Affordable Access to Clean and Efficient Energy

Final Working Group Report

Massachusetts Department of Energy Resources and Department of Housing and Community Development and Massachusetts Clean Energy Center with Technical Assistance from Meister Consultants Group

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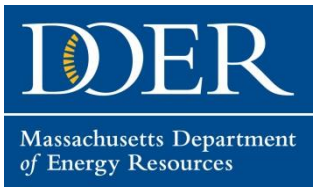

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In February 2016, the Baker-Polito Administration announced the Affordable Access to Clean and Efficient Energy (AACEE) Initiative, an inter-secretariat Initiative lead by the Executive Offices of Energy and Environmental Affairs and Housing and Economic Development.

Governor Charles Baker
Lieutenant Governor Karen Polito
Secretary of Energy and Environmental Affairs Matthew Beaton
Secretary of Housing and Economic Development Jay Ash

As part of this Initiative, Department of Energy Resources (DOER) and the Department of Housing and Community Development (DHCD) formed an inter-secretariat Working Group. This Working Group was made possible by the efforts of the Affordable Access Steering Committee, listed below:

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The Affordable Access Steering Committee Co-Chairs are pleased to share this report to accelerate the deployment of clean energy and energy efficiency to all residents of the Commonwealth.

Acronyms

	ORGANIZATIONS
AACEE	Affordable Access to Clean and Efficient Energy
AAT	Affordable Access Team
AAWG	Affordable Access Working Group
DHCD	Massachusetts Department of Housing and Community Development
DOER	Massachusetts Department of Energy Resources
MassCEC	Massachusetts Clean Energy Center
HUD	U.S. Department of Housing and Urban Development
DOE	U.S. Department of Energy
MASSCAP	Massachusetts Association for Community Action
LEAN	Low Income Energy Affordability Network
MCG	Meister Consults Group
LAA	Local Administering Agency
LHA	Local Housing Authority (also Public Housing Authority, or PHA)
RPA	Regional Planning Agency
PA	Energy Efficiency Program Administrator
	PROGRAMS AND INITIATIVES
LIHEAP	Low Income Home Energy Assistance Program
LIHTC	Low Income Housing Tax Credit
PACE	Property Assessed Clean Energy
QAP	Qualified Allocation Plan
CNA	Capital Needs Assessment
RPS	Renewable Portfolio Standard
SREC-II	Solar Renewable Certificates-II
APS	Alternative Portfolio Standard
AEC	Alternative Energy Certificate
RCS	Residential Conservation Services
ESI	Energy Storage Initiative
	OTHER TERMS
LMI	Low or Moderate Income
SMI	State Median Income
PV	Photovoltaic
EV	Electric Vehicle

Executive Summary

The following report summarizes the work completed by the Affordable Access Working Group (AAWG) and Steering Committee as part of Governor Baker's Affordable Access to Clean and Efficient Energy Initiative. The goal of the AAWG was to identify key barriers to low income access to clean energy and subsequent program and policy recommendations. The first meeting was held on April 5, 2016 and, after five monthly meetings, concluded on August 30, 2016. The included sixteen recommendations can be generally organized into the following key recommendation areas:

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

Recommendation Area 1: By aligning housing and clean energy processes, agencies and stakeholders can maximize opportunities for clean energy at key times in the affordable housing capital lifecycle. The AAWG identified multiple opportunities in housing and clean energy processes where opportunities could be captured including during the Capital Needs Assessment (CNA) utilized by the housing finance agencies, by building upon existing energy efficiency and renewable energy incentive programs, and through strengthening the energy aspects of the Qualified Allocation Plan (QAP) which allocates state and federal tax credits for subsidized housing. Multiple housing and clean energy processes also capture different datasets and program metrics. The AAWG recommends aligning this expertise and knowledge for effective program and policy development.

Recommendation Area 2: The AAWG identified several ways to foster and support clean energy demand within the low income community such as increased technical assistance, greater communication of clean energy benefits, and appropriate regulation. Technical assistance enables small portfolio owners and developers, municipalities, and residents to overcome knowledge barriers and increase their access to existing clean and efficient energy incentives. In order to communicate the benefits of clean energy technologies, the successes of existing clean energy projects should be measured and shared.

Recommendation Area 3: As new programs and policies are developed, funding should target very low income residents where there are significant barriers to clean energy. Low income

residents may have unique barriers to investing in clean energy and programs that address those barriers can most effectively increase access. This includes targeting state-funded public housing which serves very low income residents, designing grant programs to increase solar photovoltaics (PV) in low income communities, and understanding how new emerging technologies can be used by low income residents.

Introduction

In February 2016, the Baker-Polito Administration announced the Affordable Access to Clean and Efficient Energy (AACEE) Initiative in order to help low and moderate income (LMI) Massachusetts residents access cost-saving, clean, and efficient energy technologies. The three main components of this Initiative are (1) a $15 million commitment from the Massachusetts Department of Energy Resources (DOER) and the Massachusetts Clean Energy Center (MassCEC) for programs that increase access to clean energy and energy efficiency for LMI residents; (2) increased coordination between existing state-administered renewable energy programs with the Mass Save® energy efficiency programs, and (3) the creation of an inter-secretariat Working Group with representatives from the Massachusetts Department of Housing and Community Development (DHCD), DOER, and private and quasi-public stakeholder organizations representing low income housing and energy expertise. In addition to the working group meetings, a broad range of stakeholders provided input through survey responses. This report represents the final set of recommendations from this comprehensive effort.

1.1 Background

AACEE was established to expand access to money-saving clean energy and energy efficient technologies in order to reduce energy costs for LMI households. Low income populations tend to have a greater energy burden (a larger percentage of their income required to cover their energy costs), than higher income residents. DHCD analysis shows that households at or below the federal poverty level spend 10% of their income on home heating bills,[1] whereas, the average Massachusetts resident has a total energy burden, including both heating and electricity consumption, of between 2-3%.[2]

Addressing this disproportionately high energy burden for LMI residents requires a detailed understanding of low income housing, state and federal policies, and the barriers that affect access to cost-saving clean energy and efficient energy technologies for LMI residents. By reducing these barriers, implementation of these technologies can be increased and the energy burden of LMI residents can be reduced. In general, such barriers relate to lack of capital and lack of control or influence over home improvements. More specifically, many LMI homeowners do not have enough capital on-hand to purchase clean and efficient technologies (even though these technologies may save money in a relatively short payback period) and often have less access to conventional financing from a bank or credit union. In addition, many

[1] "Massachusetts Department of Housing and Community Development Low-Income Home Energy Assistance Program (LIHEAP) Fiscal Year 2012 Annual Report", pg. 8.
[2] 2009 Residential Consumption Survey Data, http://www.eia.gov/consumption/residential/data/2009/

LMI residents rent their homes and are thus reliant on landlords to make energy improvements. However, landlords are often unwilling to invest in such improvements, particularly when tenants pay their own utility bills and would therefore recoup the associated utility bill savings. This is often known as the split incentive problem. AACEE takes a first step at determining a path forward with recommendations to reduce these (and other) barriers and increase the penetration of cost-saving clean and energy efficient technologies in LMI homes in the Commonwealth.

