



TURNING INPUTS INTO ACTIONS

What Maine municipalities, small businesses and low-income housing advocates say they need to improve energy efficiency

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ABOUT

Founded in 2013, the Maine Climate Table is a broad, non-partisan network of individuals and organizations in the business, nonprofit, philanthropic, and government sectors in Maine. Our mission is to grow participation in addressing climate change across cultural, political, and economic boundaries. Why? Because that's what it's going to take to solve a problem this large, this long-term, and this complex. We need a larger force. Not a divided citizenry.

FRONT COVER IMAGE CREDIT: AVESTA HOUSING

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OTHER: WindowDressers generously supplied other photos used in this document. Learn more about their energy efficiency work at www.windowdressers.org



Dear Maine Friend of Climate Action,

Beginning in September 2017 the Climate Table offered a series of interactive meetings with community leaders at locations across the state – Hallowell, Fairfield, Lewiston and Brunswick. Each of these five meetings pulled together 15 to 30 municipal and state officials, business owners, business advocates and environmental activists for a discussion of the unique promise of energy efficiency – and the challenges to its implementation – in business, municipal and residential settings.

Increasing energy efficiency represents an unparalleled opportunity for Maine to tackle climate change enabling us to reduce energy expense and simultaneously diminish carbon pollution. The focus of each gathering was on practical steps for accessing resources for energy efficiency. Practical information about available resources was provided by personnel from Efficiency Maine and others who served as Resource Panelists at these sessions. We also heard from participants about the obstacles to increased energy efficiency and concrete suggestions for how to overcome them.

We now have compiled an overview and summary of the five Convenings with recommendations for action and are providing it broadly to Convening participants, to policy makers in Augusta and to community activists. We have completed this project and are glad to be able to share “Turning Inputs into Actions” with you and many other colleagues and change-makers. Please feel free to distribute this document to anyone you think can benefit from it and use it to spur further action in Maine.

Sincerely,

A handwritten signature in blue ink that reads "Cathy Lee".

Cathy Lee
Former Chair, Maine Climate Table

A handwritten signature in blue ink that reads "Steve Ward".

Steve Ward
Energy Efficiency Team, Maine Climate Table



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01. OVERVIEW

In 2019 the State of Maine set some of the most ambitious greenhouse gas reduction goals in the nation. Governor Mills proposes to make Maine carbon neutral by 2045, and to reduce emissions 45% below 1990 levels by 2030 and 80% below 1990 levels by 2050. Energy efficiency at the local level will be one of the most important approaches to meeting these goals.

Through a series of public convenings beginning in 2017, the Maine Climate Table set out to understand both the impediments to expanding energy efficiency in Maine as well to highlight successes, focusing on sectors facing the greatest challenges: small businesses, municipalities and low-income residences. Practical and pragmatic “voices from the field” will help Maine speed up action on energy efficiency throughout the state. This report summarizes what we learned at five energy efficiency convenings in 2017 and 2018. Policy makers will be better informed and better equipped to respond to the challenge of increasing energy efficiency in Maine after they read the firsthand reports contained in this report.

The Maine Climate Table has completed a series of Convenings on energy efficiency opportunities for municipalities, for small businesses and for low-income housing around the state. It has been the intent of the Climate Table, wherever we are able, to turn Convening inputs into actions by working with participants to develop specific recommendations, by capturing bold visions of progress for our state and by then conveying these proposals to decision makers and policymakers who can act on them. This summary of recent municipal and small business convenings takes a big step toward that goal. Having consulted with a broad and diverse group of participants, we are eager to see these anecdotes, recommendations and hopes mesh with the work of policymakers and change-makers at the State and local level.

Two of the Convenings referred to above took place at Coastal Enterprises, Inc. (CEI) in Brunswick on September 25, 2018 (focus on Municipal Energy Efficiency) and November 15 (focus on Small Business Energy Efficiency). A third Convening took place at the Lewiston-Auburn Chamber of Commerce on March 21, 2019 (focus on Small Business) and a fourth (focus on Municipal Energy Efficiency) took

place at the offices of KVCOG in Fairfield on April 18, 2019. Finally, a Convening that was focused on opportunities for constructing highly efficient low-income housing took place in Hallowell on May 23, 2019. There were 16-35 participants at each, hailing from as far afield as Kittery to Orono and including municipal officials, small business owners, energy experts, nonprofits concerned with promoting economic development, energy transformation and environmental protection and more. The response to each of the Convenings was extremely positive and the Maine Climate Table was asked, after each Convening, to replicate it in another location, which we did in an effort to continue to raise awareness and promote action.

