

SHW for a Cooler Climate:

Educating and Engaging Multifamily Building Owners and Operators

March 22, 2018

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Our Mission:

Accelerate the transition
to a sustainable world
powered by clean energy

Areas of Expertise



Building
Performance



Clean
Transportation



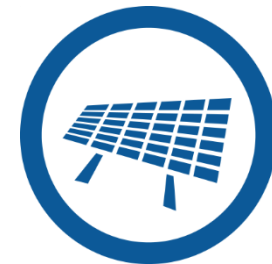
Distributed
Generation



Energy
Efficiency



Energy
Storage



Renewable
Energy

POWERED BY:



Commercial



Multifamily



Residential



Targeted Technical Assistance

- Hotels
- Restaurants
- Car Washes
- Laundries
- Breweries
- Hospitals
- Nursing Homes
- Community Centers
- Resorts
- Dairy Farms
- Multifamily Housing

Case Studies

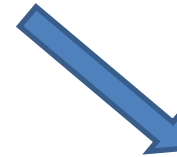
- 2 workshops w/contractors
- 3 webinars

Expanding Solar Thermal in the Residential Sector

- Market segmentation analysis
- Identify high ST potential communities
- Outreach
- Procuring some systems in muni facilities w/high loads

Multifamily Education & Outreach

Multifamily Engagement



www.NESHW.com
(781) 536-8633

Webinars & Workshops Objectives

- Deepen understanding of Solar Thermal Systems
- Walk through the process, from start to finish
- Provide solar thermal cost/rebate information

Financial Incentives



MassCEC Rebate



30% Federal Tax Credit (ITC)
Accelerated Depreciation (MACRS)



Alternative Energy Certificates

Small-Scale Rebate Structure

Type	Standard Rebate	Non-Profit/Public Entity Rebate	Multifamily Affordable Housing Rebate
Base Rebate Formula	SRCC OG-100 rating x # of collectors x \$50	SRCC OG-100 rating x # of collectors x \$100	SRCC OG-100 rating x # of collectors x \$150
Base Rebate Adders	If applicable: +Massachusetts Manufactured Component Adder (\$200) +Solar PV Co-location Adder (\$500)		
Maximum Rebate before Metering	30% of Eligible Project Costs, limited to \$10,000	50% of Eligible Project Costs, limited to \$20,000	75% of Eligible Project Costs, limited to \$30,000
Metering Adder	100% of metering equipment costs, limited to \$500		
Maximum Total Rebate	\$10,500	\$20,500	\$30,500

Please visit <http://www.masscec.com/solar-hot-water-0> for all eligibility and application requirements!

Large-Scale Rebate Structure

Type	Standard Rebate	Non-Profit/Public Entity Rebate	Multifamily Affordable Housing Rebate
Base Rebate Formula	SRCC OG-100 rating x # of collectors x \$50	SRCC OG-100 rating x # of collectors x \$100	SRCC OG-100 rating x # of collectors x \$150
Optional PV Co-location Adder	+\$500, if applicable		
Maximum Rebate Before Metering	30% of Eligible Project Costs, limited to \$100,000	50% of Eligible Project Costs, limited to \$100,000	75% of Eligible Project Costs, limited to \$100,000
Metering Adder	100% of metering equipment costs, limited to \$1,500		
Maximum Total	\$101,500		

Please visit <http://www.masscec.com/solar-hot-water-0> for all eligibility and application requirements!

AEC Eligibility in 2018

- AECs available for 10 years
- Available to projects built post 1/1/2015
- “Small” project pre-minted (paid 1st Quarter)
- Market Driven

System Size: (8) Collectors
Total System Cost: \$41,260

	2017	2018	
Mass CEC Rebate	\$23,060	\$22,116	(Affordable Housing)
AECs Sales Income	\$0	\$5,384	(\$15/AEC; 10 Yrs paid up front)
30% Federal Tax Credit	\$0	\$0	(Not allowed w/ Aff. Housing Rebate)
Bonus Depreciation (Year 1)	\$10,064	\$6,568	(21% Corporate Tax Rate 2018)
TOTAL:	\$33,124	\$34,068	

Case Studies

51 Allen Street Apartments



Project Summary

Location: Greenfield, MA

Application: Hot water for 16 market-rate apartments

Solar Collectors: 8 Thermopower VHP25 vacuum tube collectors

System Format: Closed loop, drainback with 3 x 100 gallon solar storage tanks

Backup System: Gas-fired boiler

Metering: Custom monitoring system

Yearly Energy Output: 40 MMBtu (est.)

