



Increasing Access Part II:

Expanding Access to Community Shared Solar In Your Community

Metropolitan Area Planning Council (MAPC)

June 28, 2017

Solar Webinar Series

Webinar Agenda

1

Brief Introduction to MAPC & the Clean Energy Department

Cammy Peterson, MAPC

2

Solar Access Program

Isaac Baker, Resonant Energy

3

Low- to Moderate-Income CSS & SEEDS2

Kelly Roache, Solstice

4

Affordable Access Initiative Opportunities

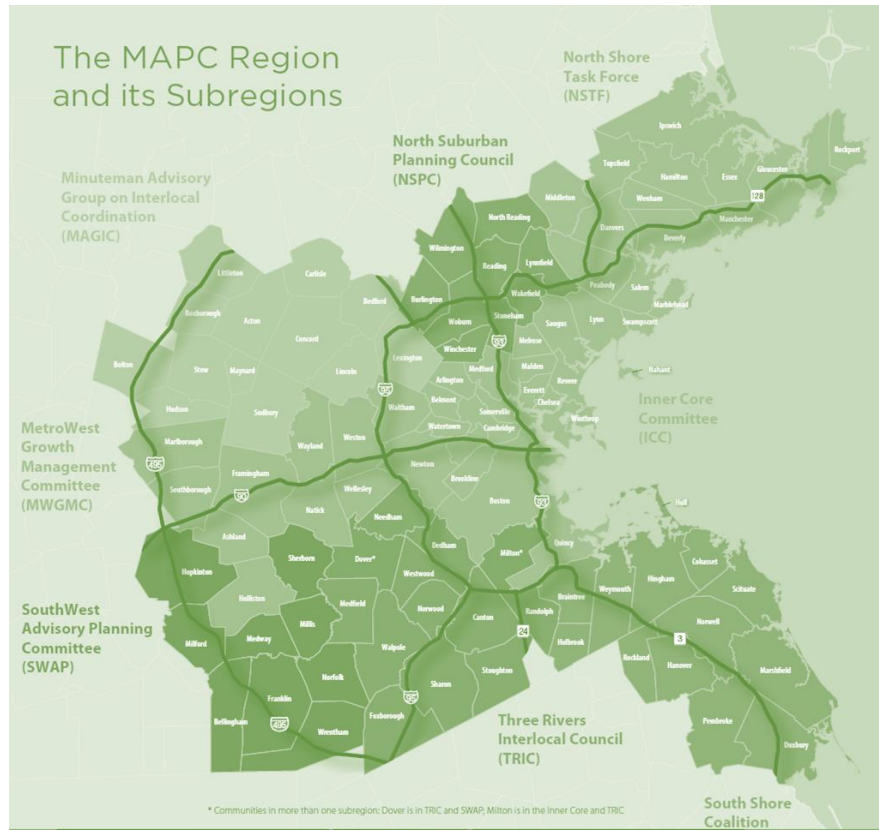
Filomania Falcucci, Department of Energy Resources

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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



Solar Opportunities & Resources

MAPC's Guide to Streamlining the Solar PV Permitting Process and Developing Supportive Zoning Bylaws

<http://mapc.ma/solarpermits>

The SolSmart Program, funded by the U.S. Department of Energy's SunShot Initiative

<http://mapc.ma/solmartprogram>

Municipal Solar Survey – let us know how we can help!

<http://mapc.ma/solarsurv>

Stay tuned for more upcoming opportunities!

Solar Access Program



**RESONANT
ENERGY**

June 28, 2017

Resonant Introduction

Mission: We are committed to making 100% clean energy an easy choice for 100% of people.

Background: We are a Massachusetts, community-based solar developer, with experience supporting houses of worship and nonprofits to go solar. B-Corp organization.

Focus: Expanding access to solar, and specifically working with houses of worship, nonprofits, low-moderate income homeowners to go solar solar affordably.

Impact: Working with communities around New England and New York to rapidly transition away from fossil fuels and build local clean energy alternatives.