Each Convening lasted three hours, during which participants were led by a facilitator through a series of discussions designed to yield concrete proposals and commitments for future work by citizens, non-profits, and state government. Participants were asked to offer specific suggestions based on their experiences and encouraged to think “big and bold” about changes they believe could make a measurable difference in the level of energy efficiency undertaken in Maine.

Presentations at each Convening highlighted existing resources and promising approaches to increasing energy efficiency in various sectors. At the Municipal Convening, participants learned about energy efficiency subsidies provided by Efficiency Maine, Maine Community Foundation and the Nature Conservancy. At the Small Business Convening, participants heard from Maine businesses (Lee Auto Malls, Geiger Brothers, InSource Renewables and Wishcamper Companies) about the energy efficiency measures they have installed, as well as from Efficiency Maine about subsidies available to small businesses. At the Convening focused on highly efficient multi-family low-income housing, we heard from architects and developers of projects in Portland, from MaineHousing officials and from advocates for low-income housing. Finally, participants at each Convening were asked to express their “wishes” for future changes and to commit to one action they would take based on what they learned at the Convening.

We have summarized the inputs from the Convenings below, specifically noting successes and challenges that were identified by participants. We have then offered recommendations that emerged from each Convening for consideration by policymakers and other decision-makers who can help to make Maine the most energy efficient rural state in the country.

The recommendations are broken down into distinct action areas that emerged from the Convenings.

SMALL BUSINESS CONVENINGS:

Brunswick November 15, 2018 and Lewiston March 21, 2019

MUNICIPAL CONVENINGS:

Brunswick September 25, 2018 and Fairfield April 18, 2019

CONVENING ON PASSIVHAUS-CERTIFIED MULTI-UNIT HOUSING:

Hallowell May 23, 2019



02. THE CONVENINGS

MUNICIPALITIES

SEPTEMBER 25, 2018 AND APRIL 18, 2019 MUNICIPAL CONVENINGS

SUCCESSSES

A number of municipalities, both small and large, urban and rural, have undertaken energy efficiency improvements in recent years, focusing on the “low hanging fruit”: LED lighting and weatherization. Some are exploring “joint purchasing” of weatherization services and LED lighting to reduce costs. Some are undertaking waste reduction programs, solarize programs, replacement of defective furnaces, fuel switching and more. Some specific successes include:

South Portland, which has been engaging in conscious sustainability planning for some years, has set goals for the municipality: 100% clean energy for the municipality by 2040, 80% greenhouse gas reduction by 2050. A Climate To Thrive, a Mount Desert Island (MDI) based non-profit that works in all four MDI towns, has similarly set goals and has had significant success adding solar capacity in each of the towns, including the installation of a municipal solar array on the Tremont landfill.

The Greater Portland Chamber of Commerce is becoming more educated on Energy Efficiency, is developing new partnerships and is interested in supporting its members more actively in this area. Maine Municipal Association is also interested in learning more about supporting its municipal members interested in energy efficiency. It is clear that more and more towns are keen for information and support.

Grants to Green, an energy efficiency subsidy program for historic buildings, was offered in Maine from 2013-2016. It succeeded in weatherizing many historic buildings, dramatically reducing energy bills in some cases. It has been “reinvented” and “expanded” and now allows subsidies for energy efficiency in historic municipal buildings, a category that was previously ineligible for grants under this program.

Maine Community Foundation is currently offering this program through its Belvedere Historic Preservation Fund, with technical support provided by Maine Development Foundation (MDF). MDF is acting as a bridge, connecting municipalities with resources and educating as it goes along.

Public sector energy audits, such as those offered by Siemens under a contract with the Kennebec Valley Council of Governments, are an indispensable first step toward increasing energy efficiency at municipal locations. Siemens's work in Skowhegan represents a \$2.6 million investment with savings approaching \$90,000 per year and resulting in major improvements in heating systems, ventilation and roofing.

Windowdressers has proven to be a very effective 'gateway' program that, at low cost, introduces a neighborhood to the value of reduced heat loss due to storm window inserts. Now working in concert with Efficiency Maine for LED distribution and the Campus Compact VISTA program for community outreach, this program is making a dent at the local level.

The Island Institute has been effective in delivering weatherization services to island households by means of grants of up to \$2,000 with follow-up technical assistance and education.

