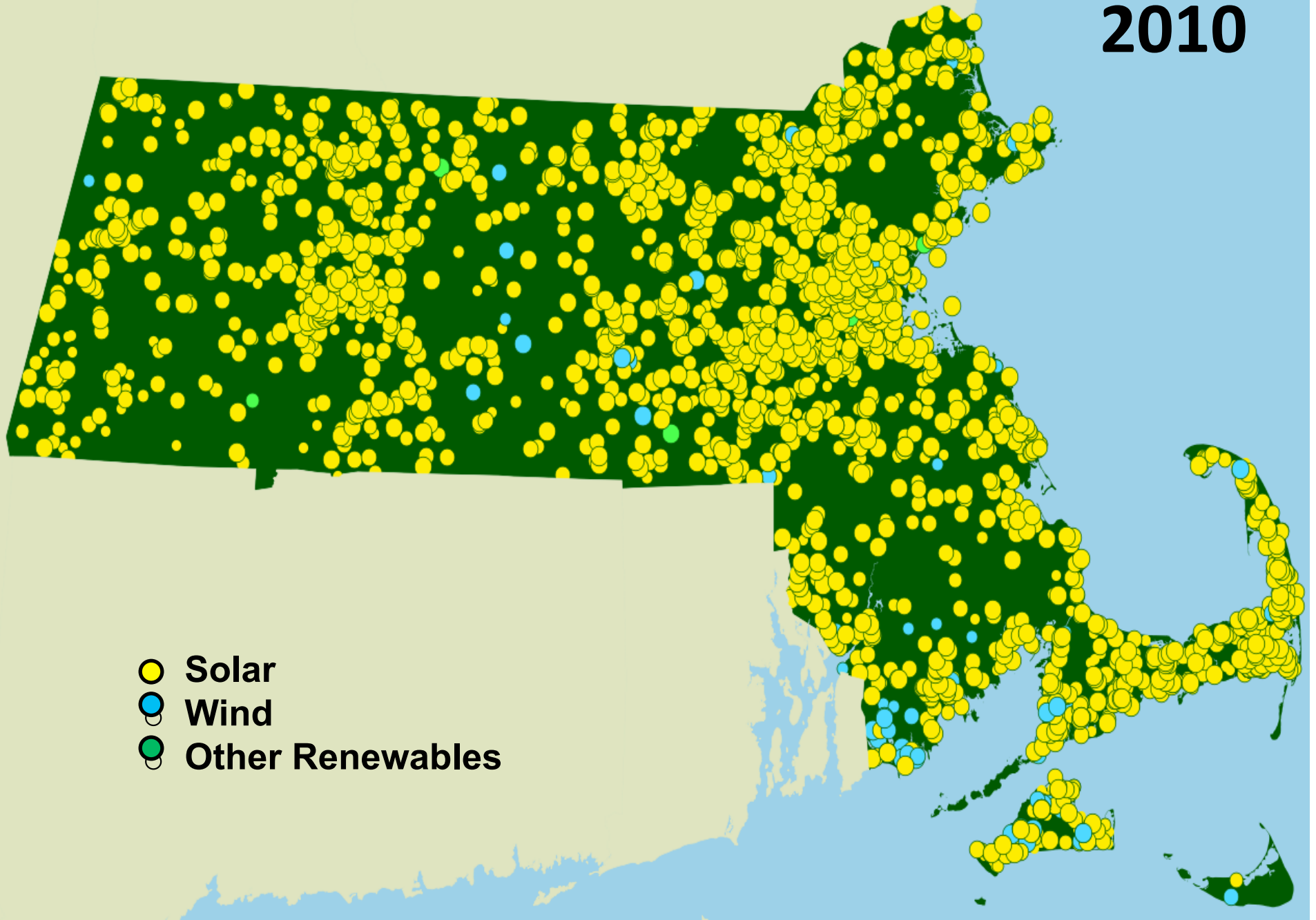
The Massachusetts Clean Energy Revolution