1.2 Low and Moderate Income Population in Massachusetts

There is no universal definition for "low" or "moderate" income across all state or federal programs (Figure 1). In Massachusetts, some programs use an area median income (AMI) to determine income eligibility, while others use the state median income (SMI). In Massachusetts in 2016, the SMI for a single-person household was $55,210. For a family of four, the SMI was $106,173. For most energy assistance programs in the state, such as the federal fuel assistance program called the Low Income Housing Energy Assistance Program (LIHEAP), low income is defined as a household income of 60% SMI or less. In 2011, over 850,000 households, or approximately one third of the total households in Massachusetts, met this qualification. Moderate income households, defined as 60% of SMI to between 80-120% of SMI depending on the program, usually do not qualify for low income energy assistance but can still struggle from increased energy burdens and less access to energy cost savings. The recommendations in this report target both these low and moderate income residents.

Description	Up to % SMI	One-person limit	4-person limit
Qualifies for Mass Save® Low income programs	60%	$32,126	$62,727
Qualifies for LIHEAP assistance			
Qualifies for many "moderate and low income" SMI programs (such as Chapter 40B[3])	80%	$44,168	$84,938
100% SMI	100%	$55,210	$106,173
May qualify for some "moderate income" programs (such as Moderate Income Adders as part of the Mass Solar Loan)	120%	$66, 252	$127,407

Figure 1: 2016 Income thresholds for common restricted income program eligibility[4]

[3] Chapter 40B is a state statute, which enables local Zoning Boards of Appeals to approve affordable housing developments under flexible rules if at least 20-25% of the units have long-term affordability restrictions; see http://www.mass.gov/hed/community/40b-plan/

1.3 LMI Housing in Massachusetts

LMI residents in Massachusetts live in many different kinds of housing. AACEE identified the following property characteristics that must be considered when making recommendations or designing programs aimed at impacting low and moderate income housing.

i. **Property Size**
   - LMI housing encompasses all building sizes: large multifamily (50 plus units), smaller multifamily (5-50 units), and single family homes (1-4 units).

ii. **Income Mix**
   - LMI households can be found in 100% affordable properties, or in mixed-income properties. This income mix occurs both naturally and by design.

iii. **Geographic Location**
   - LMI housing is located in rural, suburban, and urban areas, though recent analysis by MAPC[5] suggests low income households are predominantly located in urban areas. Residents can have varying access to certain fuels, such as natural gas, for heating.

iv. **Resident/Property Ownership**
   - LMI housing can also be defined by the property owner and the financing used to develop the project.
     - Many low income residents live in rental housing developed without any state or federal subsidy and therefore with no affordability restriction. This housing, which generally commands lower rent because of location or quality, is referred to as "***naturally occurring" affordable housing***. This can include renters with Housing Choice (Section 8) vouchers who rent privately-owned units.
     - Other low income residents are renters in housing financed with state or federal housing subsidies that have affordability restrictions. The financing structures that define ***affordable housing*** are complex but can be generally split into public and private housing.
       - ***Public housing*** is directly funded by the state and federal government. These properties are managed by local housing authorities.
       - ***Private affordable housing*** can be developed by either non-profit or for-profit developers utilizing state and federal funding through grants, bonds, and tax credits. These properties have affordability restrictions and tenants pay a subsidized rent.

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[4] For a detailed list of income qualification and benefits, see Fiscal Year 2016 Low-Income Home Energy Assistance Program (LIHEAP) Income Eligibility and Benefit Levels;
http://www.mass.gov/hed/docs/dhcd/cd/liheap/incomeeligibility.pdf

[5] For a recent MAPC paper on the Metro Boston region see analysis by Tim Reardon et al at:
http://www.mapc.org/sites/default/files/MetroBostonPovertyAnalysis_10_07_13.pdf

- Low and moderate income residents also own their own homes. In some cases, these owner-occupants purchase or inherit their properties without affordability restrictions or, in other cases, purchase the home with a subsidy from an organization or government program.

v. **Housing Capital Lifecycle**
   - Housing capital lifecycle refers to the multiple stages in a building's "life", including planning, financing, construction, and maintenance. (These stages also apply to major rehabilitations of the building.) Major energy upgrades may be considered at key times in the housing capital lifecycle, e.g., during initial construction or during a "total retrofit" of existing housing (i.e., rehabilitation with improvements that affect more than 40% of the building's square footage). Energy upgrades may also occur in isolation, e.g., a single technology update such as replacing an aging boiler or adding solar panels.

vi. **Building Age**
   - New or recently constructed buildings face different challenges (and have access to different opportunities) than existing buildings, which have variable refinancing timelines and physical needs. Additionally, historic buildings tend to face additional regulations associated with retrofits and upgrades.

vii. **Utility Metering Configuration**
   - Some buildings have individual meters in each residential unit (meaning tenants are responsible for their individual energy bills), whereas some are master metered, in which case the building owner is responsible for the whole building energy use, and the tenants' energy costs are included in their rent.

While each of the above characteristics must be considered when developing programs and policies, the following four sectors highlight the complexity and diversity of low and moderate income housing.

Sector 1: Renters in Private Subsidized Housing (~65,000 units)

Subsidized housing refers to housing developments that have utilized city, state or federal funding to finance projects. This funding is provided to ensure that some (or all) units are restricted to LMI residents. The main forms of financial subsidy come from state and federal low income housing tax credits (LIHTC) and access to soft subsidies through the housing funding agencies, principally the Department of Housing and Community Development (DHCD). DHCD allocates the powerful resources such as the federal 9% and 4% tax credits and the state Low Income Housing Tax Credits,[6] as well as state subsidy bond programs and the federal HOME

[6] Affordable housing projects are competitively granted these tax credits and seek investors through intermediaries called syndicators. In exchange for development funding, investors receive the tax credits for 10

program.[7] In addition to DHCD, the Community Economic Development Assistance Corporation (CEDAC) and MassHousing also provide funding. To receive an allocation of either state or federal LIHTCs, the developer must meet the criteria set forth in DCHD's Qualified Allocation Plan (QAP), a document required by the U.S. Treasury, which governs the allocation of LIHTCs. Global Green, in its 2016 analysis of the Green Building Criteria of state QAPs, ranked Massachusetts' QAP as a B+, the scorecard identified a few areas with opportunities to improve.[8] When applying for financing from a housing funding agency for an existing property retrofit or rehabilitation, a developer must submit a capital needs assessment (CNA), which outlines the project components. All of these housing funding programs have requirements that a minimum percentage of the buildings units be restricted to low income residents. In subsidized housing, the rent, which often includes utility payments, is capped at a fixed amount or a certain percent of income and the difference between this rent and market rent is subsidized. There are approximately 65,000 units of subsidized housing in DHCD's portfolio funded with a combination of federal and state funds. The majority of this housing is multifamily rental units located across the state in buildings of various ages. Energy upgrades in these properties are complicated by utility payment structure, limitations on owner profit, limited capital budgets and more, but many owners are interested in upgrading their properties to reduce energy costs and operating budgets and invest in capital improvements. Often the most advantageous time to look at comprehensive improvements is when a property is approaching recapitalization or refinance.

