

## Memorandum

To: Maine Climate Council Members  
From: Hannah Pingree and Melanie Loyzim, Maine Climate Council Co-chairs  
Date: October 15, 2024  
Subject: Draft 2024 Climate Plan Update

Dear Maine Climate Council members:

In the document below, you will find a draft of the state's updated 2024 Climate Action Plan. This draft was developed by staff at the Governor's Office of Policy Innovation and the Future with support from the Department of Environmental Protection, Governor's Energy Office, co-chairs of the six working groups, the Scientific and Technical Subcommittee, Equity Subcommittee, and numerous state and quasi-state agencies. It builds on the working group and task force reports from June 2024 developed through the work of more than 200 working group and task force members. Staff also incorporated feedback based on the most recent Maine Climate Council meeting in September and the Council's responses to the feedback from the more than 1,000 survey responses, seven public meetings with 350+ participants, and the University of Maine Mitchell Center's work to engage with underrepresented people and communities.

Included in this draft are the strategies that will form the backbone of the Climate Action Plan due to the Legislature by December 1. The Council will discuss proposed metrics and implementation priorities at the October 23 Climate Council meeting. Additional introductory and concluding materials, such as a summary of climate impacts based on the report by the Scientific and Technical Subcommittee, will be included in a later draft. The final draft will also include updated metrics, charts, case studies, photos, policy highlights, profiles and quotes of individuals and communities taking climate action to help put faces to the policies and programs in the plan.

This draft will be available on GOPIF's website until 5pm on October 22, 2023. Comments can be submitted by email to [maineclimategouncil@maine.gov](mailto:maineclimategouncil@maine.gov).

We look forward to discussing this draft at the Council's next meeting on October 23, 2024. Thank you for your hard work and thoughtful deliberation that have brought us this far.

Sincerely,

Hannah Pingree and Melanie Loyzim, Maine Climate Council Co-Chairs

## Strategy A: Embrace the Future of Transportation in Maine

Transportation is the single largest contributor to Maine's carbon emissions from fossil fuels, accounting for 49 percent of total CO2 emissions. With many people driving long distances across our large, rural state, most of those emissions come from passenger cars and trucks.

Transitioning to cleaner electric vehicles and plug-in hybrids, while strengthening both public and active transportation, will be imperative to meet our climate goals.

Accelerating the sales of new and used electric vehicles (EVs), including plug-in hybrid vehicles (PHEVs), is both the least costly and the most effective way to achieve deep greenhouse gas emissions reductions and improve air quality and public health. Rapidly improving new technology in vehicles, batteries and charging infrastructure will support this transition, especially as EVs and PHEVs vehicles quickly transition to being price-competitive and sometimes cheaper for drivers, especially those regularly commuting longer distances.

Access to reliable, convenient, and affordable charging is critical to EV adoption. To strengthen drivers' confidence in EVs, the State should continue to invest in public charging infrastructure and provide reliable information about the efficiency, safety, and cost effectiveness of EVs and PHEVs for households. Increased incentives for low-income Maine drivers making vehicle purchases, including new and used vehicles, will help make EVs and PHEVs a realistic option for more Maine households.

### PROGRESS SINCE 2020

**Transitioning to Electric Vehicles** Rebates and tax incentives are helping to make new EVs more affordable for more Maine people. In 2021, Efficiency Maine increased rebates offered for low- and moderate-income residents and made used vehicles newly eligible for a rebate for low-income households. The federal Inflation Reduction Act (IRA) also provides up to \$7,500 at point of sale to individuals, businesses, and tax-exempt entities to purchase new electric vehicles.

Since 2020, the state has accelerated the expansion of EV charging stations, leveraging significant federal funds to invest in a statewide network of public, high-speed EV chargers.

**Strengthening driving alternatives** The Maine Department of Transportation (MaineDOT) released its first Statewide Active Transportation Plan which maps a path to improve safety and accessibility for walkers and bikers. MaineDOT's Complete Streets policy will help ensure that all users of Maine's transportation system -- bicyclists, pedestrians, and people of all ages and abilities-- can travel safely and efficiently.

And the Maine State Transit Plan outlines a path for improving public transportation in Maine and transitions to hybrid and electric fleets when and where it makes sense to do so. MaineDOT has assisted 12 regional and local transit agencies with the development of plans to transition their fleets to electric or hybrid vehicles.

MaineDOT was awarded nearly \$24 million in Rebuilding American Infrastructure with Sustainability and Equity (RAISE) federal grant funding for the purchase of approximately 24 electric buses and charging infrastructure to replace existing buses operated by Downeast Transportation Inc. in the Downeast and Acadia Region. MaineDOT, through its Rural Workforce Transportation Pilot Program, is also investing in innovative transportation pilots such as van-pooling, e-bike sharing and connecting rural workers with employment opportunities.

In addition to passenger cars and other light-duty vehicles, the State must encourage zero emission trucks and buses, as well as electric and hybrid ferry and boat fleets, to reduce overall transportation emissions from these important sectors. Developing an incentive program for medium- and heavy-duty vehicles, as well as connecting fleet owners with advice and support, will increase the rates of truck and bus fleet electrification. This electrification will lead to a reduction in emissions and air pollution, especially for communities in high-traffic areas. As purchase prices come down over time and the market delivers more and more applicable vehicles, public and private sector fleet owners and operators will save money across the lifespan of their fleets, paying less for day-to-day operations and maintenance while taking meaningful climate action.

While electrifying vehicles is the strategy that will most significantly reduce greenhouse emissions from Maine's transportation sector, improving public and active transportation is essential to meeting the needs of Maine people and connecting climate action to their daily lives. Safe and convenient sidewalks and bike lanes, shared commuting options, and access to public transportation provide more options for Maine people to get where they need to go, as well as health benefits, including cleaner air.

Finally, a resilient transportation network with roads, bridges, and culverts that are ready for increasingly extreme and frequent rain events and storm surges will make travel safer for all Maine riders and drivers and will help ensure that communities are not cut off from emergency services when they need them the most. Continued investment in transportation infrastructure is a key strategy for making Maine communities resilient to climate change.

## 1. Accelerate Maine's Transition to Light-Duty Electric and Plug-In Hybrid Electric Vehicles

- **Achieve emissions-reduction goals by putting \_\_\_\_\_ light-duty battery electric and plug-in hybrid vehicles on the road in Maine by 2030.**
- **Lower the cost of new and used electric vehicles (EVs) and plug-in hybrid electric vehicles (PHEVs) for low- and moderate-income drivers, ensuring that \_\_\_\_percent of EV rebates and other innovative financing opportunities reach those drivers.**
- **Install more than 680 additional EV charging ports statewide, including in underserved and rural communities.**
- **Launch new EV education and awareness campaign(s) for Maine communities, consumers, car dealers, and employers.**
- **Support Maine's first responders to be prepared to safely handle fires involving electric vehicle batteries.**
- **Advance common-sense policy options that reduce emissions and increase consumer choice for lower and no-emission vehicles and improve overall vehicle efficiency, including through information on the emission and efficiency benefits of non-plug-in hybrids.**

EVs currently account for nearly 6.5 percent of new vehicle registrations in Maine, up from less than 1.5 percent in 2020.<sup>1</sup> To further increase the number of EVs on the road, Maine must continue to encourage consumers with attractive EV rebates and expand the dealer network offering rebates, especially in rural communities. Low- and moderate-income drivers will need additional financial support to make EVs affordable; in 2024, only 16 percent of state EV rebates went to these households. The State should

explore additional financing options to make EVs more affordable, including broadening access to financing, tax incentives, and federal funding opportunities. Education and awareness campaigns are also critical to build trust and familiarity in EV technology, showing that EVs work for Maine drivers.

**More than 16,000 EVs are registered in Maine.**

Growth of EV registrations over time - GRAPH

To help more drivers switch to EVs, Maine needs to continue to expand its statewide network of reliable EV charging. Maine currently has more than 1,000 EV charging ports installed statewide. Through the Recharge Maine initiative<sup>2</sup>, the State is investing more than \$50 million to install more than 680 charging ports across Maine by 2028. Nearly 20 percent of these ports will be fast charging and nearly 85 percent of these funds are from federal grants. This investment will create a convenient and accessible charging network along Maine's most traveled roads and highways, in its rural communities and service centers, near multi-unit buildings and low-income neighborhoods, and at workplaces, ensuring Maine drivers can travel easily to every corner of the state.

Public perceptions about EVs remain a challenge. A robust education and awareness campaign is needed to explain how EVs work, promote their economic and environmental benefits, and publicize the availability of incentives and charging infrastructure.

Fires involving electric vehicle batteries, while rare, require specialized skills and equipment to extinguish safely. As Maine's vehicles transition largely to EVs, Maine's first responder community needs to be well-equipped to handle emergencies involving EVs. In 2024 the Maine Fire Service Institute of Southern Maine Community College hosted two first responder trainings centered on EV safety. Maine should expand the number of trainings available to first responders in all parts of the state, including small and rural communities.

Finally, Maine must continue to pursue common sense policy options that increase consumer choice for EVs and plug-in hybrids and decrease vehicle costs. This includes continued analysis of utility regulatory reform and other policies necessary to meet our statutory emissions targets. Programs that allow an electric utility to cover some of the costs of installing

<sup>1</sup> This includes both new and used car sales and cars registered in Maine from out of state; data from <https://atlaspolicy.com/rechargemaine/> as of June 30, 2024

<sup>2</sup> <https://www.maine.gov/rechargemaine/>

EV infrastructure for public sector, public transportation, and low-income customers can help reduce some of the barriers to installing EV charging.

#### **Greenhouse gas emissions from electric vehicles (EVs)**

Accounting for the environmental impact of EVs requires considering impacts related to fuel production, processing, distribution, and use. In Maine, the electric fuel used by an EV is cleaner on average than in other states, due to Maine's Renewable Portfolio Standard, a policy that requires an increasing percentage of renewable energy to power Maine's grid each year. Due to the lower carbon intensity of electricity generation in Maine, the electricity used to drive an EV today will have a 92 percent lower emissions impact than the fuel used to drive a vehicle with an internal combustion engine.<sup>3</sup>

## **2. Accelerate Maine's Adoption of Zero-Emission Medium- and Heavy-Duty Vehicles (MHDVs)**

- **By 2028, support multiple pilot projects of zero-emission trucks, buses, ferries, and boats to demonstrate and evaluate performance, reliability, and cost savings.**
- **Launch near-term fleet advisory services to help medium- and heavy-duty vehicle fleets adopt clean vehicles.**
- **Develop an incentive program for zero-emission medium and heavy-duty vehicles**
- **Advance common sense policy options, including utility and regulatory approaches, that accelerate the adoption of zero-emission medium- and heavy-duty vehicles.**

Medium and heavy-duty trucks and buses contribute 27 percent of Maine's transportation emissions.<sup>4</sup> The recent Clean Transportation Roadmap ("Roadmap") for Medium- and Heavy-Duty Vehicles (November 2024, link) charts a path forward for increasing the number of clean trucks and buses in Maine. The Roadmap recommends supporting pilot clean truck projects to evaluate and demonstrate the performance, reliability, and cost effectiveness; launching a fleet advisory service, to help fleets prepare for electrification; and developing an incentive program for zero-emission trucks, to support early market adoption. The State will continue to pursue common sense policy options, including utility and regulatory approaches, that accelerate the adoption of zero-emission MHD vehicles and will also continue to explore alternative fuel options such as hydrogen.