2009



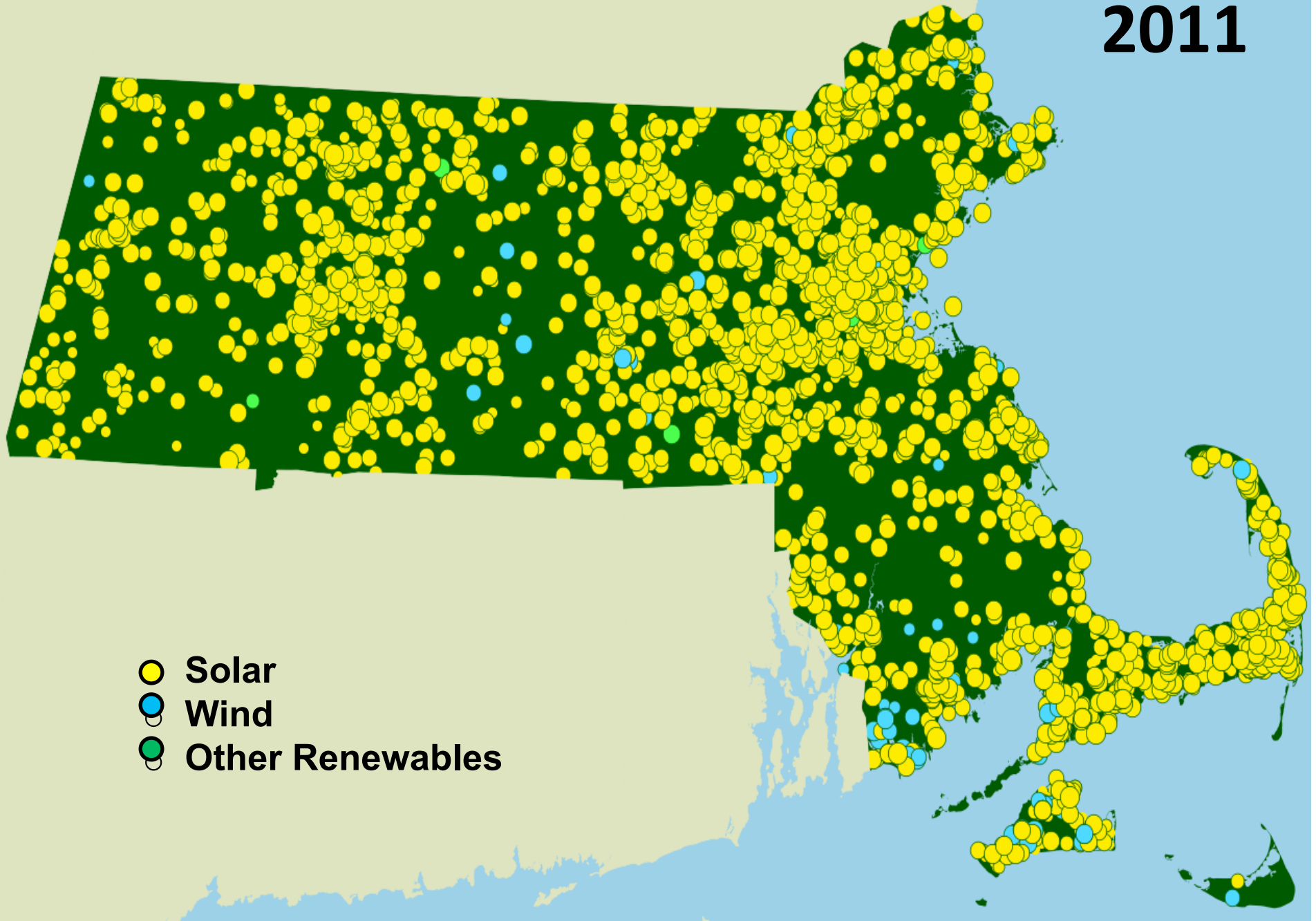
The Massachusetts Clean Energy Revolution