Sector 2: Renters in Public Housing (~45,000 state-sponsored units, ~37,000 federal-sponsored units))

In addition to private subsidized housing, the state and federal government directly funds and administers public housing which is operated and managed by local housing authorities (LHA).[9] Massachusetts has approximately 45,000 units of state-sponsored public housing, the majority of which house the elderly, disabled, or ill, with the remaining units for families. In addition, the LHAs also manage the 37,000 federally funded public housing units. Public housing is also generally multi-unit buildings with tenants. Some of these tenants pay their own utility bills while many have their utilities included in a rental payment. As with subsidized housing, many residents are not incentivized to invest in energy saving technologies because of the split

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years. For more information on LIHTC, see http://www.mass.gov/hed/housing/affordable-rent/low-income-housing-tax-credit-lihtc.html

[7] For more info on the federally funded HOME program, see http://www.mass.gov/hed/housing/affordable-rent/home-investment-partnerships-program-home.html

[8] https://static1.squarespace.com/static/5548ed90e4b0b0a763d0e704/t/57f692a403596e4942b96612/1475777194555/2016_QAPReport_Template_MG-10-41.pdf

[9] For a list of Massachusetts Local Housing Authorities, please see http://www.mass.gov/hed/economic/eohed/dhcd/contacts/local-housing-authority-listing.html

incentive and, in some cases, have their utility costs as part of their fixed rent payment; however, the LHAs are incentivized to reduce their energy costs in order to reduce their operating budgets. The state is also incentivized to reduce energy costs because it subsidizes the cost of utilities for LHA that cannot cover operating expenses due to inadequate rents.

Sector 3: Renters in Naturally Occurring Affordable Housing (~450,000 units)

Unlike higher income residents who are more often home owners, low income residents are more likely to be renters (Figure 2). As there are over 850,000 low income households in Massachusetts and only approximately 100,000 subsidized and public housing units, almost 90% of low income residents either live in naturally occurring affordable housing, which is less expensive due to location and quality, or are homeless. In naturally occurring affordable housing, tenants do not have subsidized rents and are responsible for all their own utility costs. Like other tenants, they often cannot independently invest in energy saving improvements to their property.

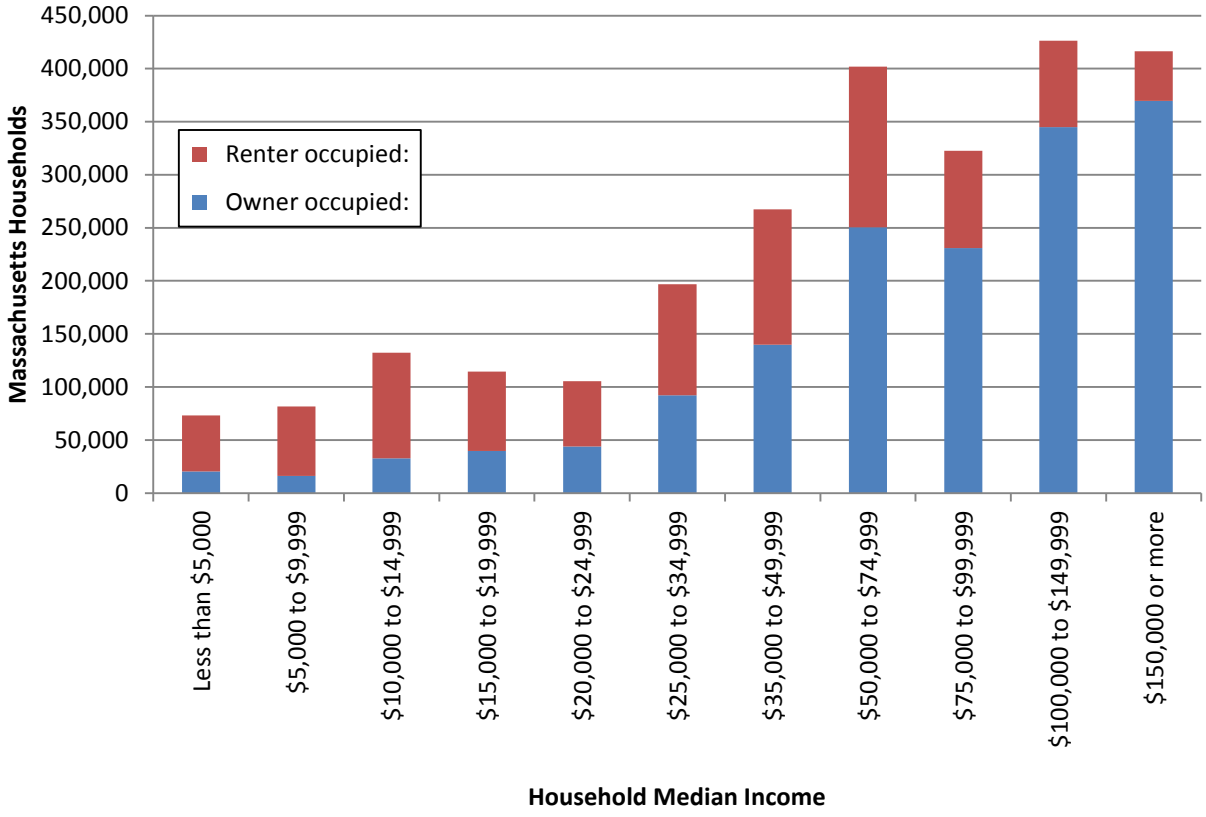

Figure 2: Massachusetts Renters/Owner Occupants by Income[10]

[10] Source: American Community Survey 2003-2009

Sector 4: Owner Occupied Housing (~250,000 Units)

While low income residents tend to be renters, there are a considerable number of low income housing units that are owner-occupied. The rate of owner-occupancy is often higher in suburban and rural areas where property values are lower. These homes are also frequently older and less energy efficient, resulting in greater energy consumption and a larger energy burden. Low income owner occupants have control over their properties and could invest in energy saving improvements but are often limited by availability of capital.

1.4 Renewable Technology Incentives and Programs

Renewable energy technologies can capture renewable resources, such as wind and solar radiation, to generate either electricity or useful thermal energy. The Renewable Energy Division of DOER has worked with MassCEC to promote renewable energy generation in Massachusetts, resulting in successful programs that have advanced clean energy technologies such as solar photovoltaics (PV), renewable heating and cooling technologies such as high efficiency cold climate air source heat pumps (ASHP), and biomass pellet stoves and boilers.

As of the date of this report, the following incentive structures are available for renewable technologies.

Solar PV technologies are incentivized through the state's Renewable Portfolio Standard (RPS) with the Solar Carve-Out II program. This program assigns one solar renewable certificates (SREC II) to 1MWh of qualified generation.[11] Owners of qualified generation receive payment for their SRECS from electric utilities and suppliers who must purchase SRECs to comply with RPS obligations.[12] Some solar PV generation receives a discounted SREC II value, including ground mounted solar greater than 25kW. Owners of larger systems wishing to receive the full SREC II value can do so when they demonstrate that "100% of the power or net metering credits from the PV system are being sold to an entity that qualifies as low or moderate income housing."[13]

In addition to SRECs, solar PV owners are also eligible for net-metering which provides either full or partial retail credit for excess solar generation that is supplied to the grid. The amount of net-metered generation is capped at a percentage of each utility service territory, while residential net-metering is exempt from any cap. Both the solar incentive and net-metering value and cap are defined by the Massachusetts legislature. The most recent legislative action

[11] http://www.mass.gov/eea/energy-utilities-clean-tech/renewable-energy/solar/rps-solar-carve-out-2/about-solar-carve-out-ii.html
[12] http://www.mass.gov/eea/energy-utilities-clean-tech/renewable-energy/solar/rps-solar-carve-out-2/about-solar-carve-out-ii.html
[13] http://www.mass.gov/eea/docs/doer/rps/srec-ii-faq.pdf

on the solar incentive and net-metering was on April 11, 2016 when Governor Baker signed *An Act Relative to Solar Energy* which called on DOER to develop a new solar incentive after reaching the goal of 1600 MW of solar development. This Act also increased the net-metering caps and decreased the value of net-metering for commercial solar projects.[14] In September 2016, DOER released a straw proposal for the new solar incentive. Following that, DOER engaged in an extensive stakeholder process, resulting in the release of an updated solar incentive program design and SREC II transition plan on January 31, 2017.[15] DOER will continue to engage with stakeholders as part of the formal regulatory process. DOER's Renewable Division operates the RPS and qualifies systems for SRECs. The Department of Public Utilities (DPU) operates and qualifies systems for net-metering.

