

**Conversation with the Acton  
Green Advisory Board  
Monday, June 1, 2015**

Jill Appel,

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Astrum Solar)

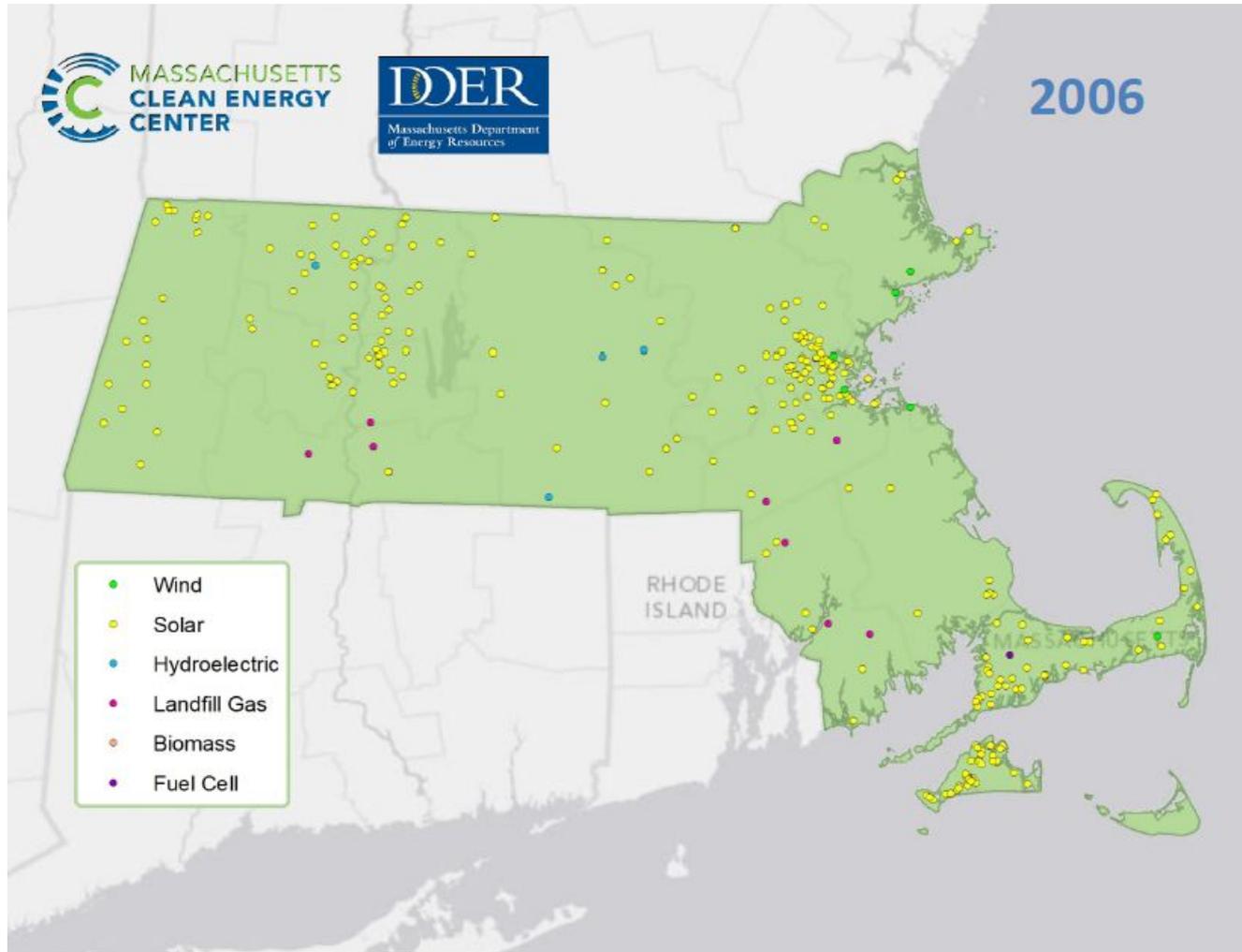
Former Chair, Concord Sustainable Energy Committee  
Solar Coach, 2013 Concord Solar Challenge