Solar Solutions for All



We build local community partnerships around the Solar Access Program that allow us to reach people across income brackets.

Coalitions for Solar Access



Codman Square Goes Solar



Codman Square
Neighborhood Council



Epiphany



Second Church

Cambridge Solar Access Campaign



SOLSTICE



sunwealth

Sun For All Somerville



MOTHERS OUT FRONT
MOBILIZING FOR A LIVABLE CLIMATE



GROUNDWORK
Somerville

What are some of the barriers to expanding clean energy?

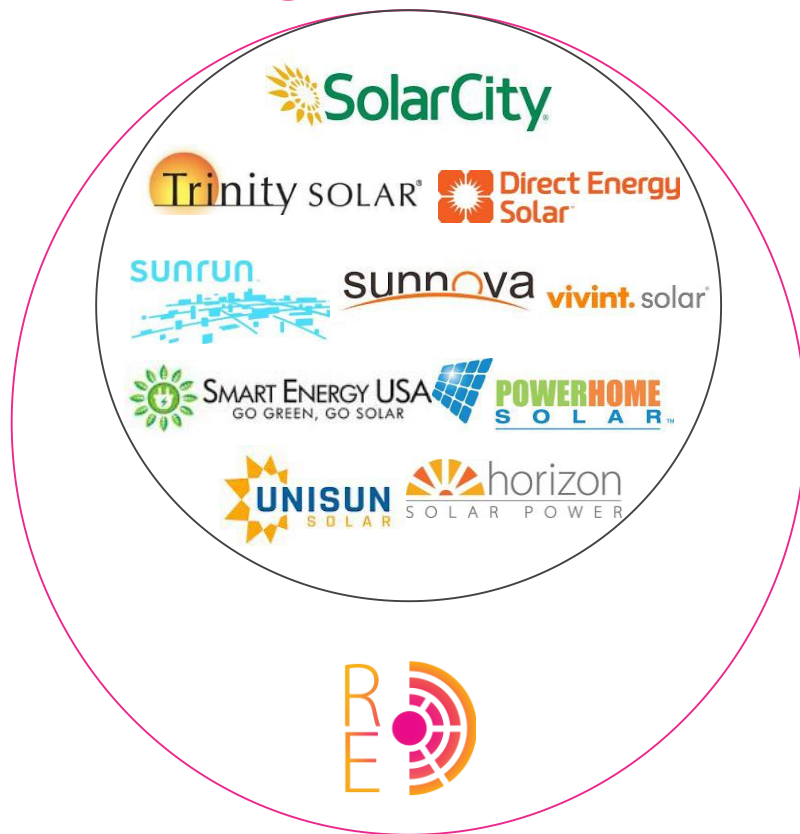
- **Financing.** Lack of access to capital and perceived credit risk prevent the growth of solar in low-moderate income communities.
- **Trust.** Many people distrust conventional solar developers as not having their community's best interest in mind.
- **Political Barriers.** Government agencies at local and national level do not have tools yet to meet social equity goals mandated for clean energy.
- **Physical Limitations.** Old buildings and absent landlords make solar installations on many urban rooftops a challenge.