Renewable thermal technologies will soon be incentivized through the state's Alternative Portfolio Standard (APS). Similar to the RPS and SREC II, qualified thermal energy generation, often measured in British thermal units (BTUs), will be assigned an alternative energy certificate (AEC). As of the date of this report, DOER is in the process of rulemaking to promulgate regulations to include renewable thermal in the APS as directed by the legislature.[16]

DOER and MassCEC have and continue to design and operate multiple programs to increase the amount of renewable energy generation in Massachusetts. These have included programs that target residential solar ownership including the community-based Solarize program[17], the Commonwealth Solar Rebate[18], and the Mass Solar Loan.[19] The Solarize Massachusetts Program is run in partnership by MassCEC and DOER in order to drive community adoption of solar PV projects through a group purchasing model that includes a tailored community-based marketing effort. Municipalities select a certified installer to provide solar services to the entire municipality through a competitive bidding process. By aggregating homeowner buying power, this program provides lower installation costs to participants.[20]

The Commonwealth Solar Rebate program, which provided per-watt rebates for qualifying residential solar installations, has been phased out and replaced with the Mass Solar Loan as a DOER and MassCEC's residential solar ownership program. A 2013 DOER study found that both individuals and the Commonwealth realize greater financial benefit through direct solar

[14] *An Act Relative to Solar Energy*, Session Law Acts of 2016, Chapter 75; see https://malegislature.gov/Laws/SessionLaws/Acts/2016/Chapter75

[15] For more information on the Next Solar Incentive Straw Proposal, see http://www.mass.gov/eea/energy-utilities-clean-tech/renewable-energy/rps-aps/development-of-the-next-solar-incentive.html

[16] https://malegislature.gov/Laws/SessionLaws/Acts/2014/Chapter251

[17] http://www.masscec.com/get-clean-energy/residential/solarize-mass

[18] http://www.masscec.com/commonwealth-solar-ii

[19] http://www.masssolarloan.com/

[20] http://www.masscec.com/get-clean-energy/residential/solarize-mass

ownership than through third party ownership.[21] By working with banks and credit unions, the program seeks to expand borrowing options through lower interest rate loans and to encourage loans for homeowners with lower income or credit scores in order to make it easier for homeowners to finance solar electric projects on their homes. [22] The program provides three types of loan support: interest rate buy down, income based loan support, and loan loss reserve. In turn, the lenders offer fixed-rate loans that meet the program guidelines.[23]

In addition to these solar PV programs, both DOER and MassCEC operate programs to increase the amount of renewable thermal generation. This includes the Schools and Public Housing Integrating Renewables and Efficiency (SAPHIRE), a grant program that funds technical assistance and implementation of clean energy projects in schools and public housing.[24] MassCEC operates the Clean Heating and Cooling rebate program that provides rebates for qualifying renewable thermal technologies such as ASHP, biomass heating, ground source heat pumps, and solar hot water. As part of the AACEE, in February 2016, MassCEC added or increased existing low and moderate income rebate value for the Clean Heating and Cooling Program. Both DOER and MassCEC operate pellet stove programs targeting low income households receiving fuel assistance and the woodstove change out program to increase pellet stove efficiency.

1.5 Energy Efficiency

Massachusetts' statewide energy efficiency (EE) program is administered by the investor-owned electric and gas companies and the Cape Light Compact, collectively referred to as Program Administrators (PAs), and delivered under the Mass Save® brand. These programs are developed in collaboration with the Energy Efficiency Advisory Council, chaired by the DOER. From 2016-2018, these programs are expected to result in almost $8 billion in benefits, including energy cost savings, to ratepayers. Massachusetts has been ranked the number one state for energy efficiency policy by the American Council for an Energy Efficient Economy (ACEEE) from 2012-2016.

By Massachusetts law, 10 percent of the state's electric EE budget and 20 percent of the gas EE budget is directed to programs for low income residents. These programs are delivered by the Low-Income Energy Affordability Network (LEAN), a collection of nonprofit organizations, to income-eligible properties. These funds are combined with other federal and state funds,

[21] For more information see: http://www.mass.gov/eea/docs/doer/rps-aps/solar-consultants-report-final-task-4-093013.pdf
[22] http://www.mass.gov/eea/energy-utilities-clean-tech/renewable-energy/solar/residential-solar-loan-program.html
[23] For more information see: Mass CEC, "Mass Solar Loan Program Update," Mass CEC Board Meeting, May 2016.
[24] http://www.mass.gov/eea/energy-utilities-clean-tech/renewable-energy/renewable-thermal/saphire-program-renewable-heating-energy-efficiency.html

including the federal Weatherization Assistance Program (WAP) and programs from the federal Department of Housing and Urban Development (HUD) to provide comprehensive weatherization, and electric and gas efficiency improvements for 1-4 family and multifamily properties. In 2017, LEAN will oversee the delivery of approximately $120 million of ratepayer and federal funds for low income weatherization and energy efficiency programs.

Typical energy efficiency measures installed through the low income programs coordinated by LEAN include: insulating and weatherizing homes, installing more efficient lighting, heating equipment and controls, and domestic appliances, depending on the home and program budget.[25] Some renewable thermal technologies, such as air source heat pumps, may qualify for subsidization through Mass Save and LEAN.

In 2016, the Massachusetts Program Administrators launched two additional services that target LMI households in 1-4 family buildings. The Renter Initiative provides renters with tailored home visits and instant savings measures such as LED bulbs and smart power strips. In addition, the initiative strives to contact landlords in order to install more whole-building measures. The Moderate Income Initiative provides moderate-income-eligible residents with a higher level of incentive for typical Mass Save® energy efficiency measures. In addition, through the Mass Save® energy efficiency programs, 1-4 family homeowners and condo owners with good credit scores[26] can utilize the HEAT Loan to receive a 0% interest loan for the installation of qualified energy efficient improvements in their homes. Depending on the Program Administrator and the loan provider, people can qualify for a loan of up to $25,000 with terms up to seven years. The loans can be used for a variety of improvements including heating system replacements, domestic hot water and solar hot water heaters, central air conditioning and heat pumps, and insulation and replacement windows. There is also an Expanded HEAT Loan, administered by DOER, which includes high efficiency wood pellet boilers, deeper energy retrofits, an increased loan amount for 2-4 family homes, and grants to remove asbestos, vermiculite, and to upgrade knob and tube wiring.[27] These loans offer homeowners the opportunity to purchase energy and cost-saving technologies that they do not have the upfront capital to purchase outright.

