

Increasing Access: <u>Low Income</u> Community Shared Solar 101

Metropolitan Area Planning Council (MAPC)

April 26, 2017

Solar Webinar Series



Webinar Agenda



Brief Introduction to MAPC & the Clean Energy Department Cammy Peterson, MAPC



Webinar Attendee Poll Megan Aki, MAPC

3

Community Shared Solar 101 Greg Hall & Dave Beavers, Cadmus Group



5

CSS in Action – Newton's Community Solar Share Initiative Andy Savitz, City of Newton





MAPC: About Us

- Regional Planning Agency
- 101 cities and towns
- ▶ 80+ employees
- Wide range of planning expertise





MAPC: Clean Energy

1. Regional Energy Projects

- ESCO Procurement
- Regional Solar Initiative
- LED Streetlight Purchasing Program
- Community Aggregation
- Hybrid Conversion Technology
- Energy Resiliency

2. Local Energy Action Program

- Connecting municipalities with incentives + plug-and-play programs
- Community energy and climate baselining, planning, and strategizing
- Outreach programming and education

3. Energy Technical Assistance

- Grant Writing
- Green Communities Designation
- Methane Leaks

- Solar Permitting and Zoning
- State and Local Policy



Poll Time!

- 1. What best describes your role/place of work?
- 2. What kind of electric service provider does your city or town have?
- 3. How familiar are you with community shared solar?



CADMUS



Community Shared Solar Expanding Solar Access in Your Community

Encompasses:

- 1. Community Solar 101
- 2. Ownership
- 3. Value Proposition
- 4. CSS Future under SMART

Before We Start

- These slides consider primarily communities in Investor Owned Utility (IOU) territories
 - Community Shared Solar in MLP communities is possible, but through a different approach (as discussed in last slide, best economics for projects completed in the next year)
 - The term "Community Shared Solar" is unique to Massachusetts
 - Other states / literature may use the term "Community Solar", or "Shared Solar" used
- This presentation provides an introduction to CSS
 - We are happy to discuss more in depth topics such as siting, procurement and administration through Q/A



Community Shared Solar CSS

- A solar photovoltaic (PV) system that provides benefits to multiple participants.
 - For Mass. "multiple" most likely accommodated through virtual net metering (VNM)
- Benefits can include:
 - Electricity
 - Net metering credits
 - Return on investment
- Currently, over 445 MW worth of CSS have qualified under the Massachusetts Solar Carve Out
 - Represents 23.2% of qualified capacity



The Opportunity

- Emerging and visible model that benefits multiple stakeholders
 - Distributed energy savings through net metering
 - Expands access to segments of the community that traditionally have been unable to avail themselves of solar.
- Involves local constituents
 - Multi-family homes
 - LMI
 - Renters



Expanding Access

- CSS offers an alternative for those who cannot install solar on their own property
 - According to NREL, nearly half of U.S. homes are unsuitable for a 1.5 kilowatt system
 - Experience from Solarize programs in Eastern Mass. suggests that as low as 20% of homes are suitable for solar (i.e. because of trees, roof condition, roof orientation, etc...)
 - Offers opportunity to renters and those in multi-family housing to access solar (especially LMI)
- CSS can also offer comparable economic benefit to renters and low to moderate income (LMI) residents
 - Solar serving low-income customers would receive a higher ratio of RECs for each MWh of generation
 - Under SMART, all evidence points to LMI access receiving valuable "adders"



Ownership

- Majority of CSS is third-party owned
 - Owned and operated by private development
 - Able to monetize 30% investment tax credit (ITC)
 - Experience in CSS administration
- Participant-owned
 - Instigated by private party: municipality may play only a minor role
 - Requires up-front capital and administrative know-how
 - Important to consider the Securities and Exchange Commission's (SEC) perspective on distribution of benefit
 - Return on investment
 - Depends on financing structure, leverage, tax equity treatment, etc.
 - Industry history shows 10-15% IRR



Benefit to your Community

- Subscription model allows participants discounted energy from a local, sustainable, source.
- Net metering credits appear on-bill or through an easy-to-use online portal



SREC-II Sunset

- SRECs under the MA Solar Carve out will be available until March 31, 2018
 - Projects seeking eligibility must be mechanically complete by this date
- CSS typically takes 12-18 months to complete
 - Financing timeline
 - Must fully subscribe
- Most new CSS projects will need to take aim at the next incentive program



CSS under SMART

- Solar Massachusetts Renewable Target (SMART) seeks to set 10 to 20 year fixed price terms depending on project capacity
 - From a \$/kWh "base rate" certain projects will be eligible for "adders"
- CSS projects eligible for \$0.05/kWh to \$0.06/kWh adders*
 - Low income shared solar would be eligible for a more valuable adder

*These adder values are based on DOER's most recent proposal and are subject to change when DOER files emergency regulations.