CHALLENGES

We heard repeatedly about the difficulty for towns, even towns with capacity and dedicated staff, to move beyond the low hanging fruit. There were a variety of reasons cited for this. Lack of education and low awareness of existing resources was noted numerous times. In addition, risk and change averse municipal decision-makers and often uninformed citizens who lack resources to make informed decisions, stand in the way of action. This lack of information and education about the benefits of energy efficiency (and solarization), often leads to slow or no action. This problem is compounded by a scarcity of trained labor and project managers within municipal governments who have expertise around energy efficiency.

Financial considerations are also paramount: payback periods often don't align with municipal decision-making periods and there is a general lack of understanding of the return on energy efficiency and solar investments (ROI) to the municipality. Up front funding is far too limited and difficult to access when it does exist, often requiring excessive documentation. The absence of tax credits and the high cost of capital, fluctuating rebates and, in the case of solarizing, the past policy uncertainty and lack of support from Efficiency Maine all stand in the way of more action.

Other obstacles cited include the inadequacy of residential building codes, obsolete housing infrastructure and the difficulty of working with CMP. In particular, the inability to access historical energy use data was noted more than a few times. Participants noted that Maine’s building stock is sadly inefficient, with 60% of housing stock dating from the 1940s or earlier.

From the perspective of households or businesses making energy investments, the fact that towns generally recognize these investments in higher property taxes creates disincentives to going forward with solarizing or efficiency upgrades.

SMALL BUSINESSES

NOVEMBER 15, 2018 AND MARCH 21, 2019 SMALL BUSINESS CONVENINGS

SUCCESSSES

A number of participating businesses spoke about the significant energy efficiency improvements they have made in recent years that were driven by the reduction in energy costs and resulting positive impact to the bottom line. A limited number were aware of and had taken advantage of Efficiency Maine programs. A few examples from those present include:

Lamey Wellehan has been working on its carbon footprint for some years. They have brought insulation levels to R-30 Walls/R-50 Ceilings, installed all new LED lighting throughout, created vestibule entrances and installed a considerable solar array. Lamey Wellehan also discussed the value of an effort they launched fifteen years ago to measure waste generated in their retail operations. Their view is that “if you can’t measure it, you can’t manage it”.

Geiger, the largest privately held promotional products company in the world, based in Lewiston, has introduced LED lighting, increased insulation, installed a new HVAC system that has sophisticated remote controls, and installed a solar array designed to cover 100% of its usage. Geiger spoke of a new UPS program in which they participate called 100% Carbon Neutral, that purchases offsets for the emissions created in delivering packages for participating companies, a boon to any business that ships products and is concerned about its carbon footprint.

Lee Auto Malls, Maine’s largest seller of hybrid vehicles, has converted to LED lighting in its car lots, as well as inside some of the dealership buildings. They are recycling used oil from oil changes to heat buildings and continue to look for cost effective efficiencies to introduce across their dealerships in Maine.

Cool As A Moose, with stores in Portland, Brunswick and Bar Harbor, has upgraded its lighting several times, although subsidies are insufficient to complete the transition to LEDs.

The Wishcamper Companies, low income housing developers across the US and based in Portland, spoke about a number of efficiency measures they routinely introduce, including savings they have achieved in sewer costs by significantly reducing water consumption, as billing for the two is often tied. InSource Renewables discussed their efforts to account for transportation uses of energy, including employee commutes, as part of measuring their carbon footprint.

Heattech discussed their use of REAP grants available through the federal Department of Agriculture. These grants result from a competitive process and occur twice a year with seven to ten grant awards, for solar, biomass and efficiency upgrades.

Many of these improvements were driven by the cost reductions but would not have been undertaken without Efficiency Maine subsidies which reduced the payback periods significantly. A business leader expressed, and many agreed, that anything over a 5-year payback period is essentially a non-starter for many businesses.

CHALLENGES

Many small businesses operate in old, inefficient buildings and could benefit from efficiency measures. However, there are significant obstacles that prevent more businesses from undertaking efficiency measures. We heard repeatedly that lack of information about opportunities for improvements, lack of information about the benefits of energy efficiency, lack of capital for long term investments, lack of financing to cover upfront costs and insufficient subsidies to reduce payback periods to acceptable levels are the primary barriers to more action. As is the case with residential and municipal energy efficiency, participants noted that divergent interests for renters and owners of buildings used by small businesses often prevent energy efficiency improvements from being undertaken.

Businesses agreed that lack of easy access to energy audits is an impediment and there is a desperate need for more and better education. Political partisanship and the perception that this is a political issue often discourage businesses from even looking into energy efficiency as something that could enhance their bottom line. For businesses in Southern Maine, there were concerns about dealing with CMP and a desire for on-bill financing for improvements.