Also in 2016, the Massachusetts legislature passed *An Act Relative to Energy Diversity,* which establishes a commercial Property Assessed Clean Energy (PACE) program.[28] The PACE program

[25] For more information see: http://www.mass.gov/eea/energy-utilities-clean-tech/energy-efficiency/ee-for-your-home/

[26] HEAT loan lenders typically require that a credit score threshold be met in order to qualify for the zero interest HEAT loan product.

[27] http://www.masssave.com/en/residential/heating-and-cooling/offers/heat-loan-program

[28] https://malegislature.gov/Bills/189/House/H4568

will be administered in partnership between MassDevelopment and DOER. PACE builds on the current commercial energy efficiency programs by enabling commercial and industrial property owners to finance both energy efficiency and renewable energy investments. This innovative financing mechanism allows the owners to repay the loan through a property tax assessment on their building.[29] DOER and MassDevelopment are developing guidelines for program implementation and will engage stakeholders in this process throughout 2017.

1.6 Other Technologies

Both DOER and MassCEC promote the development of new technologies that can provide greater system efficiency, cost savings, system security, and clean energy. As the technologies mature, many DOER and MassCEC programs and incentives will fund projects that demonstrate these technologies' applications and functionality. One currently maturing technology is energy storage. In May 2015, DOER and MassCEC announced the Energy Storage Initiative (ESI). This Initiative includes the release of a report highlighting the benefits of energy storage to the Massachusetts energy system and $10 million in funding for demonstration projects. In addition to the ESI, DOER and the Executive Office of Energy and Environmental Affairs (EEA) are pursing aggressive electric vehicle (EV) policies. In 2014, the Massachusetts Electric Vehicle Task Force was convened and released the Zero Emission Vehicle Action Plan30 recommending actions to jumpstart zero emission vehicle adoption in Massachusetts. Following this Action Plan, EEA and DOER began a number of programs including MOR-EV vehicle rebate program,[31] Massachusetts Clean Cities public infrastructure program,[32] and grants for charging stations.

Affordable Access Recommendations

1.7 Working Group

The Affordable Access Working Group (AAWG) is one of the main components of the Baker-Polito Affordable Access Initiative. In order to identify recommendations for increasing the use of clean and efficient energy with Massachusetts LMI residents, Governor Baker directed EEA and HED to convene an inter-secretariat working group with a diverse group of public and private stakeholders. The AAWG, jointly chaired by senior officials representing both the energy and housing Secretariats, was convened to discuss, develop, organize, and prioritize recommendations for a diverse range of LMI residents and housing with stakeholder

[29] http://www.mass.gov/governor/press-office/press-releases/fy2017/governor-baker-signs-comprehensive-energy-diversity-law.html
[30] http://www.mass.gov/eea/docs/ma-zero-emission-vehicle-commission-and-mass-drive-clean-campaign/massachusetts-zev-action-plan.docx
[31] http://www.mor-ev.org/
[32] http://www.mass.gov/eea/energy-utilities-clean-tech/alternative-transportation/clean-cities-coalition.html

representatives for public and private subsidized housing, non-profits and for-profit developers, residents in naturally occurring affordable housing, and experts in multiple technologies. The working group was coordinated by a Steering Committee of DOER, DHCD, and MassCEC representatives with assistance from Meister Consultants Group (MCG). For a list and description of the organizations in the AAWG, please see Appendix A.

The AAWG met monthly from April through August, 2016. MCG facilitated discussion on specific topics. MCG and the Steering Committee recorded notes at each meeting and met regularly to summarize the stakeholder feedback. To ensure that all AAWG members' perspectives were captured as the recommendation list was developed, the Steering Committee reached out to a representative from each organization for specific feedback.

In addition, the Steering Committee sought input from a wider audience through the Affordable Access Newsletter. The Newsletter, which was distributed to a national stakeholder group, provided information about topics being discussed by the working group and included survey questions on those topics. The survey responses provided the Steering Committee with additional perspectives on topics being discussed and were used to develop the recommendations.

1.8 Introduction

Based on input from the AAWG and Newsletter, this report summarizes recommendations for making clean energy and energy efficiency more accessible to LMI residents, including recommendations for DOER, DHCD, and MassCEC. This report represents only the first step in identifying areas for further development, and additional work is needed to implement these recommendations including identifying funding where needed and working with agencies and stakeholders to further develop programs and process changes. These recommendations reflect consensus, but were not unanimously recommended by the AAWG.

The recommendations are intended to be both (1) actionable (i.e., implementable by agencies or stakeholders given both cost and agency/stakeholder authority/ability) and (2) impactful to the low and moderate income community considering the scope and implementation timeline. The AAWG focused on recommendations that could be implemented or have concrete next steps within two years after release of this report. In considering whether a recommendation was actionable, the Steering Committee focused on challenges to implementation, including the number or complexity of processes that would need to be altered, and the cost to implement, including both the funding and staff needed to successfully implement the recommendation. Although the following recommendations represent the prioritized areas for further development, we expect that not every recommendation will be deemed feasible or appropriate for implementation.

1.9 Recommendations

Recommendation Area 1: Maximize Clean Energy Opportunities at Key Times in the Affordable Housing Capital Cycle by Aligning Housing and Clean Energy Processes and Data

Objective: Identify opportunities for clean energy at key times in low income housing lifecycle by aligning housing and clean energy timelines and processes

1. Develop strategies to identify whole-building energy opportunities in subsidized multifamily housing at times where the building owner/developer is making decisions about investing in the building's structure or operation. Whole building energy opportunities include both energy efficiency and renewable energy technologies and building improvements needed to support those technologies (e.g., HVAC distribution system improvements, maintenance and deferred maintenance measures.) Such strategies include:

- **In conjunction with the capital needs assessment (CNA) required for financing housing projects, conduct a whole building energy assessment that considers both renewable energy (RE) and energy efficiency (EE) opportunities so as to facilitate implementation of holistic, cost-saving EE/RE solutions.** The CNA provides an opportunity to assess building conditions and opportunities for capital investment and improvement. Whole building, holistic energy assessments that consider both renewable energy (RE) and energy efficiency (EE) opportunities, including their impact on energy cost and use, in conjunction with or prior to the CNA, will help projects identify holistic EE/RE solutions that reduce life-cycle operating costs and improve asset longevity. The scope and funding of this whole-building energy assessment must be determined by each individual financing agency with assistance from DOER and other stakeholders.

- **Develop and test a whole building, performance-based approach to determining and providing energy efficiency and renewable energy incentives during refinancing, recapitalization, or other building improvement projects in order to maximize energy improvements.** Recapitalization or major renovation events represent the best time to address comprehensive energy improvements, and a whole building energy assessment (i.e., an assessment that considers both RE and EE opportunities, including their impact on energy cost and use) is the best way to identify holistic, cost-saving energy solutions. This should be paired with **a performance-based approach to providing incentives for the EE and RE strategies identified through a whole building assessment.** This type of approach (to providing incentives) means that incentives are

based on reductions in energy use calculated or modeled prior to installation or implementation (i.e., incentives are not specific amounts per measure). It provides maximum flexibility for customized EE/RE solutions (as opposed to pre-determined, measure-specific strategies.) Through a pilot program, this approach could be integrated into refinancing, recapitalization, or other building improvement processes, including those that involve a CNA or the QAP. In such a pilot, incentive amounts should be communicated to owners, developers, and lenders in a timely way (i.e., so that they can be factored into project budgets), and owners/developers should receive funds before technologies are installed and implemented.