Many Maine transit operators and fleet owners are ready for electrification. MaineDOT worked with eight transit agencies to complete transition plans for electric and hybrid vehicles, and transition plans for four more agencies are underway. MaineDOT and transit agencies are now working to implement these transition plans.

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<sup>3</sup> Maine Governor's Energy Office & Maine Governor's Office of Policy Innovation and the Future (2021). "Maine Clean Transportation Roadmap," pp. 15-16:

<https://www.maine.gov/future/initiatives/climate/cleantransportation>

<sup>4</sup> 2024, Clean Transportation Roadmap for Medium- and Heavy-Duty Vehicles [LINK]

The Department of Education's new Green Schools Program will build on the successful efforts of local school districts to increase clean school bus use across the state, which has already secured more than \$20 million in federal EPA funding for more than 70 clean school buses statewide.

Some sectors of Maine's marine economy have available electrification and emission reduction opportunities, while others require more innovation and clean fuel options. MaineDOT will continue to explore electric and hybrid options for future ferry replacements. Maine and key stakeholders should continue to support innovation and efforts to help commercial marine and small harbor craft adopt electrified propulsion and other low and zero-emission vessel technologies.

### **3. Invest in Public, Active, and Shared Transportation**

- **Work with the Maine Transit Association to develop strategies to increase transit ridership by 5% annually to reach or exceed pre-COVID-19 ridership levels by 2029.**
- **Increase access, performance, funding and use of shared and public transportation systems in Maine, in partnership with municipalities, transit providers, state agencies, and other partner organizations including:**
  - **Launch and expand innovative transit pilot projects in urban and rural areas to improve transit, including transportation for MaineCare recipients and workforce transportation projects.**
  - **Improve the experience and efficiency of transit by streamlining payment processes, tracking vehicles in real-time, coordinating routes and schedules between transit agencies, and improving amenities and facilities.**
  - **Work with transit providers to develop standards for, track, and improve on-time performance metrics.**
  - **Support the efforts of transit providers to evaluate and improve existing services and study and document the need for potential new transit service, including in underserved communities with demonstrated transportation equity considerations.**
  - **Continue to work with transit providers to implement plans to transition to electric and hybrid vehicles.**
  - **Continue to work with transit providers and stakeholders to increase awareness of public transportation as options for travel.**
  - **Increase shared commuting by expanding participation in GO MAINE.**
- **Implement strategies and funding to support expanded active transportation opportunities for safe bicycle and pedestrian use including:**
  - **By 2029, dependent on federal funding, expand safe active transportation infrastructure in at least 10 villages and downtowns, paving at least 75 miles of shoulder along rural roads and building at least 10 miles of high priority off-road trails.**



- **Continue to work with transit providers and stakeholders to increase awareness of public and active transportation as options for travel as well as bike and pedestrian safety.**
- **Help municipalities to fund local active transportation projects.**
- **Identify and map priority routes for walking and biking by 2025.**
- **Integrate public transit, biking and walking into state transportation planning processes.**
- **Expand existing programs that help Maine people try and buy e-bikes.**
- **Invest in clean transportation programs and projects which offer low-carbon transportation alternatives to help offset emissions from other transportation projects that could increase vehicle traffic.**
- **Over the next four years, monitor and support national research aimed at understanding greenhouse gas emission impacts of public, active, and shared transportation projects.**
- **Continue to support universal access to high-speed, affordable internet service.**

The Maine Department of Transportation (MaineDOT) has strategic plans to support the use of public transportation and human-powered transportation such as walking and biking (also called “active transportation”). The 2023 [Maine State Transit Plan \(MSTP\)](#) and [the Maine State Active Transportation Plan \(MSATP\)](#) both outline specific steps the State can take to improve equitable access to transportation alternatives.

In accordance with the MSTP, MaineDOT will track and support continued increases to state operational transit funding as budget resources allow. Considering all state transit operations – including buses, vans, passenger rail, and ferries – the state now provides \$12.45 per capita in annual operational funding. The State should continue efforts to sustainably bring state operational funding for buses, vans, and other vehicles that use the road system up to \$5 per capita. The FY24-FY25 biennial state budget increased annual state support for on-road transit from \$1.15 million in FY2023 to \$5.53 million in FY 2025, an increase of over 380%. Accordingly, the state now provides \$3.96 per capita in annual state operational funding for on-road transit and a total of \$5.58 per capita when including transit operations, innovative new service start-ups, and capital needs. The State should support the efforts of transit providers to evaluate and improve existing services and study and document the need for potential new transit service, including in underserved communities with demonstrated transportation equity considerations. MaineDOT has identified \$2 million in annual state funding for these and other similar advancements in 2025.

Also in line with the MSTP, MaineDOT will continue to collaborate on innovative transportation pilot projects to help Mainers get where they need to go. This includes working with the Maine Department of Health and Human Services to provide improved transportation options for MaineCare recipients and continuing the existing Workforce Transportation Pilot program to support innovative local, regional, and state approaches to providing transportation for current and potential employees to job opportunities.

By improving coordination between different transit agencies, streamlining payment systems, and improving amenities and facilities at transit locations, Maine can make transit more accessible and

appealing to more riders. Strategies like improved coordination of routes and schedules between transit agencies, seamless fare payment, and real-time vehicle tracking will make it easier and more convenient for Maine people to use public transportation.

As more cars, trucks, and buses transition to electric, it will be important to help transit agencies adopt these technologies to reduce emission and lower operational costs. MaineDOT will continue to explore funding opportunities such as federal grants to help transit providers transition to hybrid and electric vehicles.

Expanded access to, and education about, shared commuting options like carpooling will help reduce single occupancy trips and reduce emissions. MaineDOT will continue to expand and promote GO MAINE with the goal to annually meet or exceed GO MAINE's current metrics for the number of members (11,500), reporting members (1,000), vehicle miles reduced (2.2M miles), and carbon emissions avoided (1,000 tons), and revise metrics as necessary.

Active transportation, including walking and biking, is an affordable alternative to driving a car for many commutes, errands, or other shorter trips. By 2029, dependent on federal funding, and in line with the MSATP, the State will improve safe biking and walking infrastructure in 10 village downtowns, pave the shoulders of 75 miles of rural roads, and build more off-road recreational trails for Mainers to use and enjoy. Establishing an annual Active Transportation Partnership Initiative program by 2025 will help municipalities to fund active transportation projects. This work will build on the historic \$30 million trail bond to repair and enhance trails across the state, signed into law by the Governor in April 2024 and pending approval by Maine voters in November 2024. MaineDOT will continue to integrate active transportation into planning processes to ensure that active transportation is considered, such as by integrating active transportation with transit routes. MaineDOT will continue to expand access to electric bicycles, or e-bikes, and Bikeshare programs, through collaborations with public, private, and non-profit entities and the Maine Department of Labor.

Increased awareness and outreach are key to helping people understand their transportation options and use them safely. MaineDOT should work with transit providers and partner organizations to provide education about public and active transportation options as well as pedestrian and bicycle safety.

Finally, access to high-speed, affordable internet service that supports telecommuting, remote education, telehealth, and access to online services can help to reduce travel and emissions. The Maine Connectivity Authority, established in 2021 to expand access to reliable, high-speed and affordable internet service statewide, has leveraged more than \$250 million in state and federal funds to expand broadband in Maine, resulting in 86,000 high-speed internet connections. This has reduced the number of Maine homes and businesses with no modern internet connection to 29,000 or 5 percent of the locations in the state, down from 18 percent in 2021.

#### 4. Improve the resilience of Maine's transportation system

- **Identify and strengthen critical vulnerable transportation infrastructure**

Maine's transportation infrastructure, including roads, bridges, and culverts, are critically important to ensure that the state is ready for climate-related events such as heavy precipitation and coastal



flooding. Some communities are disproportionately impacted by these events because they have only one road in and one road out, or because they depend on coastal infrastructure such as wharves and ferries. Through the Community Resilience Partnership, communities can receive grants to identify the infrastructure that is most vulnerable to climate impacts. Since 2022, the Maine Infrastructure Adaptation Fund has provided over \$46 million in grants to communities to adapt critical infrastructure such as culverts and roads. Continuing to invest in resilient transportation infrastructure will ensure that communities are better able to withstand and recover from climate impacts.

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## Strategy B: Modernize Maine's Buildings: Energy Efficient, Smart and Cost-Effective Homes and Businesses

Heating and cooling of residential and commercial buildings is responsible for 31 percent of

### PROGRESS SINCE 2020

**Adopting Heat Pumps** In 2023, Maine surpassed one of the major goals of the first climate action plan, to install 100,000 new heat pumps by 2025. In response to that achievement, Governor Mills set an ambitious new target of installing 175,000 additional heat pumps by 2027.

This progress is tied to a dramatic decrease in heating oil reliance. From 2022 to 2023, Maine saw the largest yearly drop since at least 2010, with 52.5 percent of Maine households using heating oil as their primary fuel. Even so, Maine remains the most heating-oil dependent state in the country, making us distinctly vulnerable to increased fossil fuel prices and volatility. Maine will continue to help residents and businesses adopt highly efficient heat pumps as well as heat pump water heaters and insulation, which can make Maine homes safer, healthier, more comfortable, and more affordable while reducing greenhouse gas emissions. New rebates and tax credits, from the Inflation Reduction Act (IRA), building on state rebates from Efficiency Maine, are further helping to reduce Mainers' dependence on fossil fuels.

**Implementing Appliance Standards** In 2022, the Maine Department of Environmental Protection (DEP) finalized a new rule that establishes minimum energy-efficiency and water conservation standards for certain appliances, products, and fixtures. The standards took effect on January 1, 2023, helping to reduce energy demands, greenhouse gas emissions, and other pollutants while saving consumers money.

**Sunsetting Hydrofluorocarbons** The Maine DEP finalized regulations to phase down the use of hydrofluorocarbons (HFCs), potent greenhouse gases used in refrigeration, air conditioning, aerosols, and other applications. The prohibition on certain end uses began to take effect on January 1, 2022.

**Establishing a Renewable Fuels Standard (RFS) for heating fuels** An RFS for the heating sector would require that a certain percentage of heating fuels be lower carbon or carbon neutral in order to replace or reduce the quantity of fossil heating fuels in residential, commercial, and industrial sectors. In 2021, the Maine Legislature established the Thermal Energy Investment Program, which establishes an increasing percentage of the state's renewable portfolio standard that must be met from renewable heating fuels.

Maine's greenhouse gas emissions from fossil fuel combustion. Maine can reduce greenhouse gas emissions and save on energy costs by modernizing our buildings to use cleaner energy, increase energy efficiency, improve resilience against climate impacts like heatwaves and increasing storm events, and use more sustainable building materials. These significant opportunities are set against the backdrop of a nationwide housing shortage that has many people more immediately concerned about keeping a roof over their head than reducing emissions. Maine must continue to put energy efficient homes within reach for more people through understandable, accessible incentives that account for Mainers' basic needs.