Residential Financing Problem

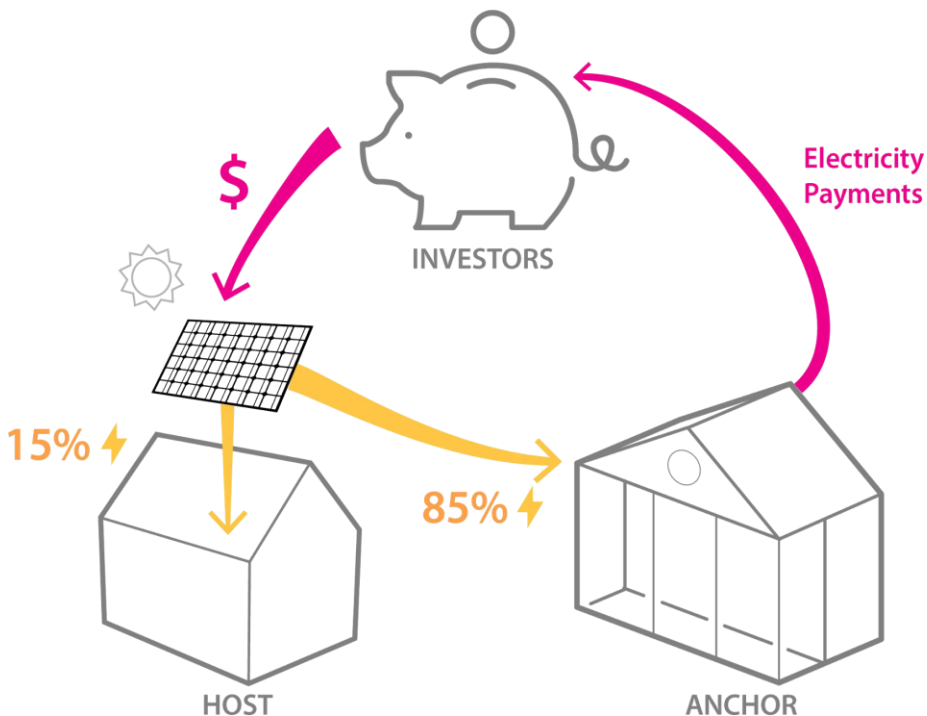
51% of U.S.

homeowners do not qualify for zero-down solar installations (PPAs) on the basis of credit score.

Result: Half the addressable market has no way to go solar.



Solution: The Solar Access Program



1. **FINANCE:**
Investors pay for solar array.
2. **HOST:**
leases roof for solar array; gets 15% solar output.
3. **ANCHOR:**
buys clean power (85% of solar output). Revenue from sales repays investor.

Thank You

Contact:

