

Creating A Greener Energy Future For the Commonwealth



COMMONWEALTH OF MASSACHUSETTS

Deval L. Patrick, Governor
Richard K. Sullivan, Jr., Secretary
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Massachusetts Solar Carve-Out Program

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National Summit on
RPS

Washington DC

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MA RPS Class I Program

- Established in 1997, first year of compliance in 2003
- Eligible technologies include solar PV, solar thermal electric, wind, ocean thermal, wave or tidal energy, fuel cells, landfill methane gas, small hydro, low-emission biomass, marine or hydrokinetic energy, and geothermal electric
- Generation Units from New England and adjacent control areas (i.e. New York and maritime Canadian provinces) may qualify
- Minimum Standard of 7% in 2012
- Set to increase by 1% each year going forward

MA RPS/APS Programs

- In 2008, 3 new classes were added to the RPS
 - Class II Renewable Energy for facilities in operation prior to 1998 (mostly small hydro and LFG)
 - Class II Waste-to-Energy for waste-to-energy facilities located in MA
 - Alternative Portfolio Standard (primarily CHP projects)
- In 2010, a Solar Carve-Out was added to Class I
- Obligation is part of the Class I total, but has different market parameters and qualification process

Summary of MA Renewable Energy Portfolio Standard (RPS) Programs

RPS Class	Sub Class	Technology	Minimum Standard	2012 ACP Rate, \$/MWh
Class I		Wind, LFG, Biomass, Solar, Small Hydro, AD, etc.	7% in 2012, increases 1%/year	\$64.02; increases with CPI
	Solar Carve-Out	Solar PV; 6 MW or less, in MA	set by formula to grow installed capacity to 400 MW	\$550; reduced annually according to 10-year schedule
Class II	Renewable	same as Class I	3.6%, stays constant	\$26.28; increases with CPI
	Waste Energy	Waste to Energy Plants, in MA	3.5%, stays constant	\$10.51; increases with CPI
APS		CHP in MA, flywheels, storage, etc.	2.5% in 2012; increases to 5% in 2020	\$21.02; increases with CPI

Massachusetts Solar Development Strategies (Pre Solar Carve-out)

- Governor Patrick's goal – 250 MW by 2017
- Commonwealth Solar (Rebates) – initiated Dec. 2007
 - Rebate Program: \$68 million, 27 MW
 - Successfully achieved and completed Oct. 2009
 - Created robust PV development sector in MA
- Commonwealth Solar II managed by the MassCEC for small (<15kW) systems has maintained residential PV market
- Federal Stimulus/ARRA funds used by DOER to support over 10 MW of PV at state/municipal facilities
- Green Communities Act allowed for limited Distribution Utility ownership of PV Generation (approximately 9 MW installed under this provision)

SREC Program Design Features

Program design features help ensure market stability and balance

- Adjustable Minimum Standard
 - maintains SREC supply/demand in reasonable balance
 - Solar Credit Clearinghouse Auction Account
 - essential price support mechanism to assure SREC floor price
 - Opt-In Term
 - provides right to use Auction, adjusted to throttle installation growth rate
 - Forward ACP Rate Schedule
 - provides investor certainty
 - Program Cap of 400 MW
 - Enables sufficient market growth opportunity (exceeds Governor's goal of 250 MW by 2017)
- These features work together to ensure the market will remain in balance as more PV is built



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2012 Rulemaking Process

- DOER announced intention to begin formal rulemaking process on August 30, 2012
- Primary reason for rulemaking is to make two changes to RPS Class I Regulation:
 - Insert 10-year forward ACP Rate schedule into regulation
 - Remove the subtraction of ACP Volume from Minimum Standard formula
- DOER plans to retroactively apply change to 2013 Minimum Standard, thereby increasing the demand in 2013
- Rulemaking expected to begin in December

Example Calculation – CY 2013	Current Formula	Proposed Formula
Compliance Obligation	135,495 MWh	189,297 MWh
	= 81,559 MWh + [109,465 - 26,598] x 1.3 - 53,802 + 11 + 0	= 81,559 MWh + [109,465 - 26,598] x 1.3 + 11 + 0
Minimum Standard	0.2744%	0.3833%
	= 135,495 MWh / 49,386,169 MWh x 100	= 189,297 MWh / 49,386,169 MWh x 100



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Current SREC Program Statistics – 12/1/12