Maine has already made great strides to reduce emissions from buildings and save on energy costs, now leading the nation in the installation of highly efficient heat pumps for heating and cooling. In 2023, Maine surpassed its original goal of installing 100,000 new heat pumps by 2025. Across the state, many Maine homes are using heat pumps as their sole heating source, while also benefiting from the use of heat pumps for cooling in the summer. Maine has also set targets for weatherization to further advance this strategy while improving the safety and comfort of homes.

Energy efficient buildings powered by clean energy and designed with lower-carbon materials such as Maine-based wood products are safer, healthier, more comfortable, more affordable, more resilient to extreme weather, and have lower greenhouse gas emissions. As state and federal investments spur progress toward – and beyond – the targets established in *Maine Won't Wait*, people are realizing these many benefits.

Maine can do more to bring these benefits to all residents. Low-income Maine households spend roughly 24 percent of their income on energy, compared to 4-6 percent for other households. To meet Maine's climate goals, weatherization and heat pump incentive programs should continue to expand to reach more Maine people, with special efforts to engage low-income and underserved households and communities, especially those with the greatest energy cost burdens.

In addition, building and renovating energy efficient and affordable housing units not only lowers greenhouse gas emissions, but also directly addresses Maine's housing shortage by increasing the supply of safe, clean, and comfortable housing.

#### **Reducing Maine's reliance on heating fuel - GRAPH**

Many businesses, schools, and other public buildings in Maine have outdated heating and cooling systems and leaky building envelopes. Modernizing these buildings will improve comfort and air quality while saving money on energy costs. Targeted programs can help those maintaining these buildings overcome financial and other barriers to making much-needed improvements.

### **1. Continue progress on making homes and businesses more energy efficient by investing in weatherization and heating systems**

- **Install \_\_ highly efficient heat pumps in Maine homes and businesses by 2030, including \_\_ in low-income homes.**
- **Weatherize \_\_ homes by 2030, including \_\_ low-income homes.**
- **Boost efficiency in commercial and institutional buildings by \_\_percent by 2030 through high efficiency electric heating and water heating systems and improvements to building envelopes.**

- **Extend funding and financing for weatherization, heat pumps, heat pump water heaters, and heating assistance in homes and businesses beyond 2030, including home repair needed to make homes ready for weatherization.**
- **Accelerate participation in energy efficiency programs for renters, low-income, and rural residents.**
- **Provide a wide array of education and outreach on the benefits of energy efficient appliances, clean energy, and weatherization, including through partnerships with community-based organizations that work with underserved populations.**
- **Give owners of residential buildings that use electricity for space and water heating the same sales tax exemption that exists for heating with oil, coal, and wood.**
- **Continue to participate in regional initiatives to promote replacement of gas-fired hot water heaters with heat pump water heaters.**

Even with significant progress in weatherizing homes and installing highly efficient heating and water heating systems, Maine remains the most heating oil-dependent state in the country. Continuing to increase the use of heat pumps will generate even more energy and carbon savings for Maine homeowners and businesses.

Weatherization can have benefits beyond energy savings and reduced greenhouse gas emissions, including more comfortable homes and improved general health. Many people in Maine live in old or unsafe buildings that need significant work before they can qualify for weatherization programs such as the Weatherization Assistance Program (WAP) administered by MaineHousing. There is significant opportunity to address the severely limited funding for “pre-weatherization” repairs that are necessary before weatherization, to ensure these homes are not left behind in the transition to more efficient buildings.

To meet the goals for low-income heat pumps and weatherization, the State will need to expand access and participation by low-income households and renters through targeted rebates that offer higher amounts for people with lower incomes. The combined efforts of Efficiency Maine and MaineHousing have already installed \_\_\_ heat pumps and weatherized \_\_\_ low-income homes since 2019. To reach the new goals of \_\_\_ heat pumps and \_\_\_ weatherized homes will require sustained funding for both low-income and market-rate rebates.

#### Progress on heat pumps - graph

### **Federal Funding Accelerates Momentum on Clean Energy and Efficiency**

Maine has invested significant federal funding to continue our progress on weatherization and heating systems. Efficiency Maine expanded its low- and moderate-income weatherization and heat pump offerings with \$25 million from Governor Mills' **Maine Jobs and Recovery Plan**, which has helped to weatherize \_\_\_ low-income households since 2021.

MaineHousing received \$30 million from the **Bipartisan Infrastructure Law** to supplement its existing **Weatherization Assistance Program**. MaineHousing has already started offering incentives for weatherization of affordable multifamily properties through this program.

Through the U.S. Department of Energy (DOE) **Home Energy Rebate** and **Home Electrification and Appliance Rebate** programs, Maine is using the first \$35 million out of a total of \$72 million to install highly efficient heat pumps in affordable housing, manufactured homes, and multifamily buildings. This funding, administered by Efficiency Maine, helps low-income residents retrofit heating systems to replace fossil fuel systems with heat pump technologies.

The **Greenhouse Gas Reduction Fund (GGRF)** is a \$27 billion national investment created by the Inflation Reduction Act to expand financing for energy efficiency and carbon reduction projects. Several Maine entities expect to boost their loan offerings using GGRF funds, including Efficiency Maine, MaineHousing, the Genesis Community Loan Fund, and Coastal Enterprises, Inc. GGRF also includes \$62 million for the **Solar For All** program, which the Governor's Energy Office will use to help low- and moderate-income households to access solar energy.

Another \$10 million grant from the U.S. DOE **Energy Improvements in Rural or Remote Areas** program will support the installation of up to 675 heat pumps in manufactured homes in smaller communities to replace fossil fuel heating systems. Efficiency Maine estimates that each home participating in the program will reduce household heating costs by 40 percent.

Through the U.S. Environmental Protection Agency **Climate Pollution Reduction Grant program**, Maine and four other New England states will receive a total of \$450 million to accelerate the adoption of heat pump technology in residential single-family homes and multifamily buildings across the region. Maine's share of the award is estimated to be between \$45 million and \$72 million.

Reaching the 2030 goals for heat pumps and weatherization will require robust education and outreach, including by Efficiency Maine, MaineHousing, the Governor's Office of Policy Innovation and the Future, the Governor's Energy Office, and many on the ground partners, including community action agencies. Community-based organizations and municipalities can play a role in helping people understand what tax credits and incentives they qualify for and how to access them. The State should partner with local organizations that have existing relationships and communication channels with residents who are harder to reach because of language barriers, lack of internet access, or other factors.

Maine can adopt fairer tax policies that reflect the growing importance of heat pumps and ensure that homeowners are not penalized for using electricity for heat. Since the purchase of coal, wood, and oil used to heat residential buildings is exempted from state sales tax, Maine should apply the same tax exemption to electricity that is used for space and water heating in homes.

In addition to incentives, rules and standards can help ensure that Maine's buildings are contributing to clean air and a healthy climate. Maine should continue to work with other cross-state initiatives, including the Ozone Transport Commission and Northeast States for Coordinated Air Use Management, to develop standards that limit emissions from water and space heating.

## 2. Build and renovate more housing that is affordable, energy efficient, and close to vibrant community centers

- **Retrofit and build \_\_\_ clean and energy-efficient affordable housing units per year.**
- **Promote compact development near community services and transit, consistent with the land use goals in Strategy F.**
- **Create new incentives to encourage the purchase of manufactured homes that meet the new U.S. Department of Energy (DOE) Zero-Energy Ready Home (ZERH) standards and replace old or substandard housing.**
- **Ensure that the benefits of investments in energy efficiency and clean energy are reaching renters.**

In every corner of Maine, the housing crunch is affecting urban and rural communities alike. Housing is hard to find and to afford and energy efficiency can take a back seat when individuals and families are struggling to meet this basic need.

The 2023 State of Maine Housing Production Needs Study found that Maine needs approximately 38,500 homes to meet current needs and will need an additional 37,900 to 45,800 homes to meet expected population growth and household change by 2030. A significant portion of these homes must be affordable to low- and moderate-income Mainers. As the State seeks to increase available housing, it should support coordination among state agencies, local governments, and the private sector to ensure that new affordable housing is built to continually more efficient standards of energy efficiency and uses electric heat pump technology to reduce operating costs and greenhouse gas emissions. Already, MaineHousing, for example, requires new low-income housing developments to meet high energy efficiency standards, such as Passive House certification or similar.

At the same time, the State should seek to retrofit aging and inefficient affordable housing with weatherization, high efficiency heating systems, and renewable energy. New federal funding provided through the Weatherization Assistance Program, the U.S. Department of Energy Home Energy Rebate programs, the Greenhouse Gas Reduction Fund, and Solar For All can support these efforts.



Many Mainers live in old or low-quality housing that presents health and safety risks and can't be retrofitted to be more energy efficient. The U.S. Department of Energy's Zero-Energy Ready Home standard for manufactured homes provides an opportunity to replace old and inefficient homes with new affordable and highly efficient homes. Maine should provide incentives to replace the oldest and poorest quality homes with this type of home, which is safe, comfortable, efficient, and affordable.

Though renters don't own the buildings that they live in, they can still benefit from energy efficiency and clean energy investments. For instance, investments in clean energy through the Solar For All program must benefit low-income and disadvantaged households and require a minimum of 20 percent reduction in the average monthly electricity bill for each household. The state can also ensure that renters are aware of opportunities to save on energy costs, such as switching to LED lighting.

### 3. Establish strong systems to support rapid adoption of and compliance with increasingly climate-friendly building codes and standards

- **Commit to adopt new building codes to reach net-zero carbon emissions for new construction in Maine by 2035, with the interim goal of defining a net-zero emissions "stretch code" by 2028.**
- **Move responsibility for building code adoption, compliance and training from the State Fire Marshal's Office to the new Maine Office of Community Affairs (MOCA).**
- **Support contractors and code enforcement officers through training and technical assistance, particularly in small and rural communities and evaluate the benefits of contractor licensing for certain-size businesses.**

Timely adoption and implementation of updates to building codes can lead to safer, more efficient, and more resilient buildings for Maine residents and businesses. Maine is well on the way to modernizing building codes, having approved the 2021 International Energy Conservation Code (IECC), the latest version. A home in Maine that is built to the standards of the 2021 IECC could save an estimated \$23,772 over its lifetime compared to a home built to the 2015 IECC.<sup>5</sup> Maine should commit to adopting building codes that have net zero emissions in new buildings by 2035. Maine should also define a net-zero emissions "stretch code" by 2028, which aims higher than the base code for building energy performance requirements. This will help to signal to the building and code enforcement community what to expect in future codes and help Maine communities lead on climate-friendly buildings.

Staying up to date on building codes will require coordination among the State, local governments, and builders. The new Maine Office of Community Affairs (MOCA) will provide coordinated and efficient planning, technical assistance, and financial support to communities to better plan for

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<sup>5</sup> Pacific Northwest National Laboratory (2021). *Cost-Effectiveness of the 2021 IECC for Residential Buildings in Maine*. [https://www.energycodes.gov/sites/default/files/2021-07/MaineResidentialCostEffectiveness\\_2021\\_0.pdf](https://www.energycodes.gov/sites/default/files/2021-07/MaineResidentialCostEffectiveness_2021_0.pdf)

challenges, pursue solutions, and create stronger, more resilient Maine communities. In this role, MOCA should assume responsibility for the support of building and energy code adoption, training, and compliance.