Isaac Baker - isaac@resonant.energy



Increasing Access: Implementing Low-to- Moderate Income Community Solar

Kelly Roache
Solstice
June 28, 2017

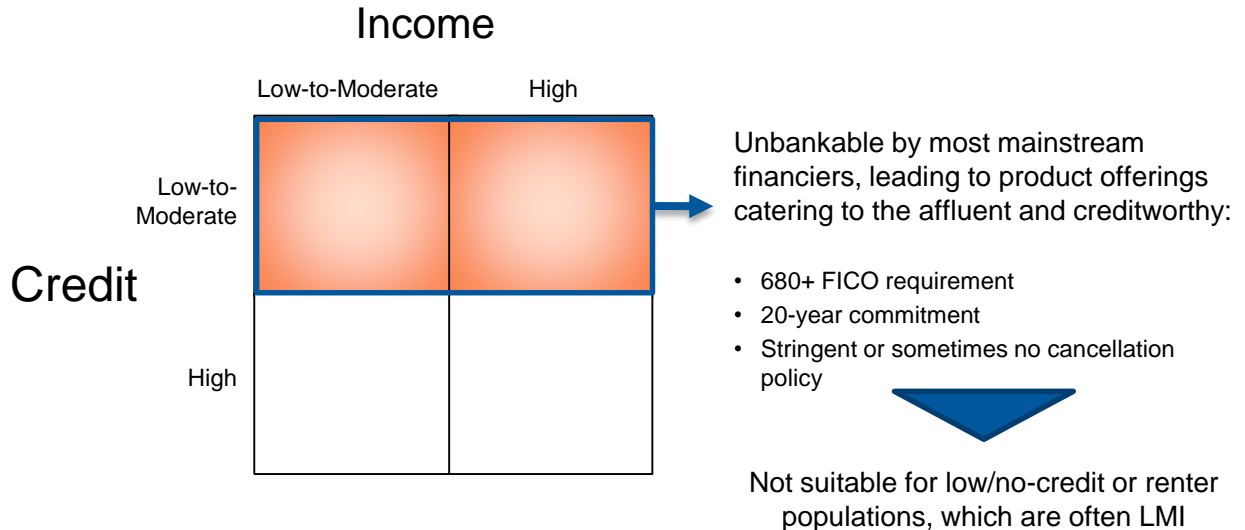
About Solstice

- Up to 80% of Americans are locked out of the rooftop solar market - particularly low-to-moderate income households and renters
 - Solstice is a New England-based social enterprise founded in 2014 to increase community solar deployment and uptake
 - Households support clean energy at no up-front cost and save >10% annually on utility bill
-

Setting the Scene

- Low-to-moderate income households face severely limited access to renewable energy.
 - These same households bear a disproportionate energy burden - even as costs decline.
 - Low-to-moderate income people bear the brunt of the ill effects of climate change.
 - Community solar can uniquely serve low-to-moderate income Americans, and is growing faster than ever.
-

Problem Definition



Creating Access, Growing the Market



Approximately 26 million Americans are credit invisible. Approximately 19.4 million Americans have credit records that cannot be scored.

Almost 30% of all consumers in low-income neighborhoods are credit invisible, and an additional 15% have unscored records. This means that approximately 5 million low-income consumers are credit invisible or have unscored records.

Source: Corporation for Enterprise Development's Excluded from the Mainstream: How the Economic Recovery is Bypassing Millions of Americans (2015)

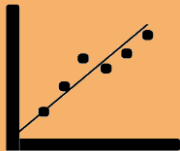
Consumer Financial Protection Bureau's Data Point: Credit Invisible (2015)

Dept. of Energy – SEEDS2

- Solar Energy Evolution and Diffusion Studies 2:
 - Scale LMI inclusion in community solar via alternative qualifying metric to FICO
 - SunShot Initiative grant awarded January 2017
 - Partnership with academics at MIT, Stanford University
 - Three year funding opportunity
-

Developing a Data-Backed Solution

Analyze existing data
to identify trends in
our target
demographic



Construct alternative
qualifying metric:
“EnergyScore”



Collect data through
pilot projects executed
with local partners



Financing Product Innovation

- Short-term contracts
 - Consumer-friendly and -protectionist
 - Serves LMI renter market
 - Reduces need for credit requirements
 - Direct credit support
 - Address bankability by guaranteeing performance
 - Solstice reduces administrative burden
 - Outreach, waitlist, subscription maintenance
 - Sustainable, scalable + replicable
-

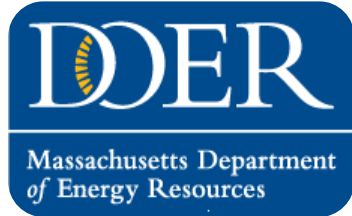
Questions + Follow-Ups

Kelly Roache

Senior Program Manager

Low-to-Moderate Income Inclusion

kelly@solstice.us



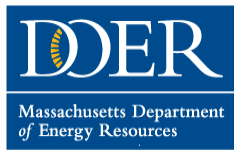
Affordable Access to Clean and Efficient Energy Initiative (AACEE): Update



JUNE, 2017

AACEE Initiative

- Goal: Increase access to clean energy and energy efficiency for low and moderate income residents
- Feb, 2016: Kicked off by Governor Baker - initiated an inter-secretariat working group
- Apr, 2017: Governor Baker announced final report with recommendations, \$15 million for programs to support goal



AACEE Working Group

- Goal: Identify key barriers and program/policy recommendations to increase access to clean energy for low & moderate income residents
- Steering Committee co-led by Energy and Housing Agencies
- 30 Stakeholders representing various interests
- 5 stakeholder meetings, April through August 2016
- Final Report outlines recommendations
- Ongoing collaboration to advance recommended actions

State Agencies

- Massachusetts Department of Energy Resources
- Massachusetts Department of Housing and Community Development