- Over 4,000 applications received
- Over 3,700 qualified units
- 155 MW qualified
- Nearly 138 MW of qualified projects installed
- 2,741 SRECs created in 2010
- 26,598 SRECs created in 2011
- More than 100,000 SRECs expected to be created in 2012

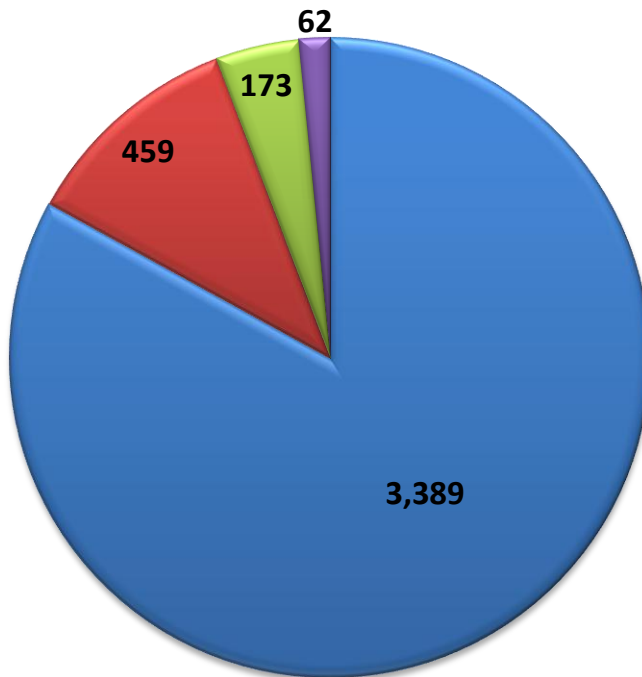
	Number of Systems	Capacity (MW)
Applications Received	4,086	164.4
Applications under Review	299	9.5
Applications Qualified	3,787	154.9
Qualified but Installation Incomplete	19	17.3
Qualified and Installed	3,768	137.6



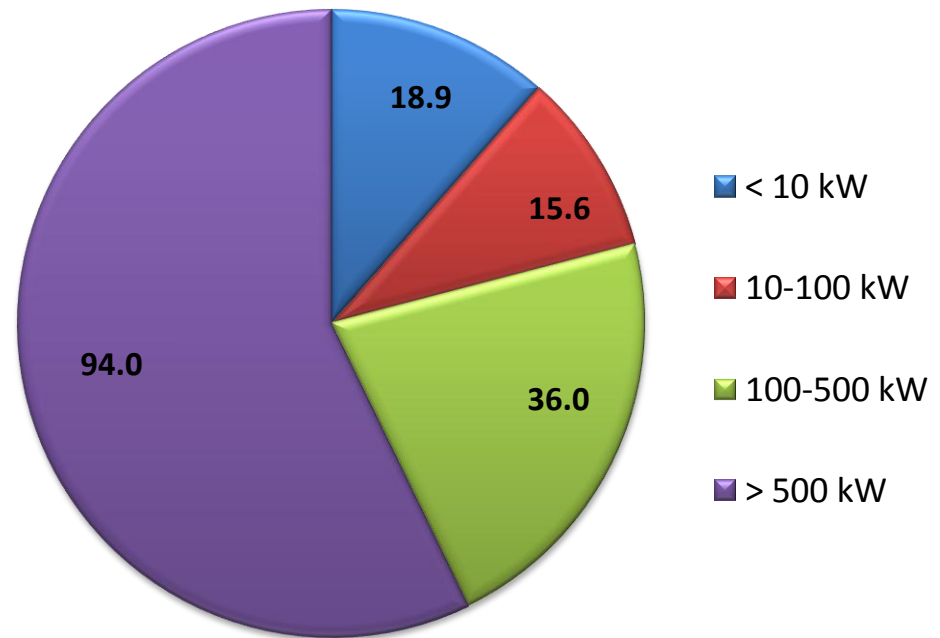
Current SREC Program Statistics – 12/1/12