# Meeting Objectives:

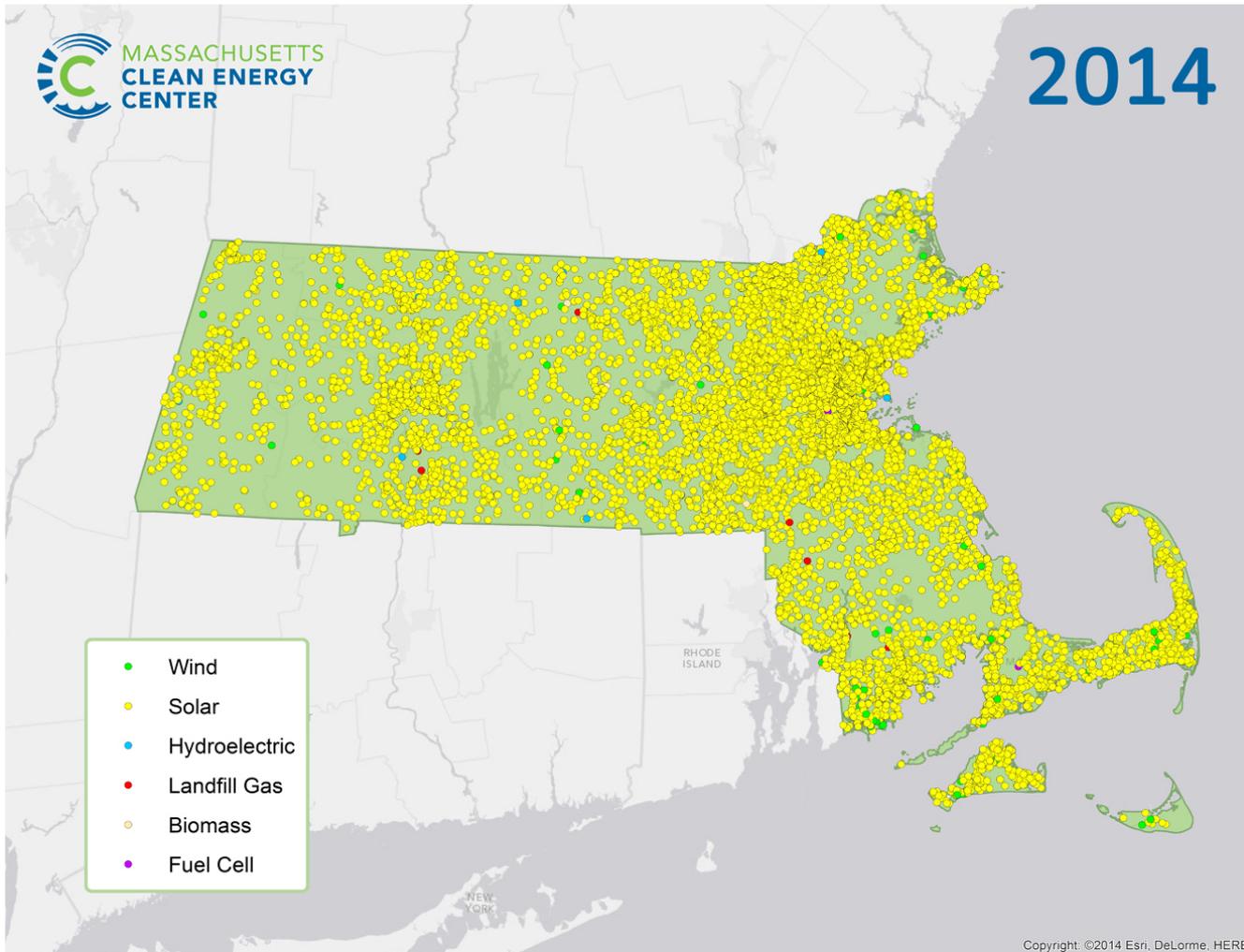
- Discuss MA “Solarize” program success thus far
- Review Acton’s solar progress and potential
- Consider moving forward with a second round of community solar\*

\*Note that this is NOT a community solar garden.