Public and Quasi-Public State Organizations

- Community Economic Development Assistance Corporation (CEDAC)
- Massachusetts Clean Energy Center (MassCEC)
- MassHousing
- Mass Housing Partnership
- Metropolitan Area Planning Council (MAPC)

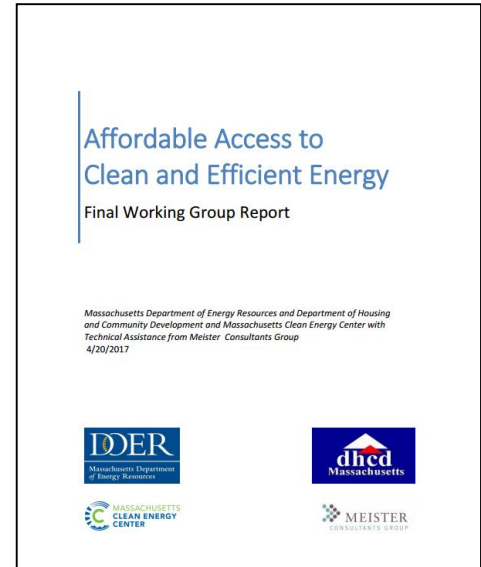
Private Stakeholders

- Boston Community Capital (BCC)
- Center for Sustainable Energy (CSE)
- Co-Op Power
- Energy Efficiency Program Administrators (PAs)
- Habitat for Humanity: Cape Cod
- Homeowner's Rehab, Inc. (HRI)
- Local Initiatives Support Corporation (LISC)
- Low Income Energy Assistance Network (LEAN)
- New Ecology (NEI)
- Preservation of Affordable Housing (POAH)
- Worcester Green Low Income Housing

Recommendations

32 Specific recommendations in final report

- Area 1: Maximize Clean Energy Opportunities at Key Times in the Affordable Housing Capital Cycle by Aligning Housing and Clean Energy Processes and Data
- Area 2: Support and Strengthen Clean Energy Market Growth and Demand in the Low and Moderate Income (LMI) Developer and Homeowner Community
- Area 3: Target and Structure Clean Energy Programs and Incentives to Better Serve Low and Moderate Income Residents



Currently Operating Programs – \$5 million

Renewable Thermal for Homes on Fuel Assistance (\$1.4 million)

- Provides secondary renewable heating source for those homes utilizing LIHEAP in areas without natural gas distribution
- Targets those most in need that are without opportunity for cheaper natural gas; creates local knowledge of renewable thermal technologies and installation

Low Income Clean Energy Challenge (\$2 million)

- Four grants that increase access to clean energy including whole building energy audits, technology optimization, innovative solar PV financing, and renewable thermal in low income homes
- Identified key low income barriers to clean energy; demonstrates replicable models; and addresses whole building challenges

Clean Heating and Cooling Rebate Adders for Low and Moderate Income (\$1.6 million)

- Increased adders for MassCEC's residential Clean Heating and Cooling program with additional funding for income-qualified residents
- Expanded existing and successful MassCEC program to low and moderate residents

DOER's New Affordable Access Programs, con't

Renewable Thermal in Public Housing Interagency Services Agreement with Dept of Housing & Community Development (DHCD), \$1.5 million

- Increase capital funding to state-owned public housing administered by DHCD for renewable thermal technologies and provides technical assistance to housing authority directors.
- Provides operational cost savings to state housing for lowest-income Massachusetts residents

Affordable Clean Residential Energy (ACRE) Challenge, \$3 million

- Grants through MassClean Energy Center (CEC) and DOER to develop replicable delivery models for renewable heating and solar PV in low income single family homes
- Model could be replicated by communities to overcome barriers to program delivery in low income populations, including customer identification and outreach

Green Communities – Affordable Access Regional Coordination (AARC) Grant Program, \$800,000

- Technical assistance and capacity building to local organizations for community-based programs to access existing clean energy incentives
- Builds capacity at local and community levels for continued access to clean energy programs