- **Consistent with the recommendations from the LEAN/Energy Efficiency Program Administrator/housing finance agency working group, LEAN should work to accept third party energy audits by qualified energy auditors for determining Mass Save ® incentives**. A whole building energy assessment, performed by a qualified energy auditor, should also identify energy efficiency measures that Mass Save will fund, and owners/developers should not have to obtain a separate energy assessment in order to identify such measures and funding amounts. This will streamline the process for owners/developers and lenders, thus facilitating implementation of cost-saving, energy efficiency technologies.

2. Update the relevant sections of the Qualified Allocation Plan (QAP), to more effectively incentivize and capture opportunities for energy efficiency and renewable energy. This identification process should 1) consider best practices from other states, as well as from Massachusetts practitioners; 2) consider modifying the QAP to further incentivize high performance buildings that will result in lower long-term operating costs; 3) continue the process of updating performance and/or design standards as part of the QAP, such as those set forth in the Enterprise Green Communities criteria. QAP energy recommendations should be informed by metrics or experiences from new or existing low income housing projects in Massachusetts. This review should consider funding sources for any additional requirements to the QAP. Recognizing that the QAP considers multiple aspects of housing policy, any stakeholder group convened to discuss broad QAP changes should represent various housing and energy policy interests.

3. Time the availability of renewable energy incentives to align with municipal timelines. For large developments there is a limited window of opportunity to take advantage of renewable energy incentives because significant capital can only be obtained at construction or major rehabilitation. For municipally-funded projects that are capitalized through municipal budgets approved at town meeting, renewable energy incentives should be available at the time of initial finance or refinance. When possible, renewable incentives should either be

directly coordinated or communicated in conjunction with energy efficiency incentives at the time of capital investment and/or provided on a long term or rolling basis.

4. Identify opportunities to further leverage federal affordable housing and clean energy funding and programs. These may include programs through the Department of Housing and Urban Development (HUD), for example the Renew300 Initiative advancing renewable energy in affordable housing and the Better Buildings Challenge with HUD and the Department of Energy (DOE). This effort should extend to opportunities in federally funded affordable housing. When possible, available federal funding should be coordinated with available state funding to maximize energy savings.

Objective: Agencies and stakeholders should share program metrics, program data, and expertise to develop and implement effective policies and programs.

5. Develop and utilize common metrics to evaluate the effectiveness of residential energy policies and programs serving the low and moderate income (LMI) population. Agencies should then consider these metrics when developing data reporting requirements associated with programs, and should align data reporting requirements across similar programs. This will make reporting easier for program participants and create a more useful data set to understand program effectiveness and future development. This effort should also address housing owners' and developers' concerns regarding the uncertainty of long term maintenance needs for renewable energy technology. More specifically, where long term maintenance contracts exist, programs should assess the effectiveness of such contracts with respect to specific technologies (e.g., specific types of renewable thermal technology) and, in doing so, ensure a sufficient sampling of each technology. This work may require the identification of technologies that have been in operation for an extended time.

6. Identify specific data regarding LMI Mass Save® program participants that would assist in developing residential energy policies and programs that more effectively serve the LMI population. Analyzing data on energy use and LMI population statistics will identify programmatic design barriers and improve the efficiency of existing programs. The agencies should work together to determine which data would be beneficial to advancing the goals of this Initiative and develop a plan to share key data. These may include data on types of heating sources in low income housing, size of buildings, and residents served. The Energy Efficiency Program Administrators and LEAN should work with DOER and DHCD to help agencies understand what data is available and the limitations to data collection, including data privacy.

7. The Affordable Access Steering Committee, with representatives from DOER, DHCD, and MassCEC, should be expanded to include housing finance agency, housing authority, and

housing developer representation. This group should continue to meet regularly as the Affordable Access Team (AAT) to implement the recommendations in this report. Each team member will act as the liaison to their agency for all policy and program issues around clean energy and low and moderate income housing. Periodically, the AAT should reconvene the larger stakeholder working group to report on progress and elicit feedback. The AAT should identify and engage stakeholders that interact with various low and moderate income sectors to most effectively implement the recommendations in this report, so as to consider a broad range of stakeholders and funding sources beyond the AAT, for example, first-time homeowner assistance programs, public health programs, and resiliency goals. This coordination should also include sharing agency knowledge and information about new initiatives, policies, and programs. For example, DHCD should share knowledge about different housing financing and ownership structures so DOER can most effectively design energy incentives. DOER should share with DHCD and other housing agencies the structure and types of energy incentives that are available to low and moderate income residents. The AAT should coordinate with the Program Administrators to understand and coordinate with existing and operating LMI energy efficiency programs.

8. Connect AACEE with the DOER Green Communities program, Regional Planning Agencies (RPAs), and municipalities to take advantage of existing community connection to local LMI populations. Many municipalities invest in affordable housing independent of state subsidy through Affordable Housing Trust funds and inclusionary zoning programs such as Chapter 40B. This affordable housing may be a missed opportunity if energy incentives provided by DOER and MassCEC are targeted only to state subsidized housing. These municipalities are already connected to DOER through the Green Communities program. Increased LMI program and policy coordination with existing Green Communities programs may help increase residential clean energy access. As Green Communities continues to expand into new programs and policies, goals for low income residential populations should be considered for either specified goals or available incentive funding. Utilizing municipalities and RPAs for communication and coordination will help ensure geographic program diversity while supporting local understanding of low income energy programs.

Recommendation Area 2: Support and Strengthen Clean Energy Market Growth and Demand in the Low and Moderate Income Housing Developer and Homeowner Community

Objective: Agencies and stakeholders should increase awareness of existing energy programs and clean energy benefits through communication programs and technical assistance.

9. Enable small portfolio owners and developers, municipalities, and residents to overcome knowledge barriers and increase access to existing clean and efficient energy incentives. This could include:

- **Developing and funding technical assistance for small portfolio organizations or municipalities without dedicated energy managers.** This technical assistance should focus on comprehensive energy planning, including navigating multiple programs and identifying available incentives. Many small portfolio developers and municipalities have limited energy knowledge and cannot reasonably access the variety of energy programs that are available. Although access to feasibility studies or energy audits may help small portfolio developers and municipalities determine energy savings from a specific technology, many projects are not even considered because of staff capacity issues. This program could also help owners and developers determine a project's "best path to solar." The Commonwealth's solar market can be complex and there are many ways a housing developer may access solar - through direct ownership, third party ownership, and virtual net-metering contracts. Although a housing project may want to "go solar," determining which way provides the most savings or the lowest risk may be challenging.

- **Developing guidelines that clarify common clean energy questions to further assist small portfolio organizations or municipalities.** The above technical assistance, which will help small portfolio developers with common issues such as on solar contracts, solar ownership structures, and integrating the existing energy efficiency program, should consider creating forms or guidelines. These guidelines can help affordable housing developers and owners determine the best solar offer, aid in power purchase agreement negotiations, and coordinate clean and efficient energy efforts.