The March 21 participants were enthusiastic about USDA funding through REAP grants but cautioned that the grant-making process is highly competitive with a large number of participants. In general terms, the March 21 attendees also emphasized how detrimental an unpredictable regulatory climate has proven to be, particularly for solar investments but for other capital investments in energy efficiency or renewable energy, as well. Businesses simply will not move forward with a major investment that has the prospect of a long, multi-year payback period in the face of regulatory uncertainty.

Because many of the technologies in this arena are relatively new, ignorance about their value, their economics and their return on investment, are all obstacles. A participant stated that Mainers are by nature culturally conservative and reluctant to be exposed to risk. The group pointed to widespread misconceptions about solar-related costs, heat pump efficiency and the reliability of fossil-fuel alternatives. For example, these newer technologies are not often “mainstreamed” by existing contractors who would rather stick with the “tried and true”.

Sources of unbiased information about energy efficiency, audits and contractors are fragmented and hard to access. In fact, there is the clear perception that there is no central clearinghouse that enables prospective adopters of a new technology to get information about it. Many businesspeople are unaware of Efficiency Maine’s website, have no clear sense of how to interact with Efficiency Maine and thereby qualify for rebates or grants.

The lack of training programs was mentioned by many participants at this session as has also been the case at previous Convenings. When it comes to infrastructure for delivery of alternative fuels, like wood pellets, there are major gaps in many parts of Maine that impede efficiency.

ENERGY EFFICIENT LOW-INCOME PROJECT DEVELOPMENT

MAY 23, 2019 ENERGY EFFICIENT LOW-INCOME PROJECT DEVELOPMENT

SUCCESSSES

With the encouragement and resources of PassivHaus Maine, progress has been made in creating highly efficient multi-unit housing at Bayside Anchor in Portland and at Village Center in Brewer. Both are PassivHaus-certified projects providing highly efficient heating relying on simplified mechanical systems and superinsulation. Representatives of Avesta Housing and MaineHousing explained the process by which these projects for low-income housing went forward and how future

developments of PassivHaus-certified projects can be built. The group also discussed the promise of modular construction for tight and efficient low-income housing with a high degree of quality assurance.

New opportunities for efficient construction of low-income projects arise because of the arrival of Maine's first Architecture program at the University of Maine and the annual "Build Maine" conference where new technologies and resources are presented. Although available resources are minimal, both MaineHousing (with its incentives for smart growth) and the Efficiency Maine Trust's Advanced Building Program provide assistance to project developers. Additionally, local initiatives like the Island Housing Trust on Mount Desert and in York seek to expand the footprint of efficient multi-unit housing in Maine. Finally, some Community Action Programs have had success in renovating existing buildings using historic preservation grants and tax credits that resulted in much-needed low-income housing that is energy efficient.

The group heard about the promise that Single Room Occupancy (SRO) buildings have in providing affordable housing for low-income and working poor individuals. Many communities continue to block SRO construction, however, through restrictive building codes and ordinances, which many participants feel is unfortunate.

CHALLENGES

- > Financial support from Efficiency Maine is very limited, and often is exhausted by the fifth month of the fiscal year.
- > Labor shortages, particularly for skilled trades people, hinder project development. Increases in the cost of materials compound this problem.
- > Funding formulas from MaineHousing and other sources place restrictive caps on Return on Investment that impede project development, particularly when solar units are proposed.
- > Modular construction continues to have a stigma that gets in the way of its deployment in low-income multi-unit housing.
- > "Not in My Backyard" opposition to low-income multi-unit housing persists in many parts of Maine.



03. ACTION AREAS BASED ON CONVENING INPUTS

The following pages outline energy efficiency recommendations from over 200 participants in our five convenings. We encourage policy makers to consider this feedback “from the field” as it formulates programs and policies for meeting the state’s ambitious greenhouse gas emissions goals.

RECOMMENDATIONS

POLICIES AND LEGISLATION THAT COULD ADVANCE ENERGY EFFICIENCY FOR MUNICIPALITIES AND SMALL BUSINESSES:

- Enact an updated and comprehensive statewide energy plan that includes a statewide goal of 100% renewable power generation by 2040, grid modernization, a clear solar policy that offers combined solar and efficiency incentives, technical assistance for municipalities and small businesses and embraces the benefits of community action.
- Enact a Clean Energy Jobs program similar to Massachusetts’ “Green Communities.”
- Enact a building code that addresses new construction and major renovations and strives to replace 100% of obsolete and inefficient mobile homes and incentivizes and supports energy efficiency in small businesses.
- Replace CMP with a publicly owned utility.
- Improve collaboration with Maine’s regulators and with the new Governor.
- Enact legislation that would expand Efficiency Maine’s role to offer support for and incentives to promote solar energy.