DOER New Affordable Access Programs (\$10 million)

Zero Energy Manufactured Homes Grant, \$1 million

- Proof of concept grant to replace low quality energy-wasteful manufactured homes, primarily found in rural communities, with zero energy modular homes
- Extends EE and renewable energy to very low income residents in manufactured homes which are ineligible for our current programs because of poor construction quality and health impacts
- Could use pilot to investigate use of federal USDA Rural Development Direct Loan funding for future zero energy manufactured home market growth

Whole Building Opportunity Funding, RFI, up to \$4 million

- Funding to subsidized housing projects that have identified energy cost savings through whole building comprehensive energy audits
 - Builds on Low Income Energy Challenge audit results
- Utilize project data from program to create permanent financing models
 - Enable underwriting of EE and RE measures by housing finance agencies and
 - Inform future EE program design and incentives

CSS Demonstration Project, delayed release, up to \$300,000

- Grant funding for pilot project to demonstrate new solar incentive for increasing solar PV access in low income rental community (coordinated with new SMART solar program)

SMART

Timeline

DATE	MILESTONE
September 23, 2016	Straw Proposal Released
June 5, 2017	Emergency Regs Filed
June 19, 2017	Beginning of Comment Period*
July 10, 2017	Westfield & Worcester Public Hearing
July 11, 2017	Boston Public Hearing
July 11, 2017	End of Comment Period

*Comments can be submitted as attached pdf files to emails addressed to DOER.SMART@state.ma.us, with the word SMART COMMENTS in the subject line

Tariff Pricing

- Tariff price to be established after a competitive procurement process
 - Solar Tariff Generation Units with a capacity between 1 MW and 2 MW, the Ceiling Price shall be \$0.15 per kWh. For Solar Tariff Generation Units with a capacity equal to or larger than 2 MW, the Ceiling Price shall be \$0.14 per kWh.

Generation Unit Capacity	Base Compensation Rate Factor (% of Clearing Price)
Low Income Solar Tariff Generation Units less than or equal to 25 kW AC	230%
Less than or equal to 25 kW AC	200%
Greater than 25 kW AC to 250 kW AC	150%
Greater than 250 kW AC to 500 kW AC	125%
Greater than 500 kW AC to 1,000 kW AC	110%

Tariff Adders

Generation Unit Type	Adder Value (\$/kWh)
Community Shared Solar Tariff Generation Unit	\$0.05
Low Income Property Solar Tariff Generation Unit	\$0.03
Low Income Community Shared Solar Tariff Generation Unit	\$0.06
Public Entity Solar Tariff Generation Unit	\$0.02

Generation Unit Type	Adder Value (\$/kWh)
Building Mounted Solar Tariff Generation Unit	\$0.02
Solar Tariff Generation Unit on a Brownfield	\$0.03
Solar Tariff Generation Unit on an Eligible Landfill	\$0.04
Canopy Solar Tariff Generation Unit	\$0.06
Agricultural Solar Tariff Generation Unit	\$0.06

- A Solar Tariff Generation Unit with a capacity larger than 25 kW AC can combine its Base Compensation Rate with no more than one Compensation Rate Adder
- A Solar Tariff Generation Unit with a capacity of 25 kW AC or less may only combine its Base Compensation Rate with the Energy Storage Adder

Solar Incentive Payment

$$\begin{aligned}
 &= (\text{Base Compensation Rate} + \text{Compensation Rate Adders} \\
 &\quad - \text{Greenfield Subtractor}) * \text{total kWh generated} \\
 &\quad - \text{value of energy generated}
 \end{aligned}$$

More Information

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[Link to AACEE webpage](#)

[Link to AACEE Report](#)

[Link to SMART Webpage](#)

[Link to SMART Emergency Regs](#)

[Link to Low Income Guidance Document](#)

Creating a Clean, Affordable and Resilient Energy Future for the Commonwealth



Q & A

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Thank You!

Presentation slides and recording will be made available
shortly after the webinar.