# MA Solar Transformation



# MA Solar Transformation



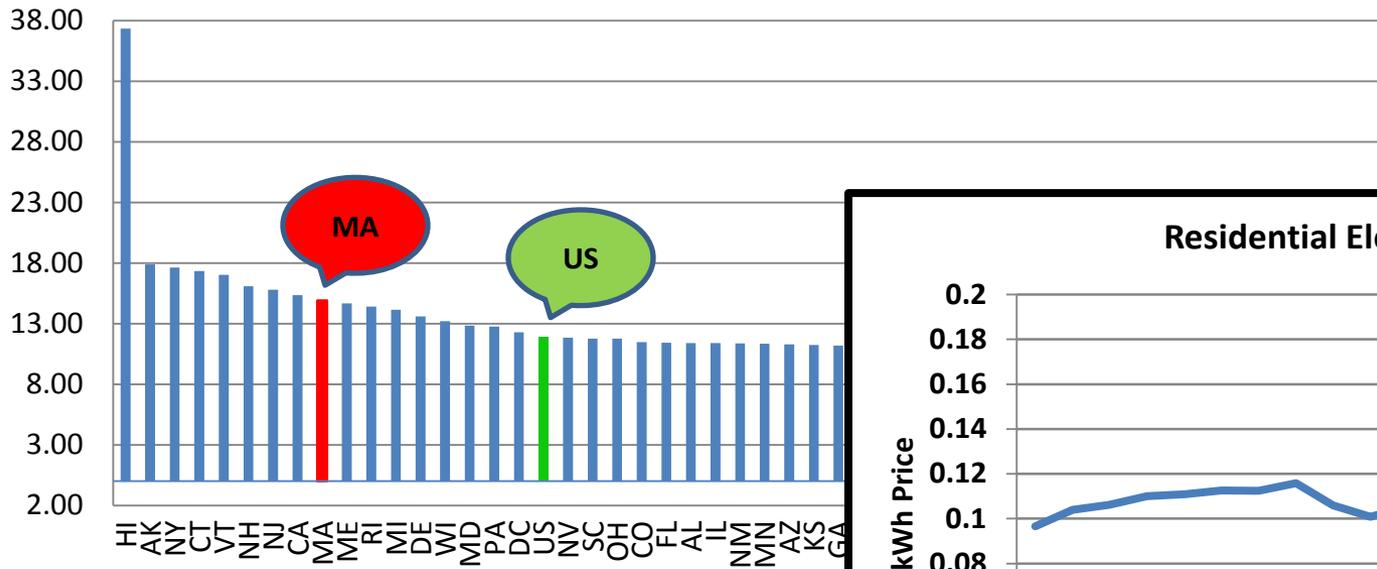
# MA Solar Transformation

Some keys to MA solar transformation:

- A state goal for solar power
- High electricity prices
- Falling solar panel prices
- Utilities must buy excess power
- Incentives – tax credits, rebates, solar renewable energy certificates
- “Solarize” programs

