

# Solarize Harvard

One of four Solarize Massachusetts pilots

A project of Massachusetts Clean Energy Center (MassCEC)

Volunteers Hall, May 12, 2011, 7 p.m.

## Agenda

1. What is MassCEC?
2. What is Solarize Mass?
3. How was Harvard selected?
4. What is the timeline?
5. Integrator RFP
6. Sample residential project – costs and benefits
7. Virtual Net Metering – a possibility?
8. Business projects – costs and benefits
9. Preparation
  - a. Energy audit/Mass Save
  - b. Permitting
  - c. Site work
  - d. Financing
10. Community outreach

## Massachusetts Clean Energy Center (MassCEC)

[www.masscec.com](http://www.masscec.com)

[about MassCEC, Our Mandate](#)

[The Green Jobs Act of 2008](#) created the Massachusetts Clean Energy Center (MassCEC) to accelerate job growth and economic development in the state's clean energy industry. This new quasi-public agency serves as a clearinghouse and **support center for the clean energy sector**, making **direct investments in new and existing companies**, providing assistance to enable companies to access capital and other vital resources for growth, and promoting training programs to build a strong clean energy workforce that capitalizes on the job opportunities created by a vital new industry.

In November 2009, Governor Deval Patrick signed an [Act Relative to Clean Energy](#), which transferred the state's Renewable Energy Trust Fund to MassCEC. The **Renewable Energy Trust Fund was created in 1998** by the Massachusetts Legislature. The Renewable Energy Trust Fund comes from a systems benefit charge **paid by ratepayers** of investor-owned utilities in Massachusetts as well as municipal lighting plants (MLP) that have opted to participate in the Renewable Energy Trust. The **average residential ratepayer in 2009 paid \$0.29 a month.**

## Solarize Massachusetts

[Press Release, April 20, 2011](#)

FOR IMMEDIATE RELEASE

Date: April 20, 2011

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BOSTON—As part of the effort to reach Governor Patrick's goal of 250 megawatts (MW) of solar power installed by 2017, the Massachusetts Clean Energy Center (MassCEC) today announced that it will **deploy a new business model called Solarize Massachusetts in four pilot communities** in Massachusetts to **encourage residents and business owners to adopt solar photovoltaic (PV) technology.**

MassCEC, in partnership with the Green Communities Division of the Massachusetts Department of Energy Resources (DOER) has selected the **communities of Harvard, Hatfield, Scituate, and Winchester to participate in the model, which leverages education, grassroots marketing, and group purchasing to accelerate the adoption of solar PV.**

## Solarize Massachusetts

<http://www.masscec.com/solarizemass>



Everyone's Going Solar! Learn How You Can Too!

MassCEC has launched Solarize Massachusetts in the towns of Harvard, Hatfield, Scituate and Winchester to encourage residents and businesses to join forces to go solar as a community. By joining together, residents will realize cost savings through bulk purchasing.