- **Facilitate communication about the range of benefits from energy efficiency and renewable energy technologies, including non-energy impacts.** This communication campaign should include both existing communications from energy organizations, such as the PAs, DOER, and MassCEC, and the above technical assistance guidelines. Specific targets of the campaign could include: developers and organizations making a financial case to investors, housing finance agencies understanding the importance of energy improvements for their mission, homeowners, first-time homebuyers, or small portfolio developers considering the both energy and non-energy benefits as a factor in investment decisions.

- **Creation of an online portal cataloging the many energy incentives available in Massachusetts.** There are many energy incentives offered by multiple state and federal agencies. In order to maximize energy savings, owners and investors should take

advantage of as many of the incentives for which they qualify but this can be challenging and can require significant research. This platform would provide a location to list and link to all available incentives and programs regardless of funding source, including low income incentives, and allow residents and investors to search for incentives based on multiple categories. This also allows interest in one incentive to draw in a developer or owner and increase the awareness of other program information of which they were unaware.

Objective: Agencies should develop policies and regulations that appropriately support access to clean energy for LMI residents.

10. Coordinate and align the policy goals of the AACEE Initiative with ongoing housing and building sector regulations and mandates, including building codes and point of sale requirements. DOER works extensively on the Massachusetts building energy code and stretch energy code, while DHCD and the EOHED work on statewide housing policy. Although the building code applies to the housing and building sector statewide regardless of income, these policies can significantly affect the low income housing sector. When developing low and moderate income housing, mandatory conditions and requirements can create significant demand for energy saving and cost reducing investments that lower delivery costs and benefit residents. These policies may include point-of-sale requirements such as energy audits or home energy scores, and amendments to building energy codes, or housing development incentives. By working with stakeholders to determine which requirements create additional demand without creating additional barriers to low and moderate income housing development, DOER and DHCD can develop smarter regulations and policies that drive demand and lower costs for energy efficiency and renewable energy.

Objective: Agencies and stakeholders should implement programs and strategies to minimize perceived performance risk and uncertainties around EE/RE technologies.

11. Make information on specific technologies, including case studies, more easily accessible to a wider audience. This can include:

- **Coordinating to distribute materials on the installation, design, and use of specific technologies through effective channels.** MassCEC provides materials that highlight specific clean energy technologies and Mass Save® also provides materials on energy efficiency measures incentivized through the program. This effort should investigate the opportunity to distribute these materials further or have them presented by or through additional trusted organizations.

- **Developing an online resource or platform to distribute and highlight stakeholder case studies.** Massachusetts-focused case studies should highlight low income housing projects that have undertaken energy efficiency and clean energy improvements to increase the visibility of projects that have utilized state energy incentives and promote the benefits of these investments to other similar projects. The case studies should include: performance metrics for emerging technologies, including combined deployment of multiple technologies to maximize savings, information about the investment and the associated savings, specifics on how financing was secured for the technologies. Case studies should highlight a variety of situations, including new construction, retrofits, rehabs, and both small and large developments and should articulate the experience, benefits, costs, savings, and operational requirements for emerging renewable energy and energy efficiency technologies, in order to inform LMI housing owners and developers on the potential benefits and risks for their projects. They should be written to be used either directly by small portfolio or municipal developers or by other organizations such as regional planning authorities to help inform small portfolio or municipal developers. Case studies could be created by various stakeholders including state agencies, PAs, or private energy stakeholders. Additionally, this platform should collect case studies and innovative solutions from around the country as a way to identify innovative ideas across the country that may be able to be applied to Massachusetts.

- **Based on best practices from other renewables programs, design and implement a public education campaign to promote the adoption of renewable thermal technologies.** In order to ensure high quality products and full realization of benefits, as well as increased access to clean energy technologies for the LMI population, there should be a way for developers and owners to find qualified installers. Renewable thermal technologies are not yet widely adopted and therefore the contractor marketplace is still emerging. Homeowners and developers, especially small portfolio developers without energy staff capacity, may feel uncertain about selecting a qualified installer. This risk aversion may result in lost opportunities for energy savings. This effort should develop and implement a quality assurance/quality control strategy for renewable thermal technology installations. Energy agencies could require a minimum standard for renewable thermal installers to qualify for state incentives and platforms. This would be similar to the expedited solar installer qualification for the Commonwealth Solar Rebate program and the Massachusetts Solar Loan. This effort should coordinate and leverage incentives for renewable energy technologies (such as ductless mini splits) provided through Mass Save®.

Recommendation Area 3: Target and Structure Clean Energy Programs and Incentives to Better Serve Low and Moderate Income Residents

Objective: Programs and policies should promote and increase access to financing for moderate income residents, where appropriate, in order to leverage private financing with state funding.

12. Review HEAT and Mass Solar Loan products and consider ways to improve or add to the product portfolio in ways that can more effectively benefit moderate income residents.

- **Work with the Mass Save® Program Administrators and HEAT Loan lenders to determine strategies to continue to increase utilization of the HEAT loan by qualified moderate income residents and to leverage the existing HEAT loan infrastructure to improve or develop new loan products to effectively benefit moderate income customers.** The energy efficiency HEAT Loan is a successful program that provides a 0% interest rate for Massachusetts 1-4 family homeowners and condo owners for energy efficiency investments; however it is not designed to specifically serve low or moderate income residents. Enhancing the HEAT loan program design can more effectively serve these residents. In addition, the Expanded HEAT Loan, which includes financing for pre-weatherization barriers that commonly deter people from moving forward with weatherization measures, could be further expanded.

- **Explore extending the Mass Solar Loan program or similar traditional loan support program to the developers of low income community shared solar projects.** The Mass Solar Loan program provides loan support, including income qualified principal buy down and loan loss reserves, to local Massachusetts lenders. Loan recipients must be Massachusetts residents. Although the Mass Solar Loan provides loan support for residents purchasing a portion of a community shared solar system, the limited existing support for the community shared solar developer or administrator which may limit how many of these projects begin.

Objective: Incentives and grant programs should be designed to target low and moderate income residents by addressing LMI barriers to energy efficiency and renewable energy.

13. Promote access to solar PV in the low and moderate income community through additional programs and the new solar incentive. As DOER develops and implements the next generation solar incentive, the agency should continue to solicit feedback from stakeholders and advocates to understand the proposed structure's impact on the low and moderate income community. This engagement will allow DOER to develop an incentive that can viably increase access to the solar incentive for low and moderate income residents while ensuring continued

solar development across the state including access to Community Shared Solar (CSS). Shared solar can be used by renters or those who face barriers to roof installation, often low income residents, but there has been no low income CSS development in Massachusetts to date. This can be attributed to the burden of designing a CSS program, the management of net-metering credits, and the difficulty of identifying qualifying low income customers. To help overcome these barriers, DOER and MassCEC should promote innovative CSS program design through the solar and grant incentives. A grant program should be designed to select projects that provide the maximum energy savings to low income residents and promote innovative design. This may include projects where developers partner with CAP agencies or others to drive outreach to LMI sector or community solar developers partnering with creditworthy membership organizations (e.g. churches, non-profits, etc.) to distribute solar net metering credits.