Activity by System Size

of Applications



of MW



- < 10 kW
- 10-100 kW
- 100-500 kW
- > 500 kW

Key Highlights

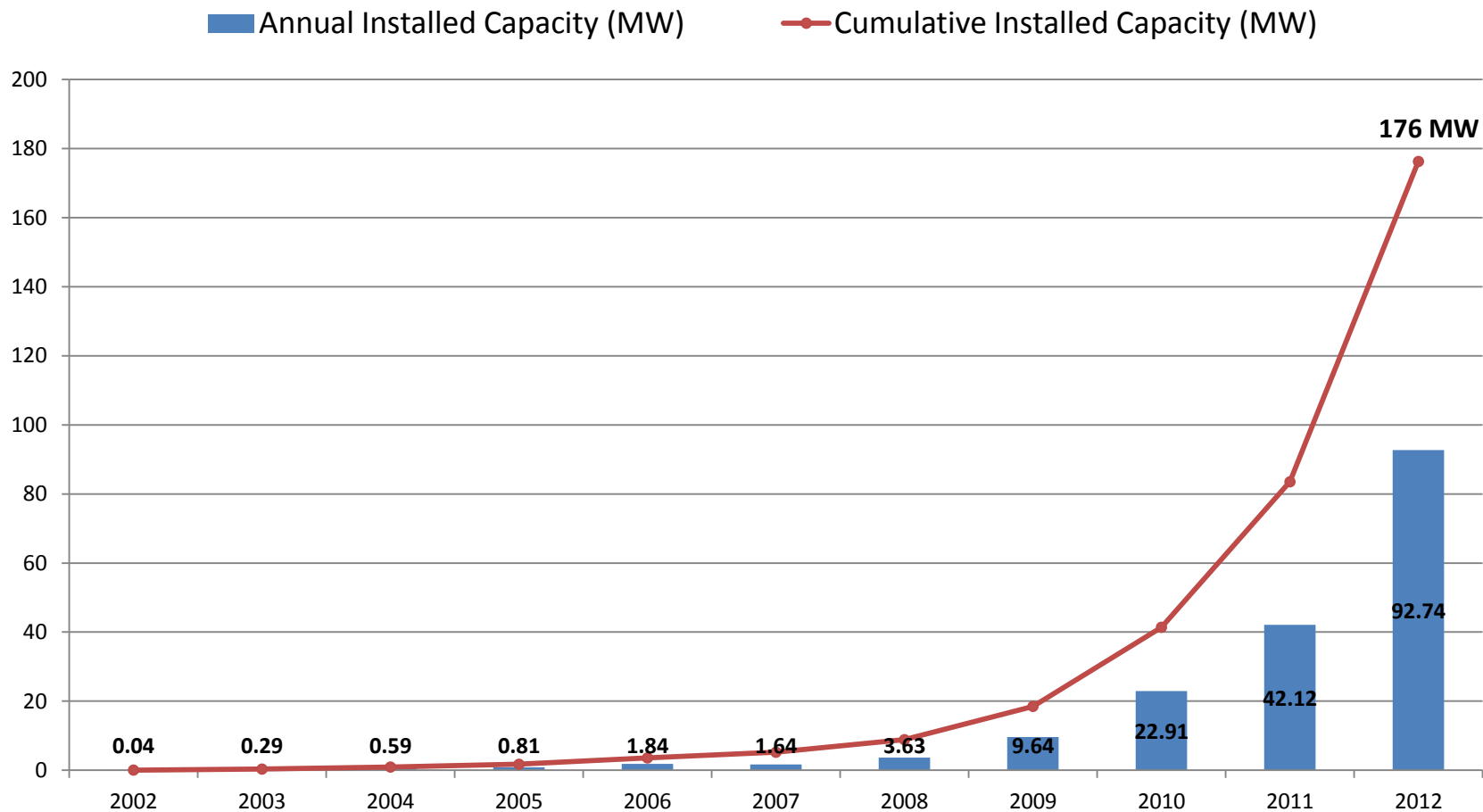
- MA ranks 3rd in commercial installations and 5th in residential installations in 2012 through Q2
- 2nd lowest weighted average commercial installation costs
- Ranked 2nd in inverter manufacturing
- 340 of 351 MA cities & towns have at least one state supported solar installation
- More capacity has already been installed in 2012 than was installed in all years prior to 2012
- Solar generation as a percentage of the RPS increased by more than 1000% from 2010 to 2011

Sources: SEIA/GTM Research US Solar Market Insight Q2 Report & MA 2011 Annual RPS/APS Compliance Report (not yet published)



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Installed Solar Capacity in Massachusetts (as of 12/1/12)



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