Yearly CO₂ Reduction: 5,000 lbs. (est.)

Install date: April 2014

Install cost: \$31,000

Incentives: Rebate (\$8,664);
Federal Tax Credit (\$6,701);
Depreciation benefits (\$6,695)

Cost to Customer: \$8,940

Putnam Green

Project Summary

Location: Cambridge, MA

Application: Hot water for 40 multifamily affordable housing units

Solar Collectors: 10 Apricus evacuated tubes, Model AP30

System Format: Closed loop, drainback

Backup heating system: Indirect tank off high-efficiency heating boiler

Metering: SunReports/Grundfos flow meters

Yearly Energy Output: 1,554 therms/45,532.37 kWh

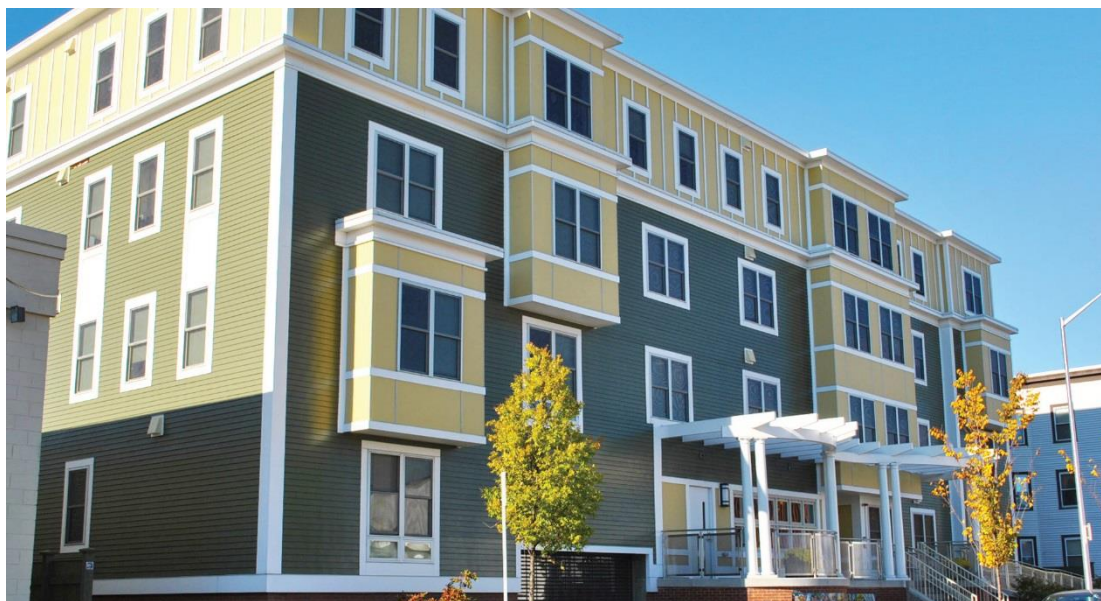
Yearly CO₂ Reduction: 23,756 lbs

Install date: 2011

Install Cost: \$82,212

Incentives: ARRA Grant (\$82,212)

Cost to Customer: \$0



Homeowner's Rehab, Inc. (HRI) is an affordable housing provider in Cambridge, MA

When building the Putnam Green Development, HRI qualified for a grant through the American Recovery and Reinvestment Act specifically for low-income multifamily low-income housing

Wales Street



Developer performed full gut rehab on building consisting on 12 condo-style units

Developer saw major reductions in energy usages at other properties due to solar thermal system installations and wanted to repeat that success at Wales Street

Project Summary

Location: Boston, MA

Application: Hot water for 12 Permanent Supportive Housing Units

Solar Collectors: 10 Apricus evacuated tube collectors

System Format: Drainback

Backup System: Bosch On-Demand Water Heaters

Metering: Thermal Grid

Yearly Energy Output: 1,554 therms

Yearly CO₂ Reduction: 23,756 lbs.

