Increasing Access:
Low Income Community Shared Solar 101

Metropolitan Area Planning Council (MAPC)

April 26, 2017
Solar Webinar Series
Webinar Agenda

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

2. Webinar Attendee Poll
   Megan Aki, MAPC

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

4. CSS in Action – Newton’s Community Solar Share Initiative
   Andy Savitz, City of Newton

5. Q&A with all panelists
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
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?
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
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
Current Hurdles for CSS

• Communities in NGRID Territory
  – No net metering capacity available → 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 → 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 → move fast
Resources

• Mass. Specific
  – MA DOER CSS
    • www.mass.gov/eea/energy-utilities-clean-tech/renewable-energy/solar/community-shared-solar.html

• IREC (www.irecusa.org)
  – Model Rules For Shared Solar

• NREL

• DOE National Community Solar Partnership
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Newton Low Income Community Share Solar Initiative

Pilot Project
City of Newton
Community Share Solar Initiative (CoS Si)
Program Implementation

ABCD sends letter from Mayor Warren

Eligible Residents

Participate?

NO

No further action

YES

Eversource allocates credits

SCHEDULE Z

Newton compiles and submits Account #s

ABCD sends Electric Account #s to Newton

SCHEDULE Z

Discount appears on monthly bills

Update Schedule Z twice a year
City of Newton
Community Share Solar Initiative (CoSSi)
Illustrative Financial Assumptions

Elliot Street Solar Canopy
667,000 KWH/Year

Low Income Families
248,000 KWH/Year
- 60,000 NMC
- 1200 (est.) Low Income Households
  - $50 savings/household annually

City
422,000 KWH/Year
- 103,000 NMC
- City Electric Accounts
  - $2000 net savings for the City

*All dollar amounts illustrative only*
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