To support the community of builders and municipal officials who ensure that builders are following the codes, the State should offer frequent and geographically diverse trainings in the latest building codes. In particular, the State should dedicate additional resources to code training and outreach in smaller and rural communities. The State can also support rural communities to add code enforcement capacity, either through agreements among multiple towns or third-party inspectors. This includes competing for new federal funds available for code adoption and implementation from the U.S. Department of Energy and the Federal Emergency Management Agency.

#### 4. Promote the manufacture and use of climate-friendly building products

- **Building on Maine’s designation as a federal Tech Hub for Forest Bioproducts, identify and address the barriers for attracting a cross-laminated timber (CLT) plant and other future bio-based materials manufacturing in Maine.**
- **Use demonstration projects and incentive programs to help bring costlier low-embodied carbon (e.g., wood and bio-based) building products closer to the price of high-embodied carbon (e.g., steel and cement) building products.**
- **Increase awareness, educate, and provide technical assistance around embodied carbon, measuring carbon emissions over a building’s lifetime, and low-carbon building materials for municipalities and larger institutions. Divert construction and demolition debris from landfills by encouraging municipalities to provide at least two weeks of public notice of permitted demolition projects so people can salvage reusable materials.**

Globally, the carbon that is used to manufacture, use, and dispose of building products, known as “embodied carbon,” is responsible for 11 percent of energy-related carbon emissions.<sup>6</sup> We can reduce embodied carbon emissions by switching to lower-carbon alternative building products, such as wood fiber insulation and structural timber, and by designing buildings to be deconstructed and reused. Many of these alternative products could be sourced and manufactured in Maine, supporting good jobs in communities with a strong legacy of forestry and manufacturing.

The Maine Technical Codes and Standards Board in 2021 voted to amend the state building code to allow mass timber construction, including CLT, up to 18 stories tall. Maine should identify the barriers to attracting production of CLT and other types of mass timber to Maine, which will allow sustainable timber to be sourced in-state and replace high-carbon products such as cement and steel in many buildings.

The State should educate consumers, developers, and building owners about the availability and benefits of climate-friendly building materials, especially as technologies improve and costs go

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<sup>6</sup> UN Environment and International Energy Agency (2017). *Towards a zero-emission, efficient, and resilient buildings and construction sector: Global Status Report 2017*. [https://worldgbc.org/wp-content/uploads/2022/03/UNEP-188\\_GABC\\_en-web.pdf](https://worldgbc.org/wp-content/uploads/2022/03/UNEP-188_GABC_en-web.pdf)

down. As energy efficiency in buildings continues to improve, building owners and developers will be looking for additional opportunities to reduce emissions.

In the early stages of adoption, while the costs of climate-friendly building products may be higher than conventional building products, incentives may be needed to encourage builders and developers to use these alternatives. Maine can demonstrate the benefits of these materials by using them in pilot programs and by using existing incentive programs, such as insulation rebates through Efficiency Maine, to encourage the use of climate-friendly building products. The state should investigate the feasibility of phasing out high-carbon materials from current and future incentive programs.

## 5. Accelerate decarbonization technologies in industrial processes

- **Consider pilot and demonstration projects on the use of industrial heat pumps for low and medium temperature industrial processes, and evaluate the potential for market-driven incentives.**
- **Scale up market-ready technologies such as membrane filtration in food production.**
- **Continue traditional energy efficiency upgrades with increased attention to small and mid-sized facilities.**
- **Maximize federal grant funding opportunities to help industrial facilities move towards clean and renewable technologies.**
- **Maximize facilities' participation in cost-effective demand management, including use of behind-the-meter batteries and thermal energy storage.**

The industrial sector in Maine represents 10 percent of CO<sub>2</sub> emissions from the burning of fossil fuels. *Maine Won't Wait* in 2020 recommended the creation of an Industrial Innovation Task Force, which has brought together industry and stakeholders to learn about opportunities for increasing industrial efficiency, new technologies and processes for reducing greenhouse gas emissions, and funding sources to support these projects. Maine should continue to support traditional energy-efficiency improvements at industrial facilities, such as heat recovery and variable-frequency drives, as well as scale up emerging technologies such as industrial heat pumps, membrane filtration in food production, batteries, and thermal storage. Federal funding opportunities can help industrial facilities move towards clean and renewable technologies.

Several emerging technologies show promise for continuing to improve efficiency in industrial settings. Industrial heat pumps are large water-to-water or air-to-water heat pump systems that can generate steam using waste heat (or waste hot water). Heat pumps also can be combined with thermal storage, electric boilers, or batteries to generate industrial process steam. A new generation of heat pump technology is emerging that may be able to cost-effectively make steam even in the absence of an existing thermal source.

Achieving deep emissions reductions in this sector by 2050 will likely require significant shifts away from petroleum-based fuels to cleaner alternatives. Some fuel-switching opportunities can be both cost effective and reduce greenhouse gas emissions, such as converting from oil to natural gas and

increasing efficiencies through combined heat and power (CHP) technologies. In the future, fuel switching could include transitions to green hydrogen and other innovative energy sources.

## 6. Continue to lead by example in publicly funded buildings

- **Capitalize a school loan fund and support incentives and grants to advance the work of the new Green Schools Program at the Maine Department of Education to reduce energy costs in Maine’s 600 school buildings through the installation of zero-emissions heating and cooling technologies and renewable energy.**
- **Enhance grant and loan programs and technical assistance to support efficiency and renewable energy programs in municipal- and tribal government-owned buildings.**
- **Ensure that all new state-owned buildings and major renovations use zero-emissions heating, cooling, and water heating sources, are compliant with the most recent energy codes or “stretch” codes, and that major parking-related renovations and new builds at state-owned buildings include “EV Ready” parking spaces.**
- **Require that by 2030, commercial and state-funded construction projects that meet certain thresholds (embodied carbon, structure size, etc.) be designed for deconstruction and reuse and sourced from reduced carbon materials.**
- **By 2034, reduce greenhouse gas emissions from existing state buildings by at least 50 percent.**

Energy is an enormous cost for the more than 600 school buildings in Maine. By improving energy efficiency, schools can reduce greenhouse emissions, reduce operating costs, and improve students’ learning environments through improved air quality. The state can support schools by providing technical assistance, state and federal funding, and learning opportunities for school administrators, teachers, and students. Capitalizing a loan fund and establishing ongoing funding and staffing for the Green Schools Program will ensure the benefits of this program.

Since 2020, state and federal investments have boosted energy efficiency in municipal buildings, saving taxpayers money and reducing emissions. Using funds from the Maine Jobs and Recovery Plan, Efficiency Maine has completed one hundred municipal heat pump projects, primarily in towns with fewer than 5,000 residents as well as 28 projects in schools. The Community Resilience Partnership, a grant program for municipal and Tribal government climate and energy projects, has funded 99 energy efficiency projects in municipal facilities, including 71 projects in the state’s smallest and socially vulnerable communities. The Inflation Reduction Act (IRA) established new pathways for tax-exempt entities like municipalities, schools, and nonprofits to receive tax credits for certain clean energy and clean vehicle investments. Moving forward, Maine should continue to help communities become more energy efficient and increase the use of renewable energy and storage to reduce costs, lower emissions, and improve resilience.

Thanks to significant federal funding for energy efficiency, transportation, and clean energy investments from the Bipartisan Infrastructure Law and the Inflation Reduction Act, the State of Maine can continue to lead by example in buildings owned or leased by the State. In 2024, Governor

Mills issued an executive order that directs the state to commit to goals that put Maine on a pathway to decarbonize state buildings. The Governor's order also includes goals for electric vehicle charging stations, zero-emissions heating and cooling, and overall reductions in emissions and energy use in state buildings.

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## Strategy C: Transition to Clean Energy

Maine's energy systems, like those around the world, are undergoing an unprecedented transformation. Maine has become a national leader in reducing greenhouse gas emissions from its energy system by setting significant goals for transitioning to renewable sources.

In 2019, Governor Mills signed bipartisan legislation that set a requirement for Maine to use 80 percent renewable energy by 2030. In 2023, Maine crossed the threshold of using more than 50 percent of its electricity from renewable sources. Recognizing the progress made to date and the key role of clean energy in bringing down the cost of electricity for Maine people, protecting our environment from harmful carbon emissions, and creating can provide good-paying jobs, Governor Mills announced a new accelerated goal of 100 percent clean energy by 2040.

As Maine continues to electrify its cars, trucks, public transportation, homes, and businesses, electricity consumption is expected to more than double between now and 2050. While Maine has made great strides, New England's continued overreliance on natural gas for electricity generation and, in Maine oil to heat our homes, makes us vulnerable to price swings caused by global events, such as Russia's invasion of Ukraine. When fossil fuel prices rise, Maine people and businesses experience higher electricity and heating bills. Maine's reliance on fossil fuels means we spend billions of dollars that go to out-of-state and foreign oil and gas companies every year, instead of supporting Maine-grown renewable power sources.

"The time has come to be bolder: I am announcing tonight that I am directing my Energy Office to draft legislation requiring that **100 percent of our electricity come from clean energy by 2040**. By accelerating our pace toward 100 percent clean energy, we will reduce costs for Maine people, create new jobs and career opportunities that strengthen our economy, and protect us from the ravages of climate change."

**Governor Mills, State of the Budget Address, February 2023**

### Maine's Renewable Portfolio Standard

**55 percent of Maine's electricity is produced by renewable sources as a result of Maine's Renewable Portfolio Standards (RPS). This policy has delivered an annual average benefit of \$21.5 million to electric ratepayers between 2011 and 2022, meaning that the price of electricity would have been higher without the RPS. This policy has also resulted in \$100 million in direct investment, \$900 million in operations and maintenance spending, and \$1,000 full-time jobs yielding over \$1 billion in worker income between 2008-2022.**

[\(source\)](#)

Meeting this new goal of 100 percent clean energy by 2040 and our emissions reduction goals will mean relying more on our electricity system. Maine must ensure that our electricity transmission and distribution systems, collectively called the "electric grid," can reliably and affordably handle this transition. Maine will also need to make the grid more resilient to climate impacts like severe storms. Increasing storm-related events have driven significant costs for ratepayers, and efforts to make the grid more resilient through investments and innovation are critical. For many Maine people, especially those most vulnerable to storm impacts like older Mainers, multi-day power outages can have significant safety and health impacts.



We know that Maine can achieve its clean energy and climate goals while addressing the energy burdens of Maine people through thoughtful planning and build-out of clean energy infrastructure. We can increase efficiency and reduce the costs of resilient energy infrastructure by managing electricity needs of the system through innovative approaches. And we know that we can build a clean energy workforce that offers local, family-supporting jobs to get it done.

## 1. Decrease energy burdens while transitioning to clean energy

- **Conduct a comprehensive analysis of household energy burden in Maine in 2025, including all energy sources, and set a target for reducing energy burden for low-income residents by January 15, 2026.**
- **Reduce barriers to efficiency and clean energy investments through expanded financing and ownership models.**
- **Launch an energy navigator program to assist low-income and underserved individuals and communities in understanding their options and funding opportunities that meet their energy needs through grants, rebates, or other incentives.**
- **Adequately fund core energy assistance programs for low-income families.**

Energy burden is the percentage of household income spent on energy costs. The *2019 Low-Income Home Energy Burden Study* prepared for the Maine Office of the Public Advocate, found that Maine's low-income residents face higher energy burdens than other residents. That report showed that the average home energy burden for low-income households in 2018 was 19 percent, more than triple the average of 6 percent for all Maine households.