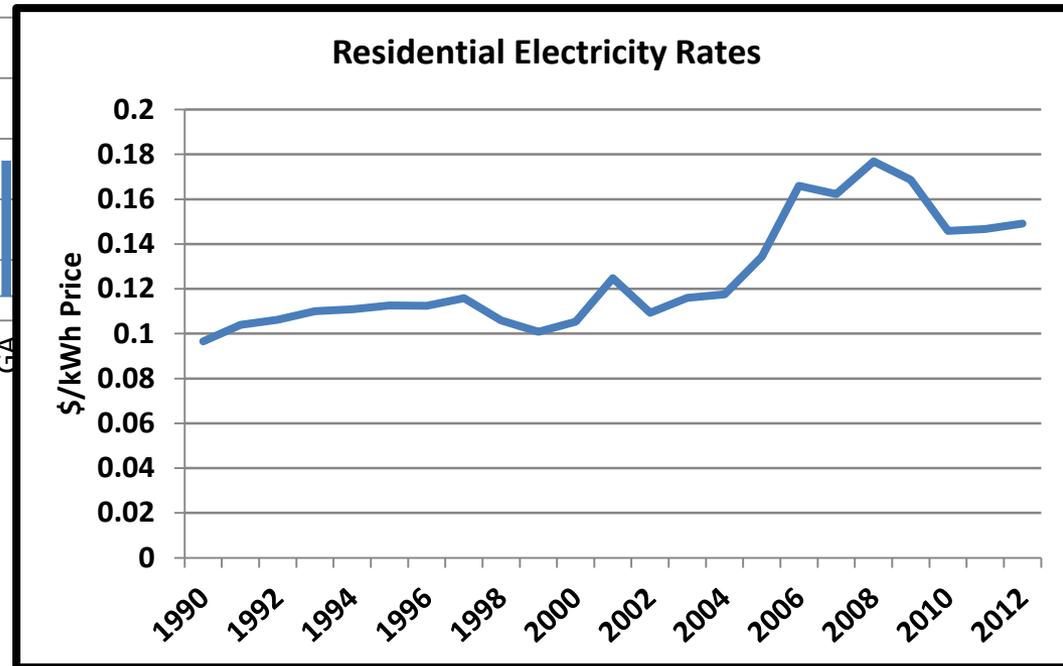
# Mass Residential Electricity Prices

2012 Avg Residential Electricity Prices  
(cents per kWh)



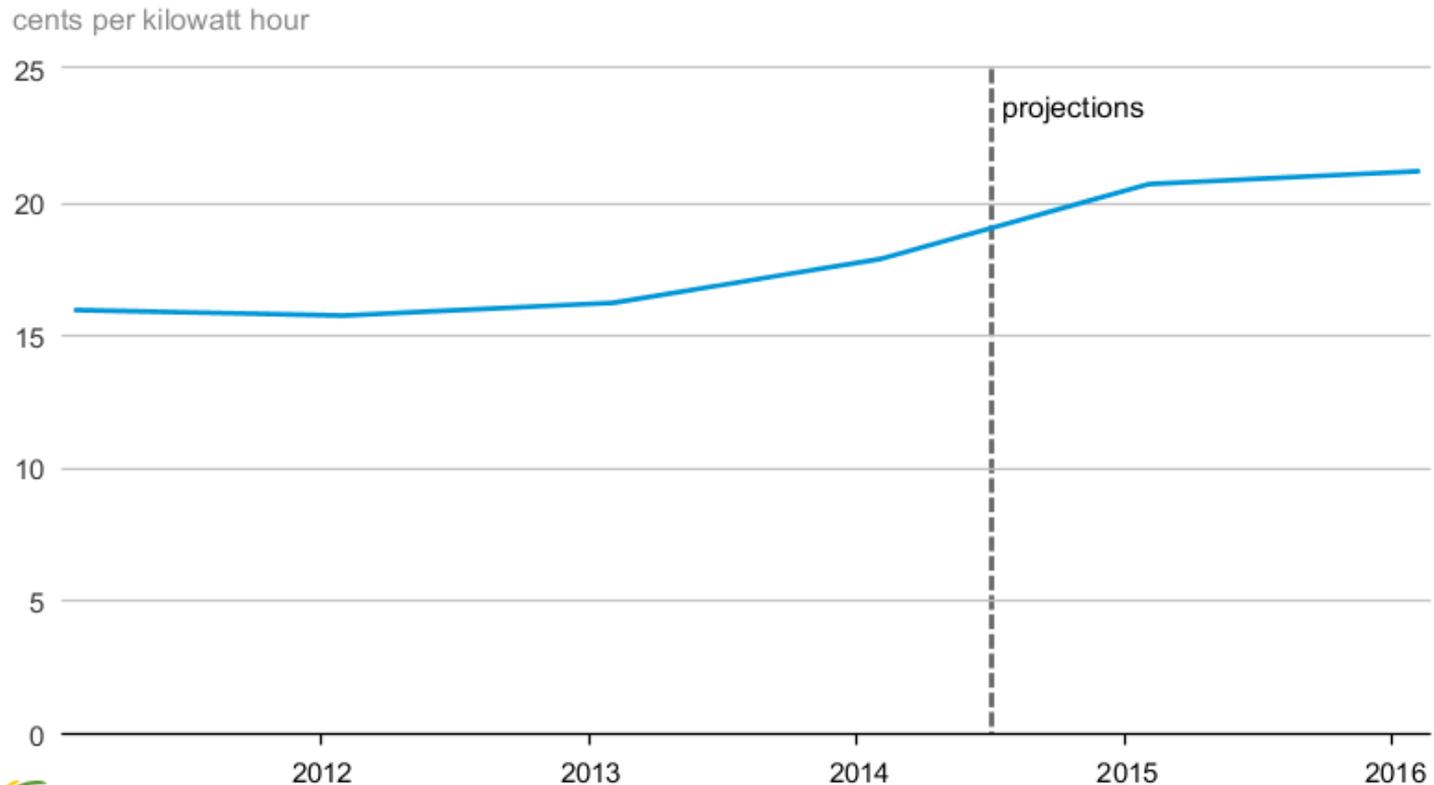
MA homeowners had the 9<sup>th</sup> highest average electricity prices in 2012.