2010



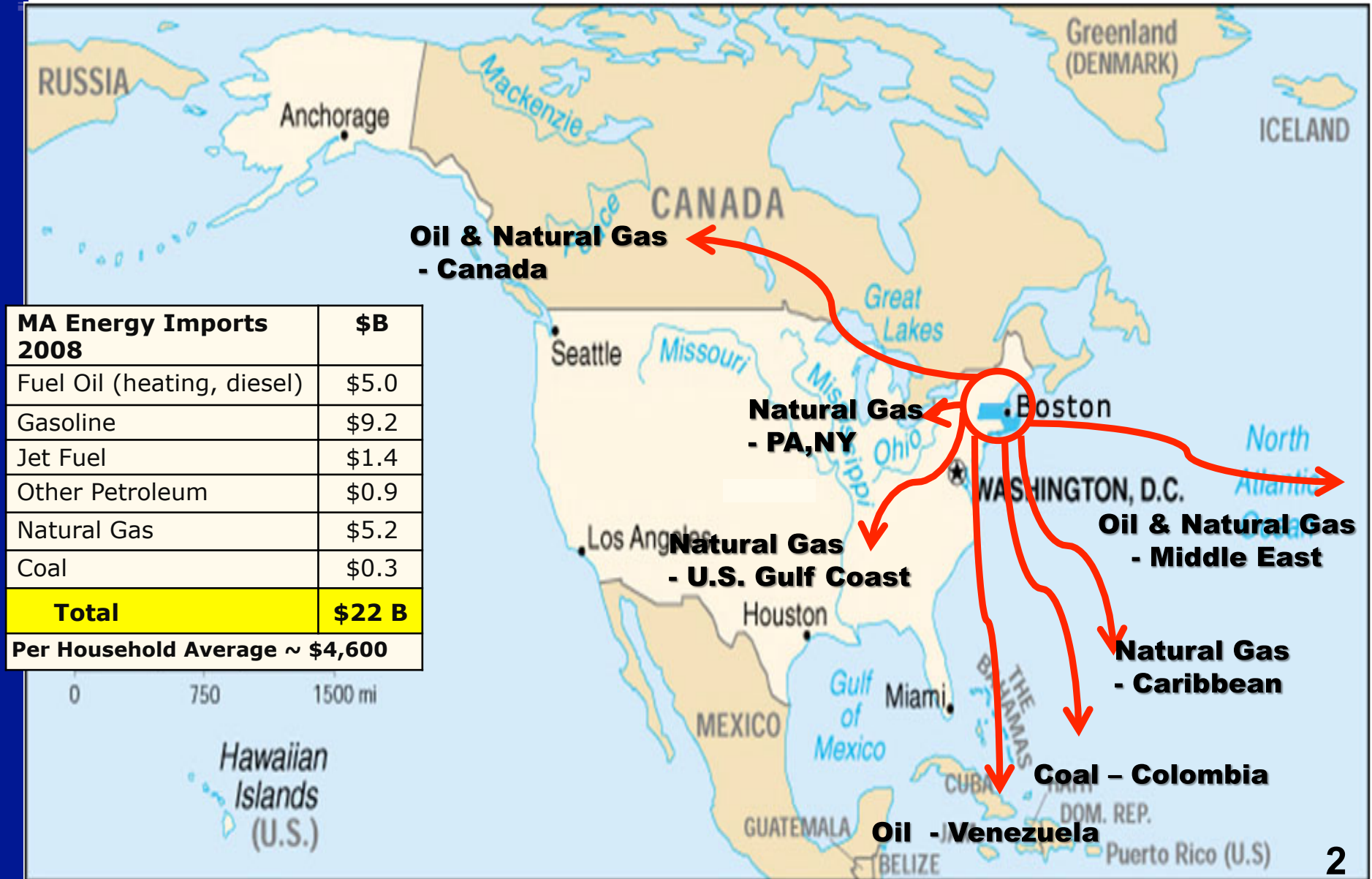
The Massachusetts Clean Energy Revolution

2011



Energy Dollars Flow Out of MA

We spend **\$22B** per year on energy; 80% leaves MA -- **\$18B**



MA Energy Imports 2008	\$B
Fuel Oil (heating, diesel)	\$5.0
Gasoline	\$9.2
Jet Fuel	\$1.4
Other Petroleum	\$0.9
Natural Gas	\$5.2
Coal	\$0.3
Total	\$22 B
Per Household Average ~ \$4,600	

Illustrations of Action at the Boundary

- Expert panel on wind energy impacts
 - Strategic plan to create institutions/ processes to gain salience, legitimacy and accountability



Take home messages

- Thinking strategically about boundaries makes a difference.
- Don't fall into the trap of credibility being the most important...it might be rare when it is.
- The meta-message: leave this academic conference and engage in governance.



Thank you

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