Many energy burden analyses look at heating fuel costs but leave out other energy-related costs such as transportation, water heating, and secondary heating sources. Future energy burden analyses should include a comprehensive range of energy costs to help provide a more complete picture of Mainers' energy costs.

A comprehensive analysis of household energy burden in Maine will provide insights into the relative energy burdens of households that use electric appliances, vehicles, and heating compared to those who rely more on fossil fuels. It will also help identify disparities and ensure Maine can target programs to help low- and moderate-income people reduce their reliance on the most expensive and price-volatile energy sources. This analysis, updated regularly, should be used to set a target and measure progress toward the goal of reducing energy burden.

Clean energy investments—such as energy efficiency, home electrification measures (heat pumps, heat pump hot water heaters), weatherization, renewable energy and energy storage—can deliver long-term, high-impact solutions to reduce energy burdens. Clean energy investments will lower emissions, increase resilience, and better manage electricity demand. The upfront capital costs of these investments, however, can often present a challenge to households, businesses, and other entities.

Additional barriers to accessing the benefits of clean energy and energy efficiency investments include difficulties meeting basic needs, low credit scores, being a renter, lack of information or familiarity, or lack of trust in government programs.

The State and program partners should develop and support expanded financing options and ownership models for clean energy investments, for example on Tariff On-Bill Financing, when utilities provide the capital for a solar asset, which the customers pay back through a tariff added to their electricity bill. Starting in 2025, Maine's federally funded "Solar for All" program will provide financial and technical assistance enabling low-income and underserved households across the state to access solar and energy storage.

Establishing a navigator program could improve access to energy assistance programs and state and federal funding opportunities. Navigators would help low-income and underserved people and communities understand their options for meeting their energy needs through grants, rebates, or other incentives. Program designers and implementers should work with community-based organizations and tribal governments to ensure outreach efforts are designed to successfully reach underserved populations.

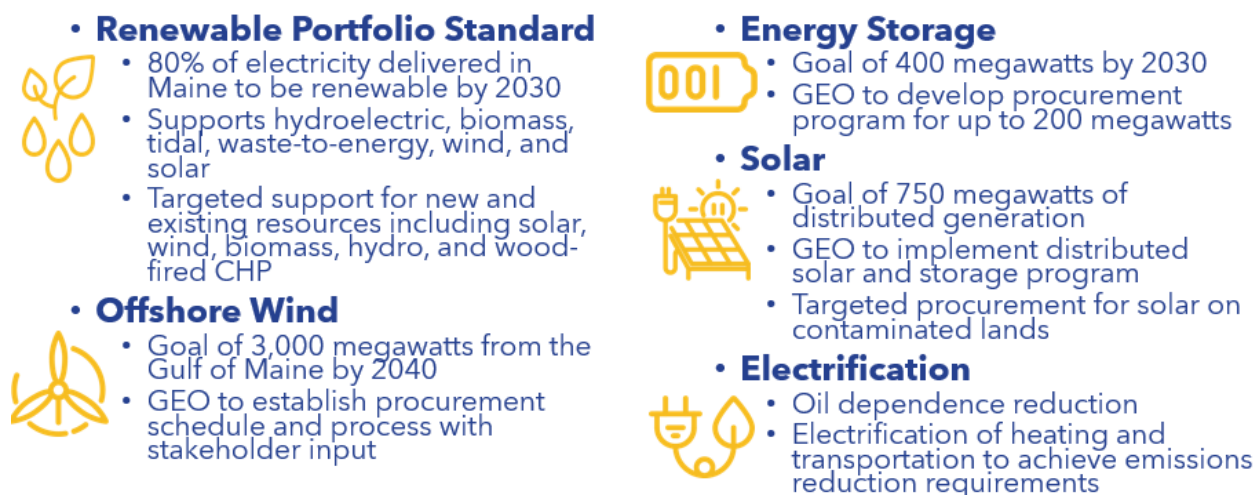
Maine should continually assess how to provide funding for heat assistance programs for low-income families, including both state and federally funded programs such as the Home Energy Assistance Program, Low Income Assistance Program, Weatherization Assistance Program, heat pump and weatherization programs at Efficiency Maine and MaineHousing, and Window Dressers.

## **2. Plan and build the infrastructure needed to achieve a resilient and 100 percent clean electricity grid by 2040**

- **Establish a regular cadence of competitive clean energy procurements to occur at least every two years.**
- **Invest in a sustainable, Maine-based offshore wind industry to position Maine as a leader in the offshore wind industry.**
- **Improve, modernize, and expedite the process for interconnecting clean energy projects to the distribution system.**
- **Maximize the use of federal funds for priority infrastructure projects.**
- **Help communities plan for clean energy through new stakeholder-informed resources such as model ordinances and best practices for increasing energy resilience.**
- **Improve the efficiency, predictability, and transparency of state siting and permitting processes while providing meaningful public engagement opportunities.**
- **Plan for future grid needs, incorporating both growth and increased resilience to storm impacts, through proactive processes at both the transmission and distribution levels.**
- **Continue to encourage highly efficient combined heat and power production facilities that can reduce emissions at industrial businesses and large institutions in Maine.**
- **Monitor and evaluate market trends and policies regarding clean fuels, including hydrogen and bio-based fuels.**
- **Expand education and outreach for programs that encourage building-scale distributed energy resources.**
- **Increase funding and financing options for building-scale distributed energy resources, such as solar and storage (including electric vehicle batteries that are used as energy storage).**

In 2024, as required by Maine’s Renewable Portfolio Standards, 55 percent of Maine’s electricity comes from renewable sources. Maine is fortunate to have access to a diverse set of resources for electricity production including solar, wind, hydro, and biomass, as well as significant potential for new resources in the future, including offshore wind and the energy storage needed to store clean energy.

New clean energy resources will help the state transition to a cleaner grid while managing costs and reliability.



The Maine legislature has established targets for use and purchase of clean energy, including 3 gigawatts of offshore wind; 400 megawatts (MW) of energy storage; 750 MW of small-scale clean energy which can include solar, small hydro and other resources between 2 and 5 MW in size; and 30 MW of combined heat and power—sometimes referred to as cogeneration, which means the production of both electricity and heat at the same location as the energy consumption—for industrial facilities.

Major federal funding for battery storage and transmission upgrades for clean energy made by the federal Department of Energy will both support new clean energy—especially in the Northern and rural parts of state—and produce low-cost energy and increase grid resilience.

Offshore wind presents a generational economic and energy opportunity for Maine. One offshore wind turbine can produce as much electricity as approximately 50 acres of solar panels. As an abundant source of clean and renewable energy, offshore wind has the potential to help free Maine from its reliance on fossil fuels, lower energy costs and volatility, and reduce emissions. As an industry, offshore wind is poised to grow significantly in the coming years. This growth will support existing and emerging Maine companies, create new jobs and career opportunities for Maine

people, attract new workers and families to Maine, and deliver infrastructure investments in communities across the state.

As part of Maine’s commitment to responsible offshore wind development the Governor signed bipartisan legislation that [established the Maine Offshore Wind Research Consortium](#) and established a prohibition on new commercial offshore wind projects in State waters, which extend three miles from shore. In coordination with the Maine Congressional Delegation, the Governor also successfully urged the Bureau of Ocean Energy Management (BOEM) to remove Lobster Area Management Area 1 – vital fishing grounds for Maine’s lobster industry - from commercial offshore wind leases in the final sale notice.

Regularly procuring power from offshore wind and other renewable energy sources is key to meeting increased demands from electrification of buildings and transportation. Maine must establish a regular cadence of procuring clean energy supplies at least every two years. These procurements with renewable energy suppliers should be closely coordinated and informed by grid planning activities.

Continuing to encourage highly efficient combined heat and power (CHP) facilities will bolster the state’s forest products industry and support the heating and energy needs of industrial and large institutional facilities. In 2020, the Legislature established the Wood-fired Combined Heat and Power Program directing the Public Utilities commission to procure renewable energy through long-term contracts from highly efficient CHP projects.

As required by legislation signed by the Governor, the Public Utilities Commission hosted a public stakeholder process to identify priorities for making the electric grid more reliable so the state can achieve its climate goals affordably. Continued planning will be important to identify current and future grid needs, reduce outage frequency and duration, effectively manage electricity demand, and understand options for grid solutions, such as efficient upgrades to existing infrastructure and targeted investments in new resources and practices, including distributed energy resources.

Building new energy generation, transmission, and distribution infrastructure is an urgent state and national issue for meeting clean energy and climate goals and will require greater collaboration with partners and improved systems to help advance major projects. Improving the predictability of siting, permitting, procurement, and interconnection processes will help to avoid delays and cost increases when developing new clean energy projects. Maine’s permitting agencies, in collaboration with federal permitting agencies, should continue to seek to reduce barriers to essential clean energy and transmission projects to help the State meet its goals while ensuring meaningful public engagement and natural resource protection. Specific to interconnection

### **Maine Offshore Wind Roadmap**

The Maine Offshore Wind Roadmap is a stakeholder-driven, comprehensive plan for Maine to realize the economic, energy, and climate benefits from offshore wind, including communities, tribal governments, fisheries, and wildlife of the Gulf of Maine. Continuing to invest in implementation of the Roadmap – including a dedicated Maine port, transmission and interconnection planning, the Gulf of Maine Research Array, and advancement of Maine-based innovations – are crucial to meeting the state’s energy goals and positioning Maine as a competitor and beneficiary in the emerging national and international offshore wind industry.

policies, state regulators and utilities should seek to continually improve and modernize the process for connecting clean energy projects to the grid.

Increased storm events from climate change are causing more frequent and longer power outages. When trees and tree limbs fall during wind or ice storms, they can knock down power lines. As Maine transitions to a clean energy economy and electrifies more energy uses, making the grid more reliable and customers more energy resilient must be a priority. Clean energy resources like batteries can store energy for a few hours of use; combining battery storage with on-site solar or wind generation can help critical facilities like hospitals, shelters, and emergency operations centers continue to function during extended power outages.

Maine should continue to help communities plan for clean energy through new stakeholder-informed resources such as model ordinances and best practices for increasing energy resilience.

Maine will likely need to maintain some thermal generating capacity that can be used when needed to support reliability and help manage costs during extended periods of low solar and wind output and high demand, such as during a long cold stretch in the winter. Thermal generating resources like gas-fired generators that currently rely on fossil fuels could instead be powered by clean fuels such as hydrogen and bio-based fuels to meet Maine's clean energy targets in the coming years. Adequate clean fuels to meet the state's needs don't yet exist, but they will be important for the State to monitor and evaluate market trends and policies regarding clean fuels.

Finally, the State should encourage small-scale renewable energy and storage that can make homes, communities, and businesses more resilient to power outages caused by extreme weather while providing distributed energy resources in day-to-day use. When aggregated into microgrids or similar approaches, these small resources can often serve critical community loads (e.g., police, fire, first responders, etc.) Significant tax incentives are available through the Inflation Reduction Act to help homeowners and businesses install solar and storage, and Maine's \$62 million "Solar for All" award will increase access to solar and energy storage for renters and homeowners, rural and urban households, and low-income and underserved households.