Sources: EIA 2012 Data



# U.S. Energy Information Administration Projections

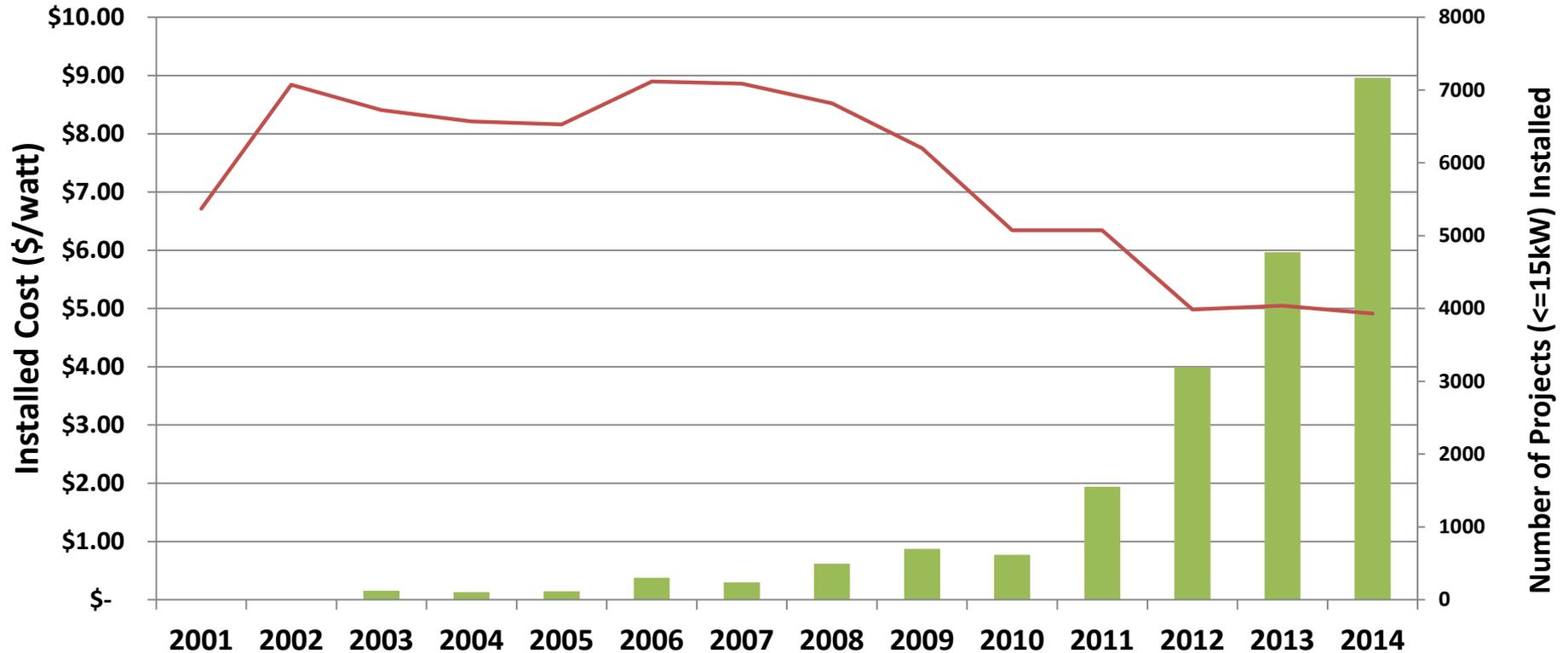
## Retail Price of Electricity in Residential Sector, New England