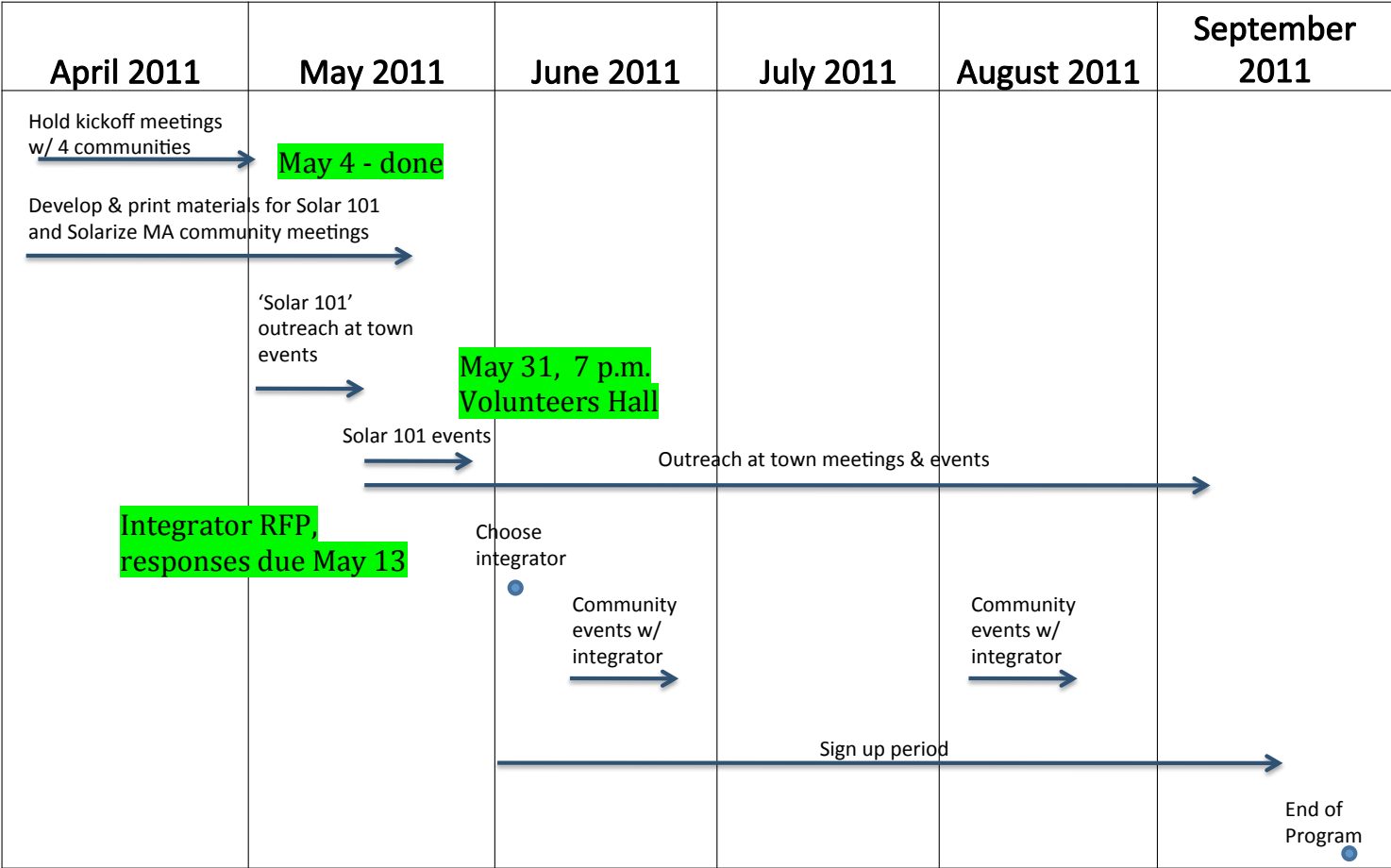
**The more people that sign up the better the price, so tell your neighbors!**

If you're interested in learning more about the upcoming Solarize Massachusetts events, please sign up for the Solarize Massachusetts email list below by providing your email and checking the "Solarize Massachusetts" box for your town.

## How was Harvard selected as a Solarize Mass community?

1. Pilot program was announced March 2, open to all Massachusetts Green Communities, with four communities to be selected at random, one from each region.
2. Energy Advisory Committee and Harvard Press conducted survey, nearly 200 Harvard residents responded, 90% indicated interest.
3. Board of Selectmen decided to apply March 30, hours before deadline.
4. Harvard selected by lottery from eligible Central Mass towns that applied.
5. Selections announced in Hatfield April 20, including Harvard, Hatfield, Scituate, Winchester.
6. Kickoff for Solarize Harvard held May 4 at Town Hall, with representatives from MassCEC and Town Administrator Tim Bragan, Selectman Tim Clark, HEAC member Eric Broadbent, Solarize Harvard coordinator Worth Robbins.