### 3. Manage the impact of buildings, vehicles, and industry on the grid with innovative demand management and load flexibility strategies

- **Adopt and implement software and technologies that can translate real-time grid conditions into transparent price signals to help markets efficiently and cost-effectively balance electricity demand with supply.**
- **Facilitate customer participation in programs that manage demand for electricity through the adoption of supportive policies, programs, markets, and regulation, and track participation in these programs by income.**
- **Develop an education and communications campaign around the opportunities and benefits of demand management initiatives.**

Further electrifying heating and transportation in Maine is likely to require significant expansion and investment in the electric grid. However, by changing the way we manage energy, we can avoid overbuilding our grid infrastructure and reduce its cost while still meeting peak loads.

Adopting adequate software and technologies to capture real-time grid conditions will be essential to managing demand and supply. Adjusting electricity use to match electricity supply can help prevent grid outages during extreme weather events such as heat waves by making the grid more adaptable to variations in resource availability, particularly as we transition to a system with more variable supply resources like solar and wind. Capabilities such as automated network sensing, management, and communications systems will enable us to maximize the benefits of flexible loads such as electric vehicles, batteries, and grid-integrated devices.

Helping customers access and participate in demand management programs will also require supportive policies, programs, markets, and regulatory mechanisms such as more dynamic and responsive electricity rates. Demonstration projects could be valuable tools for testing the effectiveness of new programs or rate options with different types of customers in Maine.

Successfully managing demand can reduce overall system costs, which translates to lower costs—or avoided costs—for everyone. Different demand management initiatives will target different types of customers (based on customer class or load type, for example). Program administrators such as Efficiency Maine, which offers battery and EV management programs, and others should ensure that demand management programs benefit low-income and other underserved households.

#### 4. Grow Maine’s clean energy economy with a goal to support 30,000 clean energy jobs by 2030

- **Support workforce initiatives with ongoing stakeholder coordination among industry, educational, and labor and training organizations.**
- **Support partnerships that create an ecosystem for cleantech innovation in Maine**
- **Expand access to apprenticeships and other earn-and-learn models.**
- **Maintain an online clean energy jobs and training database.**
- **Create tailored tools, resources, and trainings to support underserved students and job seekers.**
- **Identify pathways into clean energy and climate friendly careers for workers and industries most impacted by climate change.**

In 2022, Maine’s clean energy sector employed more than 15,000 people—more than halfway towards reaching Governor Mills’ 2030 goals. Maine’s clean energy sector grew more than three times faster than the state’s overall economy between 2016 and 2022 and outpaced growth in all other New England states. Maine has more than 2,500 clean energy businesses, representing approximately 4 percent of total businesses throughout the state, which are contributing \$2.31 billion to Maine’s economy. The *2023 Maine Clean Energy Industry Report* found that the sector is poised for continued growth and that “the growth of the industry presents new and increasingly valuable career opportunities to Maine residents from many backgrounds and with a wide range of skills and knowledge.”



Maine established the Clean Energy Partnership (CEP) program, a recommendation of *Maine Won't Wait*, through the Governor's Maine Jobs and Recovery Plan, to advance Maine's clean energy, climate, economic development, and workforce goals. The CEP is led by the Governor's Energy Office (GEO), in close coordination with the private sector and public sector partners including the Governor's Office of Policy Innovation and the Future, the Department of Labor, and the Department of Economic and Community Development.

GEO has awarded \$2.9 million in grants to clean energy employers, educational institutions, industry associations, and nonprofit organizations attract new workers, provide career training and upskilling, increase diversity and representation, and facilitate entry into the clean energy job market. This includes supporting apprenticeships, affordable and accessible trainings, and free credentialing, in partnership with the Maine Department of Labor. The GEO has also awarded \$1.3 million in grant awards through the CEP program, to three organizations to support the development of innovative clean energy businesses in Maine through a business advising initiative, an accelerator program, and the state's first clean energy business incubator.

## Strategy D: Create Jobs and Grow Maine's Economy Through Climate Action

Climate change is threatening the natural resources that underpin Maine's economy and the livelihoods that depend on them. The forestry, farming, fishing and outdoor recreation industries are coping with disrupted growing seasons and warming waters and winters. Businesses of all kinds are devoting more of their budgets to preparing for and responding to disasters. Young people are reevaluating which careers will be up to the job of sustaining their lives and families for years to come.

But new opportunities are arising in Maine's response to climate change. Rich oceans, abundant forests, and productive farmlands position Maine's heritage industries to lead in trillion-dollar markets for global climate solutions. Making businesses more climate-friendly can save on both operating costs and emissions. Growth the State's clean energy and energy efficiency sector requires a skilled workforce, creating thousands of well-paying jobs that are already helping Maine families thrive.

Transformative workforce investments through the Maine Jobs and Recovery Plan, made in line with the Maine Economic Development Strategy, are helping to build an economy poised for prosperity, including free community college for recent graduates, revamped employer incentives that directly support worker training, major efforts to draw young people into quality careers through career exploration and apprenticeship, and cutting-edge modernization of equipment and facilities across our technical schools, community colleges, and public universities.

Over the past four years, Maine has matched these workforce investments with tens of millions of dollars to help Maine innovators unleash new solutions in clean energy, agriculture, seafood, forestry, and other technologies. A \$25 million research and development bond on the ballot in November 2024 offers another opportunity to advance Maine-made discovery.

Over the next four years, Maine must sustain and build on these investments, focusing on drawing more Mainers into quality climate careers and then helping those individuals build their skills to deliver on, and benefit from,

Leading Maine businesses have been pioneering sustainable business approaches as part of their business model and to meet the needs and interests of national consumers. Major state businesses in Maine like Hannaford's supermarkets, Maine's second largest employer, have led across their business operations with clean energy, energy efficiency investments, and reductions in food waste. Portland-based WEX, an international technology provider of business services, offers EV fleet public and at-home charging payment solutions that support fleet transitions to clean vehicles. Leading state industries from the ski industry to Maine's significant brewery sector have worked to accommodate consumers and tourists who are increasingly looking to spend their dollars at businesses and corporations that promote sustainability and climate solutions as part of their business model.

## Progress since 2020

**Catalyzing Clean Energy Jobs** The number of clean energy jobs in Maine surpassed 15,000 in 2022, more than halfway to the goal of 30,000 clean energy workers in Maine by 2030 and increasing faster than any other New England state. Maine is growing a climate-ready workforce through the establishment of the Maine Climate Corps, Maine Career Exploration, the Maine Clean Energy Jobs Network online portal, and the University of Maine System's Maine College of Engineering and Computing, as well as the expansion of existing programs such as Registered Apprenticeships.

Several new programs are helping Maine launch and grow clean economy businesses, including the Clean Energy Partnership, CEI's Weatherization Business Lab, the Roux Institute's CleanTech Incubator, Central Maine Growth Council's Dirigo Lab Cleantech Programming, Maine Center for Entrepreneurs and FocusMaine's FoodTech Maine, and the Domestic Trade Pilot Program at Maine's Department of Economic and Community Development.

**Attracting federal investments** Maine's clean energy sector has grown into a multibillion-dollar industry, contributing \$2.31 billion, or almost 3 percent of Maine's total gross state product in 2022. Maine's policies and focus on innovation are also attracting new businesses and investors to the state. In summer 2024, it was announced that a nearly \$150 million federal grant would support the development of the world's largest multi-day energy storage facility in Lincoln, Maine, which will breathe new life into the former mill.

In summer of 2024 the State also announced it had reached an agreement with the Federal Bureau of Ocean Energy Management on the country's first research lease in the Gulf of Maine for a floating offshore wind research array, a significant milestone for advancing Maine's efforts to advance a responsible offshore wind industry in the state.

These announcements add to \$6.6 million in federal grant awards to increase the resilience of Maine's electric grid; significant federal funding to expand heat pump adoption across all home types and mobile and manufactured homes; and \$62 million to support delivery of solar and storage to low-income Maine people.

**Innovating with natural resources** Maine innovators are bringing to market new products and solutions that use advanced wood technologies to displace plastics, sequester carbon in buildings, replace harmful synthetics, and reduce reliance on fossil fuels. For example, startup manufacturer TimberHP is the first and only producer of renewable, carbon-storing wood fiber insulation in America. Packaging startup Tanbark is bringing to market new molded fiber solutions that replace plastics in food service and consumer goods.

Companies are partnering with the University of Maine to commercialize wood-derived nanocellulose materials such as food coatings and firefighting foam replacements. In recognition of this leadership, the U.S. Economic Development Agency designated Maine as one of 31 "Tech Hubs," in October 2023, bringing opportunities to attract even more future funding. The State's [revised Innovation Economy Action Plan](#) elevates climate as a central priority for Maine's innovation economy and research and development.

These initiatives have contributed to the remarkable progress Maine has made towards our strategic economic development goals: inflation-adjusted wages are up nearly 10 percent, the value of what we sell per worker is up nearly 14 percent, and our workforce has grown by over 20,000 people since 2022.

At the same time, many of the acute challenges facing Maine's economy, as well as the nation's, such as housing availability, energy prices, and threats of storm damage pose both risks and opportunities for growth. By pairing existing expertise and resources with new innovations and investment, Maine can solve the problems impeding the global transition to a clean economy while minimizing negative impacts on other sectors. The intersections of heritage and emerging industries across building materials, life sciences, energy production, marine sciences, efficient construction, and other sectors position Maine as a center and a leader for global climate solutions.

## 1. Advance innovation and leadership in technologies that help reduce emissions and increase resilience to climate impacts

- **Elevate Maine’s global innovation leadership in floating offshore wind, advanced building materials, and biotech products derived from forests, oceans, and farms.**
- **Accelerate the development, maturation, and commercialization of climate-friendly technologies emerging from Maine’s research institutions.**
- **Attract more private sector investment capital for Maine technologies and businesses offering climate solutions.**
- **Cultivate inclusive new business creation in Maine’s climate, clean energy, and natural resource industries.**
- **Develop Maine communities as “Hubs of Excellence” in sectors critical to Maine’s climate and economic success.**

Maine must aggressively pursue resources – including federal grants, corporate partnerships, investment capital, and philanthropy – that can accelerate research, commercialization, market development, and infrastructure necessary for these technologies, which will provide quality jobs for tens of thousands of Mainers well into the 21st century. Building on Maine’s designation as a federal Tech Hub for Forest Bioproducts, and the efforts of the FOR/Maine initiative, the State should identify and address the barriers to expanding mass timber production facilities, wood-derived plastic alternatives, and other future bio-based materials manufacturing in Maine.

Maine’s research and development (R&D) institutions lead the world in advancing climate-critical discoveries in floating offshore wind, advanced wood products, and food and agriculture technologies across our farms and oceans. The urgency of the climate crisis demands that we speed up the rate at which these technologies reach the market at scale by investing more in R&D, while providing incentives to turn research into marketable products.

Maine ranks 45<sup>th</sup> nationally – and last in New England – in venture capital invested to spur new businesses since 2019.<sup>7</sup> This financing gap makes it more difficult for Maine entrepreneurs to access the resources they need for growth. Maine can attract more investment of all types by increasing state support for patient, risk-tolerant capital that encourages private investment at Maine Technology Institute, Finance Authority of Maine, and Maine Venture Fund. Maine should also help clean tech entrepreneurs access national investors by building out the Maine Funding Network and more frequently bringing top-tier innovation investors to meet with founders of climate technology companies in our region.