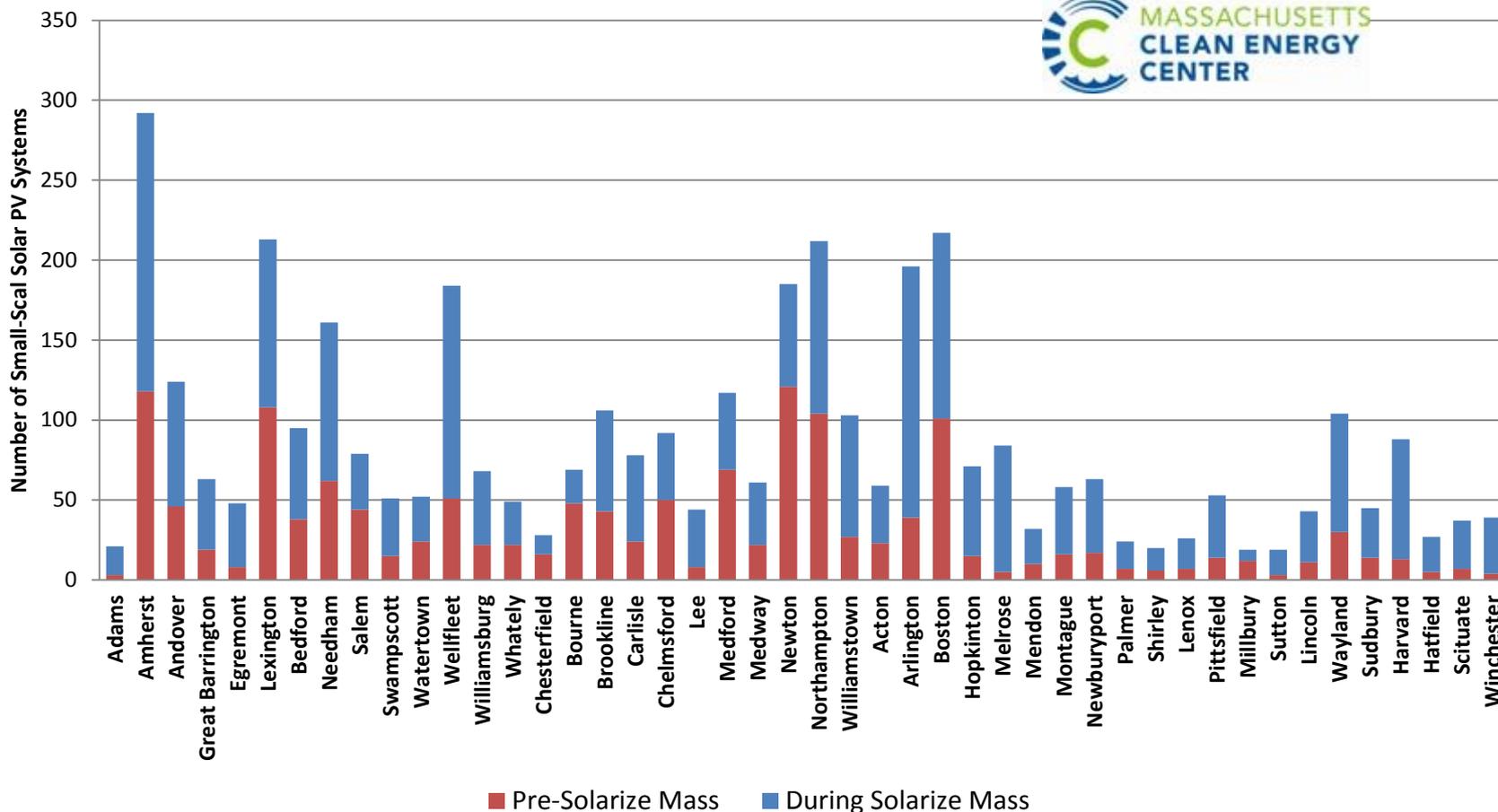
Source: Short-Term Energy Outlook

# Residential Project Trends

■ Number of Projects (15 kW and smaller) Installed    — Installed Cost (\$/watt)



- Average installed price at beginning of program: \$4.92/watt
- 2012 – 2014 Solarize Mass Average Ownership price = ~20% savings compared to market
- 38 of 46 communities doubled amount of solar in community