RECOMMENDATIONS TO ADDRESS ENERGY EFFICIENCY FOR LOW-INCOME RENTERS IN SUBOPTIMAL HOUSING:

- > Enable access by renters to historic energy use data in specific rental units so prospective renters have foreknowledge about energy costs prior to renting.
- > Address the “Split Incentive” problem for landlords and energy users by giving both tenants and landlords incentives to save energy.
- > Identify funding for upgrading inefficient heating systems in low-income homes.
- > Encourage collective action on behalf of low-income renters in organizing tenant’s unions and exerting political pressure for EE support.
- > Establish pilot projects that can test effectiveness of new approaches in this area.

RECOMMENDATIONS TO ENHANCE EFFICIENCY MAINE TRUST’S (EMT) ROLE AND EFFECTIVENESS:

- > EMT should advocate for and receive more state funding in its budget for municipal and small business programming and planning, including additional technical assistance grants and grants for energy audits.
- > EMT should institute an Advisory Group of Municipal Officials to assist in expanding program development in ways that are responsive to municipal needs.
- > EMT should develop a guidebook to Municipal Energy Efficiency and seek to mentor local officials, expand bulk purchasing initiatives for municipalities by region, expand programming into more rural areas.
- > EMT should establish an Office of Small Business to focus on education for small businesses on the benefits and options for implementation of small business energy efficiency initiatives and expand subsidies for small businesses that shorten payback periods.
- > EMT should develop a guide to Small Business Energy Efficiency that includes information about options for and benefits of energy efficiency for small businesses, including success stories and where to find additional supportive resources. EMT should distribute the guide to local and regional Chambers of Commerce and other entities representing the interests of small businesses. EMT should make the guide available to architects, engineers, contractors and others that offer services to small businesses.
- > In its quest for Maximum Achievable Cost-Effective energy savings (MACE), currently required by statute, EMT too often ignores the importance of educating consumers about energy efficiency. The Legislature should require EMT to invest in far more consumer education.

WISHES EXPRESSED BY CONVENING PARTICIPANTS

At each of the groups, participants spoke freely about future possibilities that they wish could take place. Some of these wishes conveyed hope and some conveyed a sense of how difficult it is to make change in a state like Maine that faces so many challenges. Wishes offered by participants included:

1. Designate a State Sustainability Coordinator.
2. Create low-interest loan products that are structured to help small businesses launch energy upgrades and have affordable terms for small projects.
3. Establish building code requirements for new and renovated buildings that are comparable to other states, accommodate solar power generation and promote energy efficiency.
4. Establish funding to provide Efficiency Maine rebates for more heat pumps.
5. Find a Local “champion” to mobilize support for each community-based efficiency project.
6. Create a publicly owned utility that replaces CMP and Emera and is responsive to Mainers’ concerns.
7. Link information about energy efficiency and renewable energy opportunities to public school curricula.
8. Enable energy efficiency and renewable power to have a much higher level of publicity, celebrating their contribution to climate change solutions, and combating misinformation and fake news.
9. Create within Efficiency Maine specific offices designed to troubleshoot inquiries from municipal and small business customers about how to undertake and complete energy efficiency upgrades.
10. Generate more education and awareness at the local level to create support with voters and local officials. Community education is critical.
11. Cause annual building inspections to occur to ensure compliance with municipal building codes.
12. Organize solar farms for residents in subsidized and low-income housing.
13. Expand training opportunities for energy auditors with a broader distribution of trained personnel across Maine.
14. Encourage taking account of carbon pollution as that will expand the penetration of PassivHaus and wood-based construction.
15. Host “charrettes” for architects and builders to share information about energy-efficient construction techniques.
16. Promote owner-cooperatives for the replacement of inefficient mobile homes.



04. CONCLUSION

The Maine Climate Table intends to distribute the evidence it has collected on the needs of small businesses and municipalities and low-income residents in the state to policy makers, decision makers and others who are in a position to act on it. Our goal is to help make Maine the most energy efficient rural state in the country with a sound energy policy that protects the state's resources and economy.

It's time for Maine to take the lead again. It can and must.



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