Install date: 2016

Install Cost: \$65,000

Incentives: CEC Rebate \$36,000

Cost to Customer: \$29,000

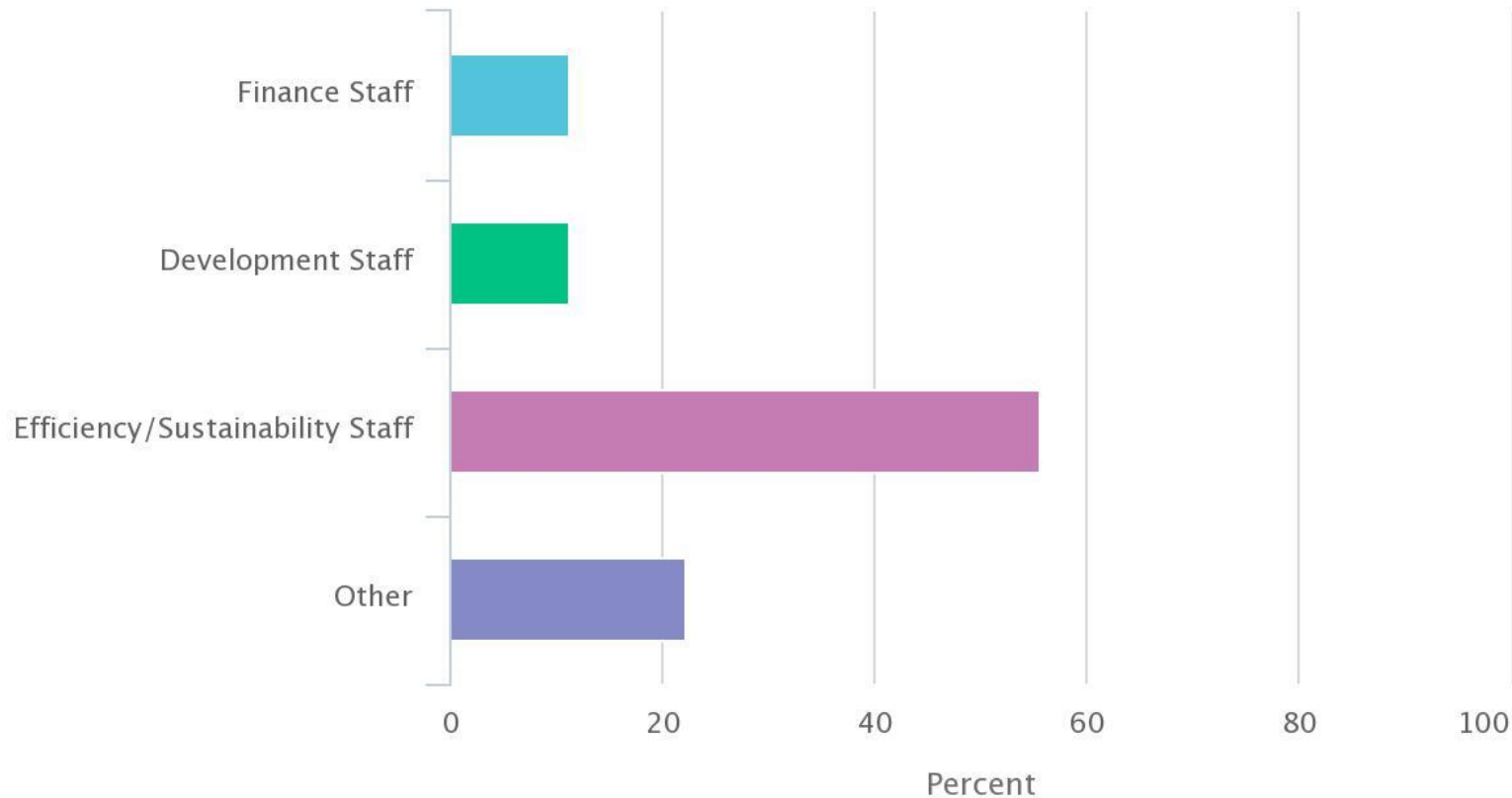
Outreach Outcomes to Date

Preliminary Results

- 3 Webinars and 2 Workshops hosted between November '17 and March '18
- Representatives from 63 organizations
- Post-event polls revealed increased interest in pursuing solar thermal installations
- Aware of three projects to date that are currently in progress