Maine needs a significantly larger and more diverse pipeline of entrepreneurs, products, and business models to create the climate jobs of tomorrow. Maine should sustain entrepreneurship programs focused on climate solutions, build out more shared production facilities for climate tech like Tech Place in Brunswick and Fork Food Lab in Portland, and ensure broad access to small business assistance programs, like Maine DECD’s Domestic Trade Pilot Program and Maine Technology Institute’s Maine Entrepreneur Resource Corps.

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<sup>7</sup> Analysis of National Venture Capital Association (NVCA)-Pitchbook Venture Monitor data accessed at <https://nvca.org/document/q2-2024-pitchbook-nvca-venture-monitor-data-pack/>

As mills have closed and industries have shifted across Maine, many communities have re-envisioned themselves as hubs of economic growth in forest products, food, outdoor recreation, ocean industries, and renewable energy. Accelerating the development of these hubs is a priority of Maine's Economic Development Strategy and will ensure that Maine people in every region of the state benefit from the businesses and good jobs created.

## 2. Help Maine businesses and natural resource industries succeed in the global climate and clean energy economy

- **Advance targeted industry-focused efforts to increase the resilience of Maine's heritage industries in the face of climate threats.**
- **Support targeted industry-focused efforts to utilize state and federal incentives to increase the efficiency of manufacturing and smart manufacturing practices.**
- **Bolster climate resilience for Maine's outdoor recreation industry**
- **Modernize permitting without compromising Maine's high environmental standards.**
- **Bolster brand leadership by helping Maine businesses and other entities take advantage of electrification, efficiency, electric vehicle, and clean manufacturing business incentives and recognizing exceptional efforts.**
- **Seed markets for Maine-made, climate-ready products through new procurement pathways for the State, municipal governments, and other public institutions in Maine to become early-adopting customers.**

Climate change is threatening the habitats of Maine's fisheries, disrupting crops growing seasons, increasing the vulnerability of our forests, and shrinking winter recreation opportunities. Maine should commission a Maine Farmland Action Plan to articulate goals and strategies regarding Maine's farmland resources and agricultural economy, and support implementation of the Seafood Economic Accelerator for Maine (SeaMaine), the Blue Economy Task Force, the Outdoor Recreation Economy Roadmap, and the Forest Opportunity Roadmap (FOR/Maine), which each offer paths forward for sectors at the heart of Maine's economy.

Maine's outdoor industry is on the frontlines of climate change, facing direct impacts like shorter winters and more extreme weather events. We must equip the industry with up-to-date data and practical solutions to enhance resilience. By helping businesses and organizations adapt their operations, infrastructure, and offerings to withstand climate disruptions—such as expanding shoulder season activities and developing durable trail systems to handle increased heavy rainfall and flooding—Maine can safeguard the long-term success of its outdoor recreation sector.

Maine businesses both large and small have been at the forefront of climate leadership. As consumers and tourists continue to demand sustainability and accountability, businesses can take action to make their business models more climate friendly while reducing operating costs and emissions. The Inflation Reduction Act created new pathways for businesses, nonprofits, and municipalities to make energy efficiency and climate resiliency upgrades by establishing a suite of new climate-friendly grant and loan programs and expanding federal clean energy tax credits. Maine should help businesses adopt energy-and-cost-saving upgrades by documenting, publicizing, and advocating for the increased uptake of these opportunities by the private sector.

For manufacturers, partnerships with experts at UMaine's Advanced Manufacturing Center, the Roux Institute, Efficiency Maine, and the Manufacturing Extension Partnership can lead to process improvements that reduce energy costs and greenhouse gas emissions and increase outputs.

Regulatory barriers may inadvertently stymie emerging technologies. Simplifying and streamlining state and local permitting, while continuing to protect Maine's environment, will spur denser housing production, accelerate infrastructure improvements needed for climate resiliency, and unlock creation of more climate-ready jobs. In 2025, the Maine Department of Environmental Protection (DEP) will begin using an online system for submitting, tracking, and commenting on applications for environmental permits. This will increase accessibility and transparency for citizens who may be affected by projects and will reduce the time it takes to obtain a permit decision.

Maine can support its fledgling climate-ready businesses by adjusting procurement pathways to support public institutions in becoming early buyers of their products. This provides businesses with critical cash flow and builds investor confidence necessary to reach sustainable scale.

### 3. Build on historic investments by strengthening and diversifying Maine's climate-ready workforce

- **Create opportunities for 7,000 new Registered Apprentices by 2030.**
- **Develop local talent in the trades, manufacturing, and natural resources and improve licensing pathways for climate-critical occupations**
- **Continue strategies that bring nontraditional workers and underserved populations into quality jobs in the trades and other climate-adjacent fields.**
- **Connect young people to climate action and climate-ready careers by growing and sustaining funding for the Maine Climate Corps and through paid work experiences, pre-apprenticeships, middle and high school technical education programs, and marketing campaigns**
- **Expand industry partnerships to ensure trainees gain the skills employers need and quality jobs await program graduates.**

In September 2024, Governor Mills joined the U.S. Climate Alliance in announcing a commitment to collectively train more than 1 million new [Registered Apprentices](#) in climate-ready fields. Funding of \$12.3 million through her Maine Jobs and Recovery Plan has already doubled the number of apprentices in Maine registered with the U.S. Department of Labor and led to the creation of dozens of new pre-apprenticeship programs. Sustaining investment to maintain and grow this effective employment model is essential to advancing climate goals.

Governor Mills' 2024 Executive Order to increase women's employment in Maine's construction industry recognizes that eliminating barriers to work for all Maine people is a critical path towards alleviating Maine's construction workforce shortage, especially as the State makes historic investments in resiliency and infrastructure. The establishment of Maine's Office of New Americans, Maine Jobs and Recovery Plan investments in vocationally oriented English language instruction, dedicated women-in-trades pre-apprenticeships, specialized career assistance for individuals with disabilities, and Maine DECD's Diverse Talent and Retention grants offer a strong foundation on which to broaden the talent pool for climate careers. Maine should continue to work



with employers to ensure compliance with state and federal labor laws while promoting job quality and safety informed by federal [Good Jobs Principles](#) across all climate-ready fields.

Reciprocal recognition of out-of-state certifications, additional competency-based testing, and more credential evaluation assistance for professionals trained in other countries will bring more expertise to our state while maintaining safety standards. Maine should also improve licensing pathways for climate-critical jobs, including electricians, manufactured housing professionals, and heat pump technicians.

The successful 2023 launch of Maine Climate Corps – a recommendation of *Maine Won't Wait* – mirrors what national research tell us: young people are seeking out careers that benefit the climate. As of August 2024, Maine Climate Corps Network includes approximately 150 members participating in 10 programs focused community resilience planning and energy education and outreach. Continued investment in early career exposure through paid work experiences, certified pre-apprenticeships, and middle and high school technical education programs, will help young Mainers recognize the breadth and depth of opportunities to make a meaningful difference and earn a quality living in their home state.

With pandemic recovery funds ending, Maine must explore new models of maximizing state, federal, philanthropic, and private funding. Maine's Clean Energy Partnership, the Advanced Manufacturing Careers Partnership, and Maine Defense Industry Alliance all offer models for how Maine's education and training providers can partner with industry to design and deliver effective jobs programming. Continued public-private investments in collaborations like these will benefit workers and employers by aligning training and education with career opportunities. To expand opportunities for skilled professionals in the trades, Maine should also explore creating a tax credit for employers in the construction sector that mirrors the employee training component of Maine's Dirigo Business Incentive program.

## Strategy E: Protect Maine's Environment and Natural and Working Lands and Waters

The abundant forests, rugged coastlines, and local farms that embody Maine's character depend on vibrant natural ecosystems. These important natural and working lands and waters are threatened by climate change, and yet their ability to store carbon is a powerful tool against its harmful effects and in reaching the state's goal of net carbon neutrality by 2045.

Maine's forests alone can sequester, or capture and store, an amount of carbon equal to approximately 90 percent of the State's annual greenhouse gas emissions. The forests cover most of our state, but face pressure from development that both hinders their carbon storage potential and contributes directly to additional emissions. Maine's coastal and marine areas, like salt marshes, store carbon but face rising sea levels and other climate change impacts. Maine's coastal sand dunes, wetlands, and marshes are also powerful resources for protecting our coastal communities from flooding and erosion.

Beyond the role of storing carbon, these lands and waters provide clean drinking water and sustain wildlife habitat and ecosystems. Furthermore, Maine's farming, fishing, forestry, tourism, and outdoor recreation industries that benefit our people and economy all rely on the protection of these lands and waters.

*Maine Won't Wait* established a goal to increase conserved working and natural lands in the state to 30 percent by 2030. As of 2024, Maine has conserved approximately 22 percent of the state's land. To increase the rate of land conservation in Maine, the State should establish a permanent, ongoing funding source for the Land for Maine's Future Program. As the climate changes, Maine's approach to natural and working lands and waters should emphasize restoration as well as protection, to reduce harm from climate impacts and sustain ecosystems for generations to come.

Increasing access to food that is grown and harvested in Maine with climate friendly practices that enhance soil health, can strengthen the food system in the face of climate change and supply chain disruptions, while supporting farming, fishing, and aquaculture industries in Maine, and preserving and creating jobs. A proposed State Food Plan will identify specific recommendations to increase equitable access to Maine-grown and harvested food for all Maine people, including low-income residents who are disproportionately impacted by food insecurity.

Preventing food waste can reduce Maine's greenhouse gas emissions by decreasing the amount of discarded food that decomposes in landfills. Tracking and reducing food waste, consumer education, and support for redistributing food to people who need it are all paths to prevent food waste.

Maintaining existing forestland and encouraging climate-friendly forestry practices that increase carbon storage and help forests become resilient to climate change are critical to achieving Maine's carbon neutrality goal.

Protecting Maine's natural and working lands and waters will continue to require research and monitoring to understand climate impacts. Expanded capacity, technical support, and incentives will support individuals, businesses, and communities as they implement adaptation strategies for

climate impacts. New products and markets can create economic opportunities for Maine's forest products, agriculture, and fisheries and aquaculture industries to help them diversify and adapt to climate changes.

## 1. Increase the total acreage of conserved Natural and Working Lands in the state to 30 percent by 2030.

- **Focus on areas that are richly biodiverse, have high potential to draw back and store carbon, are culturally and economically important, and/or that can improve equitable public access.**
- **Safeguard the state's agricultural resources by doubling permanently protected farmland in Maine by 2030.**
- **Significantly expand the funding and eligibility for fee and easement acquisition through existing and new land conservation programs, including the Land for Maine's Future Program.**
- **Restore and increase the resilience of coastal, marine, and inland habitats, prioritizing areas that connect to already conserved lands and waters and promote ecosystem connectivity and health.**
- **Expand public and private capacity to support conservation acquisition and stewardship, including participatory planning, due diligence, ongoing land management and monitoring, and program evaluation and accountability.**

In recent years, Maine has conserved about 50,000 acres annually. This means that to reach the goal of conserving 30 percent of land by 2030, approximately 250,000 additional acres need to be conserved every year. To increase the rate of land conservation in Maine, the State should establish permanent, ongoing funding for the Land for Maine's Future Program.