# Solarize Mass 2012 Price Recap

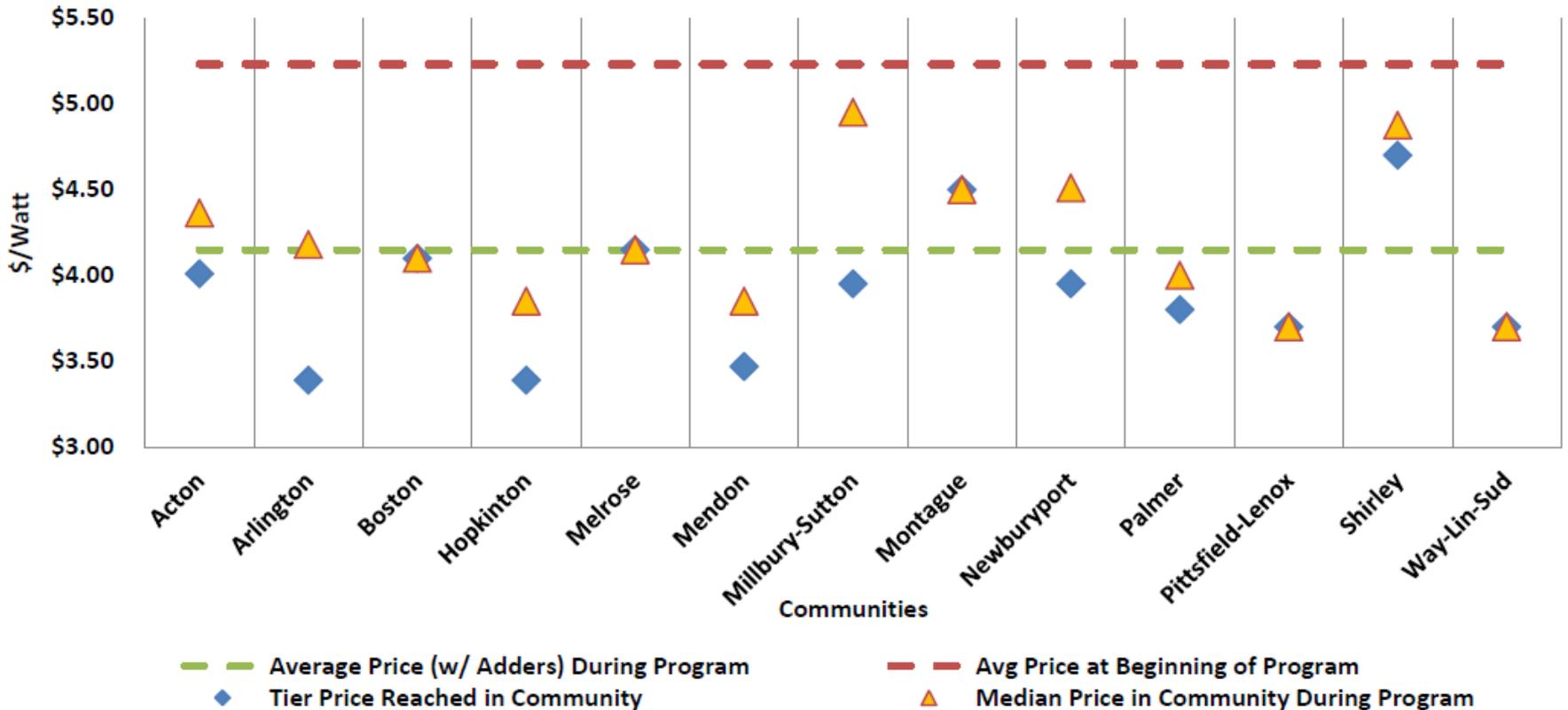


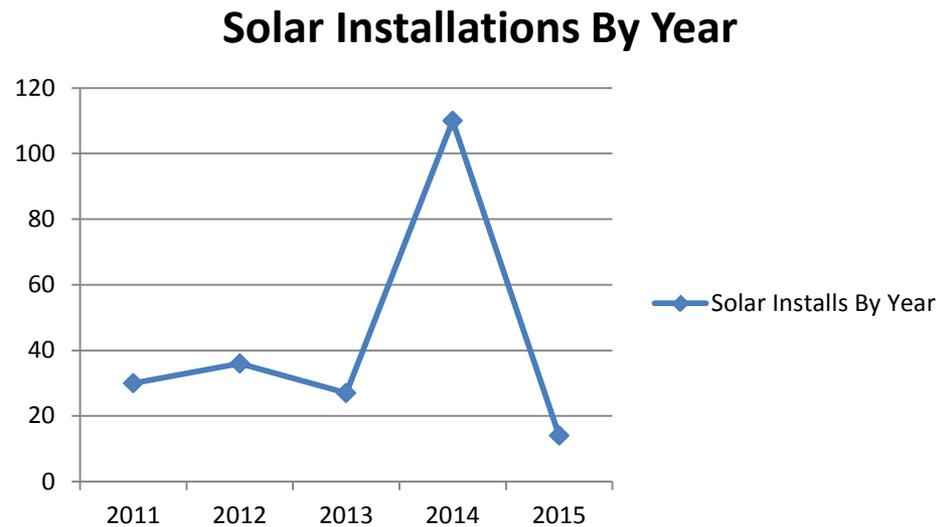
Figure 6. Median price (including project adders) relative to the base tier price reached (which excludes project adders) within each community. The red and green dotted lines show the difference between the average price for purchased projects under the program (including project adders) and the average price of projects in MA at the beginning of the program.<sup>7</sup>

# Key Solar PV Pricing Information

- Pre-2012 Solarize Mass price: \$5.23/watt
- Solarize Acton average price: \$4.25/watt
- Pricing bid in Solarize 2015: \$3.40/watt

Bottom line: 2015 prices down 35% since pre-Solarize and 20% since Solarize Acton

# Acton Solar Installations by Year



Modest growth with 2014 a big year (Solar City?)

# Acton's Solar Potential

- Single-family residences = 7,000
- Potential solar PV install volume = 5%
- Potential residential PV installs = 350
- Installations to date = 217
- Educated and affluent population, solid base of installed systems

# Recommendation: Consider a Round 2 Community Solar Program

- Community selects a highly-qualified installer who agrees to give a group price discount on solar to residents.
- Pricing is tiered – the price goes down for everyone as more people go solar.
- Community in turn agrees to do lots of outreach to generate “leads”.
- Limited timeframe for the program moves people to make decisions more quickly.
- Local Solar Coach helps promote program and is a resource for homeowners.

# Why Now?

- Prices are good; better with group pricing
- 30% federal tax incentive expires in 2016
- Utility net metering caps approaching
- Financing options available to enable more homeowners to participate
- Great financial return (>15% annually; payback periods in 4 to 6-year range for good sites)
- Less optimal sites still a good investment
- Positions homeowners for electric vehicles and heat pumps, moving away from gas and oil
- A tremendous benefit to your community

## Next Steps\*

- More research
- Think about it
- Decide to move forward

\*Many other communities are running their own programs, including Franklin, West Newbury and Boxborough/Littleton