14. Provide incentives for renewable energy and energy efficiency technologies not currently funded through Mass Save® to state-sponsored public housing buildings to ensure clean energy access to public housing residents. Many of the state's lowest income residents reside in public housing. Many of these public housing developments will need a financial incentive to move forward on any renewable thermal, solar PV, or energy efficiency technology not covered by Mass Save®. Although these technologies provide long term operating cost reductions, many may not be financed through the energy efficiency programs. Funding should support the expansion of renewable thermal technology, especially in existing housing with oil or electric resistance heat. Funding should also be used for operations, maintenance, and monitoring. By targeting public housing authorities, programs can facilitate a greater understanding of how energy technologies are utilized by the low income residents.

15. As new and emerging clean energy technologies develop, including electric vehicles (EVs) and energy storage, ensure that any grant selection criteria for pilot or demonstration projects appropriately consider the interests of low and moderate income residents. LMI residents often do not have the upfront capital to adopt new clean energy technologies early in market development. This can create a situation where programs (including applications, regulations, and incentive structures) are created without fully understanding how the technologies are used by LMI residents. By ensuring that grant selection criteria for pilots and demonstration projects appropriately consider the LMI population, programs that incentivize new and emerging clean energy technologies will be more equitable. In addition, all demonstration or pilot projects should consider how long term costs, including operation and maintenance, affect LMI residents in order to ensure that programs that incentivize these technologies do not result in additional costs for LMI residents.

- **EV rebate adder or program that promotes low and moderate income ownership.** Electric vehicles can provide considerable transportation savings for low and

moderate income residents but high upfront costs and a limited market can limit uptake. Similar to MassCEC's income based rebate adders, providing tiered income-based incentives can increase visibility and uptake in the low and moderate income community. To increase uptake, the program should address the barriers of low income ownership, including access to EV infrastructure. This should include working with low income community organizations, such as MassCAP, and other stakeholders. This is also a recommendation identified by the Massachusetts Zero Emission Vehicle Commission.

16. **Develop programs that target very low income residents.** This could include targeting very low income residents with renewable energy programs that provide energy savings as these populations are the most in need of energy assistance. As these residents struggle to pay their energy bills, only significant reductions in energy costs can create energy security. Innovative program design may be required to address unique barriers in the very low income community. Programs could target gateway cities and ensure geographic diversity in their grant and incentive programs. Continued efforts in these cities and others will expand clean energy access across the state.

Appendix A – Working Group Organizations

State Agencies

Massachusetts Department of Energy Resources (DOER) is an agency in the Executive Office of Energy and Environmental Affairs. The agency develops and implements policies and programs aimed at ensuring the adequacy, security, diversity, and cost-effectiveness of the Commonwealth's energy supply to create a clean, affordable and resilient energy future.
www.mass.gov/doer

Massachusetts Department of Housing and Community Development is an agency in the Executive Office of Housing and Economic Development. The agency provides leadership, professional assistance and financial resources to promote safe, decent affordable housing opportunities, economic vitality of communities and sound municipal management.
www.mass.gov/dhcd

Public and Quasi-Public State Organizations

Community Economic Development Assistance Corporation (CEDAC) is a public-private, community development finance institution, that provides technical assistance, pre-development lending, and consulting services to non-profit organizations involved in housing development, workforce development, neighborhood economic development, and capital improvements to child care facilities.
www.cedac.org

Massachusetts Clean Energy Center (MassCEC) a publicly-funded agency dedicated to accelerating the success of clean energy technologies, companies and projects in the Commonwealth—while creating high-quality jobs and long-term economic growth for the people of Massachusetts
www.masscec.com/

MassDevelopment is a state agency that works with businesses, nonprofits, financial institutions, and communities to stimulate economic growth across the Commonwealth. Through these collaborations MassDevelopment helps create jobs, increase the number of housing units, revitalize urban environments, and address factors limiting economic growth including transportation, energy, and infrastructure deficiencies.
www.massdevelopment.com/

MassHousing is a quasi-public agency that raises capital by selling bonds and lends the proceeds to low- and moderate-income homebuyers and homeowners, and to developers who build or preserve affordable and/or mixed-income rental housing.
www.masshousing.com

Mass Housing Partnership (MHP) is statewide public nonprofit affordable housing organization that works in concert with the Governor and DHCD to help increase the supply of affordable housing in Massachusetts. MHP combines direct lending and technical assistance programs

with public leadership by MHP's board and staff to achieve significant improvements in the delivery system for affordable housing in Massachusetts.
www.mhp.net/

Metropolitan Area Planning Council (MAPC) is a regional planning agency serving the people who live and work in the 101 cities and towns of Metropolitan Boston. Their mission is to promote smart growth and regional collaboration.
www.mapc.org/

Private Stakeholders

Boston Community Capital (BCC) is a nonprofit community development financial institution that builds healthy communities where low-income people live and work.
www.bostoncommunitycapital.org/

Center for Sustainable Energy (CSE) is a mission-driven nonprofit organization providing clean energy program design and management and technical advisory services.
www.energycenter.org

Co-Op Power is a consumer-owned sustainable energy cooperative. We operate within a regional network of Community Energy Cooperatives to create a multi-class, multi-racial movement for a sustainable and just energy future
www.cooppower.coop/

Energy Efficiency Program Administrators (PAs), represented by National Grid and Eversource, administer the state's energy efficiency programs pursuant to the Massachusetts Green Communities Act. The PAs implement three-year energy efficiency investment plans, developed in collaboration with the Energy Efficiency Advisory Council and approved by the Massachusetts Department of Public Utilities, designed to pursue all cost-effective energy efficiency. The PAs' energy efficiency efforts deliver long-lasting multi-billion dollar benefits for Massachusetts.
www.ma-eeac.org/

Habitat for Humanity: Cape Cod works in partnership with families in need to build homes, hope, lives and community.
www.habitatcapecod.org/

Homeowner's Rehab, Inc. (HRI) is a nonprofit that focuses on homeownership and rental properties as a means to create new opportunities for households that cannot compete in Cambridge's housing market. HRI's continuing mission is to provide safe, affordable, decent, and sustainable housing.
www.homeownersrehab.org/

Local Initiatives Support Corporation (LISC) equips struggling communities with the capital, strategy and know-how to become places where people can thrive. Working with local leaders LISC invests in housing, health, education, public safety and employment.
www.lisc.org/

Low Income Energy Assistance Network (LEAN) is an association of nonprofit agencies that coordinate the delivery of energy efficiency services to low-income utility customers. These services are funded by utilities across Massachusetts and the federal Weatherization Assistance Program .
www.nclc.org/issues/lean-and-green.html

New Ecology (NEI) promotes development solutions that deliver positive economic, environmental, and social returns. NEI implements these concepts through technical assistance, project coordination and management, program review, research, information dissemination, and education and outreach.
www.newecology.org/

Preservation of Affordable Housing (POAH) is a nonprofit developer, owner and operator of nearly 9,000 affordable homes in nine states and the District of Columbia, whose mission is to preserve, create and sustain affordable, healthy homes that support economic security and access to opportunity for all.
www.poah.org/

WinnCompanies is a housing developer and property management company that is the creator and champion of the best possible living communities for their residents and clients achieved through strong partnerships, a focus on sustainability. As they develop and operate properties to maximize their use and promote healthy communities, they also ensure the efficient use of natural resources.
www.winncompanies.com/

Worcester Green Low Income Housing Coalition is a partnership-based association of providers of homeless services and low-income people, in the cities and towns of central Massachusetts, and beyond, serving the second largest cohort of homeless individuals in the six state region of New England.
www.wglihc.org/