# Solarize Massachusetts Pilot



## Integrator RFP

### Solarize Massachusetts RFP

MassCEC seeks proposals from PV integration companies, or multiple companies in partnership, that can provide both a direct-ownership model and a leasing model for residential and small-scale commercial PV installations, as well as aggregation services for the sale of SRECs. Integrators may bid on one or more community and may be selected for more than one community. However, proposals will be evaluated individually in order to provide each community with the greatest opportunity to succeed in the Program.

#### **Pilot Description**

The aggregation of multiple small-scale PV installations within a community provides opportunities to realize economies of scale for the integrator, and cost savings for the customer. Installation prices for small-scale solar installations are generally higher than large-scale installations, in part due to the extra cost of marketing, advertising, and acquiring multiple customers. To reduce these costs, DOER and MassCEC propose to make PV a more accessible and affordable energy option through the Solarize Massachusetts Pilot, a one-year Pilot, by educating the local community, streamlining marketing efforts, and aggregating sales.

It is expected that the installed or leased price for PV systems will decrease as the total capacity of PV within the community increases. As such, proposals will not only be evaluated on the integrator's ability to provide marketing, design and installation services, but also on the ability to deliver a low cost, fixed pricing structure (dollar per kilowatt (\$/kW) installed price ("Installed Price") or dollar per kilowatt hour (\$/kWh) lease price ("Leased Price") for given levels of capacity installed.

## Residential Project – Costs and Benefits

<i>Item</i>	<i>Sample project, August 2010</i>	<i>Solarize Mass, 2011</i>
System size	5,040 watts	5,040 watts
Ideal annual production	6,048 kilowatt-hours	6,048 kilowatt-hours
Site shade, Azimuth, & Angle corrections	85%	85%
Site-corrected annual production	5,141 kilowatt-hours	5,141 kilowatt-hours
Most recent 12 months of electricity usage (estimated)	12,000 kilowatt-hours	12,000 kilowatt-hours
Percentage of annual electricity usage	43%	43%



Project Cost, Grants, and Tax Credits		
<i>Item</i>	<i>Sample project, August 2010</i>	<i>Solarize Mass, 2011</i>
Total Project Costs	\$40,700	\$36,630 (10% less)
Commonwealth Solar Grant (CS-II)	\$10,500	\$8,500 (max, \$0.75/W base, \$0.10 for Mass panels, \$0.85 for moderate home value or moderate income)
Out-of-pocket cost (Total minus CS-II grant)	\$30,200	\$28,130
Federal Tax Credit	\$9,060 (30% of cost, no limit)	\$8,439 (30% of cost, no limit)
State Tax Credit	\$1,000 (15% of cost, \$1,000 max)	\$1,000 (15% of cost, \$1,000 max)
Final cost after grants and tax credits	\$20,140	\$18,691

<b>System Economic Value</b>		
<i>Item</i>	<i>Sample project, August 2010</i>	<i>Solarize Mass, 2011</i>
Electricity (estimated)	\$0.15 \$/kilowatt-hour	\$0.15 \$/kilowatt-hour
Estimated first year electrical savings	\$771	\$771
Estimated 25-year electrical savings (per US DOE, electricity inflation 4.6% per year)	\$33,443	\$33,443
Potential annual SREC Value (@0.25 per kilowatt-hour)	\$1,285	\$1,285 (at current minimum of \$300 per MWh, \$1,500, at maximum of \$550 per MWh, \$2,750)
Return on Investment (based on first year savings and SRECs)	10.2%	11%
Simple payback	9.8 years	9.1 years

## **Virtual Net Metering – Possible?**

### **Business Projects – Cost and Benefits**

#### **Preparation**

Energy Audit/ Mass Save

Permitting

Site Work

Financing

#### **Community Outreach**

**Solar 101, May 31, Volunteers Hall**

## Additional Links

<http://dsireusa.org/> - Database of state incentives for renewables and efficiencies

<http://harvardpress.net/openfiles/SolarizeHarvardMay12.pdf> - this document