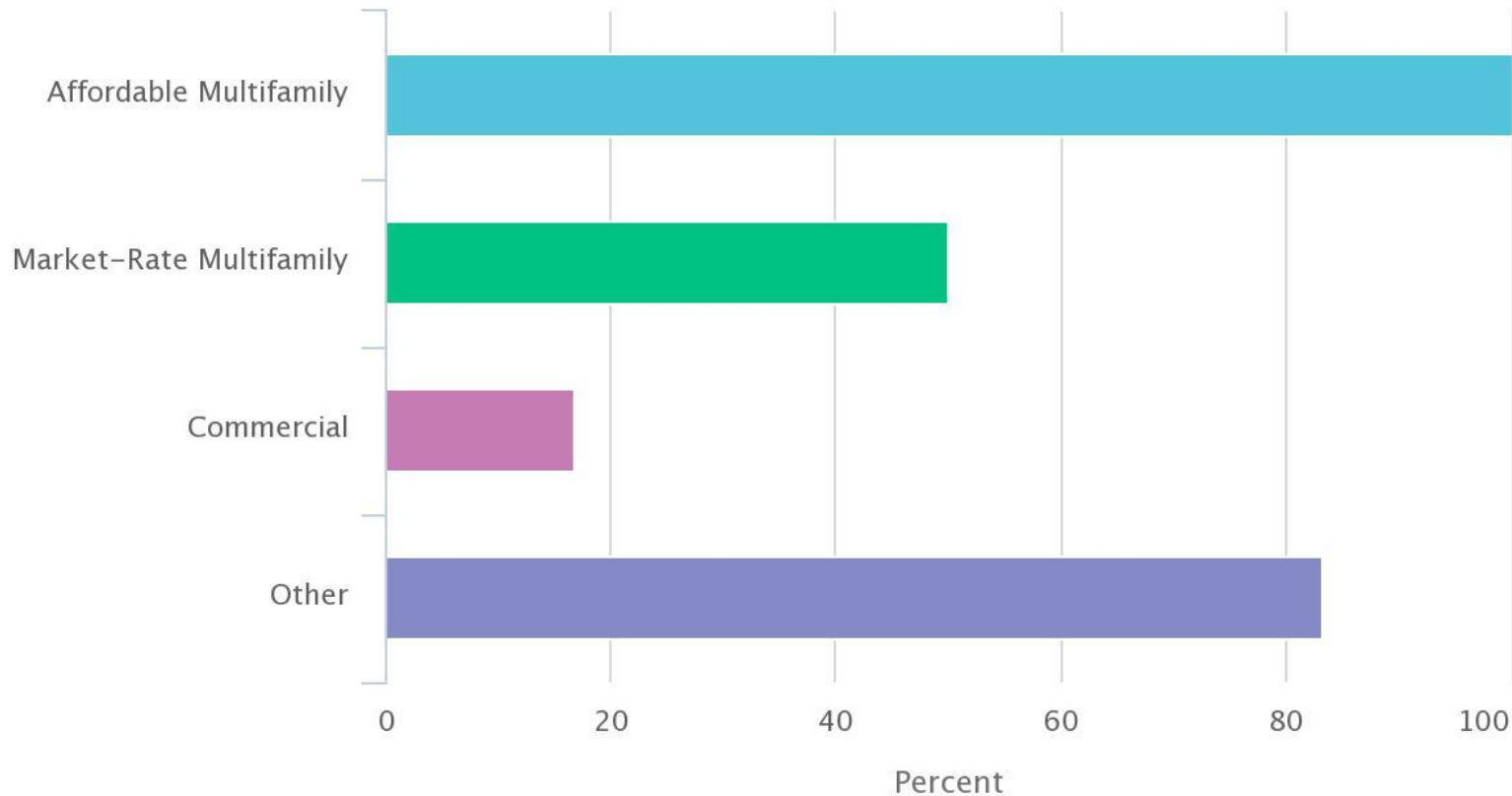
Insights

Which of the following best defines the role you play within your organization that prompted you to join this webinar?



Insights

What are the property types with which you are associated?
Please check all.



Next Steps and Lessons Learned

- Continue to promote educational resources
- Installer education and engagement key
- Opportunities for Multifamily Affordable Housing
- Solarize Campaigns and Municipal Climate Action Planning

Thank you



Center for
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