CSS under SMART

CSS GROUND MOUNT -25 to 250 kW(AC) SREC TRANSITION vs. SMART (\$/kWh) Value of Net Metering + Incentive Eversource Utility Territory



■ SREC TRANSITION ■ SMART (BLOCK 1)



Current Hurdles for CSS

- Communities in NGRID Territory
 - − No net metering capacity available \rightarrow no new CSS
 - Options:
 - Currently installed CSS PV may have net metering credits available
 - Under SMART, a new approach called On-Bill-Crediting should enable CSS without the need for net metering
- Communities in NSTAR (dba Eversource) Territory
 - Plenty of net metering cap space available, but:
 - Net metering rate is now only 60% of full retail rate \rightarrow economics of projects likely to be marginal
 - Urban area has little space for larger PV projects
 - Options:
 - Under SMART economics should look better
 - Use municipal property for CSS projects (e.g. Newton)
- MLP Communities
 - Can establish own policies
 - Be careful of terms in energy supply contract
 - Best economics likely to be with SRECs
 - SREC II program ends next year \rightarrow move fast



Resources

- Mass. Specific
 - MA DOER CSS
 - <u>www.mass.gov/eea/energy-utilities-clean-tech/renewable-energy/solar/community-shared-solar.html</u>
- IREC (www.irecusa.org)
 - Shared Renewable Energy for Low-to Moderate-Income Consumers: Policy Guidelines and Model Provisions
 - Model Rules For Shared Solar
- NREL
 - <u>www.nrel.gov/tech_deployment/state_local_governments/community-</u> <u>solar.html</u>
- DOE National Community Solar Partnership
 - <u>https://energy.gov/eere/solarpoweringamerica/national-community-solar-partnership</u>



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Pilot Project



City of Newton

Community Share Solar Initiative (CoSSi) Program Implementation



City of Newton Community Share Solar Initiative (CoSSi) Illustrative Financial Assumptions



*All dollar amounts illustrative only





Total Amount Due by 04/15/17 \$36.91 Amount Due On 03/14/17 \$36.35 Last Payment Received On 02/28/17 -\$37.00 Balance Forward -\$0.65 Total Current Charges \$37.56





NEWTON MA 02458-1607

Billing Cycle: 13 Service from 02/15/17 - 03/20/17 33 Days Next read date on or about: Apr 19, 2017					
Meter Number	Current Read	Previous Read	Current Usage	Reading Type	
	8627	8375	252	Actua	

Contact Information

Emergency: 800-592-2000 www.eversource.com CustomerServiceMA@eversource.com Pay by Phone: 800-592-2000 Customer Service: 800-592-2000

Important Messages About Your Account

DEGENCE HITTING AN UNDERGROUND WHEE OR PPE CAN BE DANGEROUS. THAT'S WHY STATE LAW REQUIRES YOU OR YOUR CONTRACTOR TO CALL DIG SAVE AT 888-DIG-SAVE OR B11 AT LEAST THEE BUSINESS DAVS PHOR TO DIGGING. FOR MORE INORMATION, YEIT DIGSAFE.COM. YEIT THE "SAVETY" SECTION OF EVERSOURCE.COM FOR MORE IMPORTANT SAVETY INFORMATION.

Total Amount Due by 04/15/17

Electric Account Summary	
Amount Due On 03/14/17	\$36.35
ast Payment Received On 02/28/17	-\$37.00
Salance Forward	-\$0.65
Current Charges/Credits	
Electric Supply Services	\$26.00
Delivery Services	\$12.64
Other Charges or Credits	-\$1.08
Total Current Charges	\$37.56
fotal Amount Due	\$35.91

\$36.9

Total Charges for Electricity

-

Generation Service Charge	252 kWh X .10318	\$26.00
Subtotal Supplier Services		\$26.00
Delivery (Rate A2-RESIDENTIAL ASSIS	TANCE)	
Customer Charge		\$6.43
Distribution Charge	252 kWh X .05585	\$14.07
Transition Charge	252 kWh X00243	-\$0.61
Transmission Charge	252 kWh X .02308	\$5.82
Renewable Energy Charge	252 kWh X .00050	\$0.13
Energy Conservation Charge	252 kWh X .00432	\$1.09
Assistance Rate Discount		-\$14.29
Subtotal Delivery Services		\$12.64
Total Cost of Electricity		\$38.64
Other Charges or Credits		
NET METERING CREDIT		-\$1.08
Subtotal Other Charges or Credits		-\$1.08
Total Current Charges		\$37.56
		EM 170313 TXT

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Electric Usage Summary						
This month your average daily electric use was 7.6 kWh	This month you used 28.3% less than at the same time last year	28.3 % USAGE				

News For You

Join us at the Eversource Walk for Boston Children's Hospital on Sunday morning, June 11 at the DCR Hatch Shell in Boston. The annual walk raises funds to support the critical research, patient care and community health programs of the hospital. Visit BostonChildrens.org/Walk to register.

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