As Maine works to increase the percentage of conserved lands, it should prioritize areas with high carbon storage potential, high biodiversity, cultural and economic value, and opportunities to expand public access for all Mainers.

The vast majority of conserved lands in Maine are large working forest conservation easements. Farmland conservation has not had the same level of public investment, with only 3.5 percent conserved. Farmland conservation helps Maine's food system to become more resilient to future climate-related disruptions to the global supply chain. Strategies such as purchasing agricultural easements can make land more affordable as development increases prices, reducing barriers for new farmers and helping families transfer farms to the next generation. Maine should enhance and fund farmland conservation in collaboration with non-profit and federal partners.

Since most forested lands in Maine are privately owned, Maine should use a collaborative process for meeting land conservation goals for natural and working lands while respecting the individual management objectives of private landowners.

Coastal habitats play an important role in carbon storage and protection from sea level rise. Maine fishermen and harvesters' livelihoods and those harvesting for sustenance are dependent on continued health of coastal ecosystems. As Maine's climate changes, protecting coastal and

marine ecosystems is no longer sufficient. Maine must prioritize habitat restoration and resilience, aiming to restore functions along with mitigating harm. Maine should convene a state-wide process by the end of 2025 to identify important coastal and marine habitat types, taking into account multiple habitat benefits, including blue carbon (carbon storage), habitat connectivity (to allow plants and animals to move across the landscape to find the places they need to thrive as these habitats change over time), biogenic habitats (like eelgrass, shellfish bars, and kelp forests), support for rare species, and the significance to Maine's coastal fisheries.

## 2. Develop new incentives to increase forest carbon storage

- **Provide incentives, technical assistance, training, and education to forest landowners, foresters, and loggers to increase the use of climate-friendly practices.**
- **Improve forest carbon data, monitoring, and verification to support forest policymaking and outreach program development.**
- **Continue to engage in a multistate collaboration with state agencies and universities in consultation with landowners regarding the role of forest carbon sequestration in reducing net greenhouse gas emissions.**

Maine forests and wood products store significant amounts of carbon. Maintaining existing forestland and encouraging climate-friendly forestry practices are critical to achieving Maine's carbon neutrality goal. Maine forests also contribute to human health through clean air and water and provide wildlife habitat. Most of Maine forestland is located in the state's rural communities, where the forest products industry includes many small businesses, such as logging and contractor businesses, and family woodland owners that supply wood markets.

Climate-friendly forest practices store more carbon and help forests become more resilient to climate change. The State should continue to increase technical assistance and provide incentives to forest landowners, foresters, and loggers to implement climate-friendly forest practices and management strategies while maintaining a robust forest economy. This includes assessing and identifying potential incentives for climate-friendly land management, such as expanding Maine's Open Space Current Use taxation program to include incentives for climate-friendly land management; expanding WoodsWISE, a program that offers cost-share assistance to landowners for forest management planning; and identifying new technical assistance and financial incentives such as assistance to loggers for the cost of skidder bridges to reduce harvest impacts.

The availability, content, and geographic focus of carbon-offset and practice-based forest carbon programs for forest landowners are evolving rapidly. Maine should explore potential opportunities to increase the suitability and availability of incentive programs for Maine's forest landowners that increase forest carbon sequestration and storage while maintaining a robust forest economy.

Maine should also continue to engage in a multistate collaboration with state agencies and universities in consultation with landowners regarding the role of forest carbon sequestration in reducing net greenhouse gas emissions, which, among other benefits, will help inform the State as it determines how it will account for carbon sequestration markets in its emissions accounting.

Maine Forest Service, in collaboration with others, should develop and maintain materials and provide training on extreme weather Best Management Practices, forest carbon offset programs, other revenue-generating forest carbon programs, current use taxation programs, and other strategies. The materials and training should target outreach to specific audiences such as landowners of over 40 acres, new woodland owners, farmers, foresters, and loggers. to expand the implementation of climate-friendly forest management practices.

The Maine Bureau of Parks and Lands should explore the potential benefits of engaging in forest carbon pilot projects that increase carbon sequestration, maintain forest sector jobs, provide new revenue streams for the management of public lands, and contribute practical knowledge on climate-friendly forest management practices.

Finally, the State should continue to pursue innovation and new markets for forest products, including the potential to replace materials, such as in construction, that have higher emissions footprints. Increasing markets for low-grade wood will help to support the adoption of climate-friendly forest practices. See Strategy D for more details on the opportunity of forest products to meet Maine's climate and economic development goals.

### 3. Increase the amount of food consumed in Maine from state food producers to 30 percent by 2030

- **Create a Maine Food Plan to recommend ways to bolster the local food system. The food planning process should center community involvement and collect baseline information about Maine-grown food production and consumption.**
- **Strengthen the viability of Maine farms, fisheries, aquaculture, and other food producers through expanded, equitable, and ongoing access to funding, technical assistance, and processing and distribution infrastructure.**
- **Create more local markets for Maine producers and increase consumers' access to Maine food.**

A statewide food planning process involving the State, academic institutions, and other key institutional players and stakeholders will identify specific recommendations to remove barriers, support growth in the Maine food system, and increase access to Maine-grown and harvested food, including new and expanded funding mechanisms, policies and programs. This will build on ongoing efforts such as Maine's Roadmap to End Hunger and the Seafood Economic Accelerator for Maine (SEA Maine).

Increased marketing and education about Gulf of Maine species that are less familiar to Maine consumers, and incentives for markets and supply chains to sell local species, will help increase consumption of Maine seafood. SEA Maine is an industry-led initiative bringing together leaders in Maine's commercial fishing, aquaculture, and seafood economy to develop a roadmap and action plan for economic growth, market and workforce development, and greater resiliency in Maine's seafood economy.

Maine should continue to ensure that Maine-grown food is affordable and accessible. Low-income residents are disproportionately impacted by food insecurity. Increasing local food availability,

together with removing market barriers for producers and customers, will help all people in Maine have access to high-quality, nutritious, and delicious Maine-grown food.

Strengthening local food production will support climate-friendly agricultural practices, including cover cropping, crop rotation, agroforestry, and rotational grazing. Climate-friendly farming practices can also capture more carbon in soils over the long term. Incorporating these nature-based solutions into farming also enhances biodiversity, improves water quality, and helps restore soils and ecosystems.

#### 4. Reduce food loss and waste 50 percent by 2030

- **Require annual reporting for certain facilities that produce large amounts of food waste, to divert ten percent more food from landfills by 2030.**
- **Maximize food rescue, recovery and donation of edible food through state tax credits, clearer liability protections, and support for donation infrastructure.**

Preventing food waste can reduce Maine's greenhouse gas emissions while saving consumers money and making sure that edible food goes to those who need it. Food that ends up in landfills is a significant source of methane, one of the most harmful greenhouse gases.

The 2024 Food Loss and Waste Study<sup>8</sup> found that 37% of wasted food in Maine is generated by businesses and 36% is generated by residences. Research shows that measuring and tracking can spur action to reduce waste and costs. Maine should require large producers of food waste who generate at least one ton a week to track and report food waste annually, later expanding to midsize producers of food waste, like those generating half a ton per week. Additional investments in consumer education by waste management companies, and by educational and community-based organizations can also help reduce food waste.

Food rescue and donation keeps food out of landfills and redistributes it to people who need it, nourishing people and benefiting the environment. Food rescue across Maine is already strengthening communities and reducing greenhouse gas emissions. Expanding these programs to food processing, storage, and transportation, and connecting farms and institutions like schools, prisons, and food pantries, would further reduce waste and emissions.

Federal law provides some liability protections for food donors and additional legislation to clarify liability protections or to provide state tax credits could boost donation of safe, edible foods that would otherwise go to waste.

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[https://www.maine.gov/dep/waste/publications/documents/ME%20DEP%20Food%20Loss%20and%20Waste%20Generation%20Study\\_RRS\\_4.1.29.pdf](https://www.maine.gov/dep/waste/publications/documents/ME%20DEP%20Food%20Loss%20and%20Waste%20Generation%20Study_RRS_4.1.29.pdf)

## 5. Support Maine's farming, forestry and fisheries industries in adapting to climate change

- **Promote stewardship of resilient ecosystems that support innovative markets resilient to climate change, and grow opportunities in fisheries, aquaculture, forest products, and agriculture.**
- **Maintain and expand equitable access to cultural, traditional, emerging, and heritage industries.**
- **Focus resilience efforts on communities most economically dependent on natural resource industries.**

Maine's natural resource industries are central to the cultural identity and economic health of the people and communities that depend on them. Jobs in these industries can provide financial security and offer pathways for advancement. Maine should focus climate adaptation and resilience efforts on the people and communities most dependent on those industries.

To promote opportunity and protect against job-losses, Maine should help businesses adapt their business models to a rapidly changing natural environment. For fisheries and aquaculture, this includes introducing emerging, underutilized, and invasive species currently in the Gulf of Maine and supporting information into local food markets and growing strategies that make local seafood accessible through more markets. Evaluating potential permitting, licensing, regulatory and management reforms would support opportunities for economic diversity within these industries. For emerging species, flexible and new permitting mechanisms will be needed, with cooperation with federal regulators.

Growing global demand for climate-friendly forest products continues to be a significant opportunity for Maine. In agriculture, efforts to increase the amount of food consumed in Maine from Maine food producers and harvesters will strengthen Maine's food system and boost the local food economy, on top of continued efforts to boost exports to regional markets.

## 6. Monitor and increase resilience of inland and coastal and marine ecosystems

- **Guide informed decisions by creating new monitoring programs to fill data gaps, including capturing changes to ecosystems and effects of extreme weather events on people and natural resources.**
- **Increase technical assistance and capacity to provide guidance on climate solutions to communities and natural resources industries, particularly through nature-based solutions.**

The State should continue to enhance monitoring and data collection of natural and working lands and waters to better understand the impacts of climate change, identify future trends, and monitor economic and social conditions. This includes documenting the current status of Gulf of Maine species, detecting emerging species, and developing emerging fisheries. Ensuring equitable access



to the gathering of environmental and climate data will mean including communities in deciding what data is collected and how it is used.

Maine should prioritize monitoring, community engagement, conservation, and increasing resilience in habitat areas that support land and water connectivity, ecosystem health, and resilience of ecosystems to sea-level rise and other climate change impacts. Funding for habitat resilience and protection should leverage federal funding, especially in communities most vulnerable to climate impacts.

## 7. Reduce and capture methane emissions from Maine's waste sector

- **By 2030, develop and implement a strategic plan to reduce and capture methane by keeping food out of landfills and other actions identified by the Maine Department of Environmental Protection's methane study.**
- **Provide subsidies to make methane capture systems feasible for small landfills, incentivize anaerobic digestion and support diversion of food waste, manure, and other high methane-producing materials from waste streams.**

Methane is a powerful greenhouse gas with a warming effect about 80 times more potent than carbon dioxide. New monitoring technologies suggest that landfills in the U.S. may be emitting significantly more methane than has been reported. A 2024 study in Maine will estimate methane generation and identify cost-effective opportunities to reduce and capture methane from waste sources including municipal solid waste, agricultural waste products, and wastewater. This study will inform the development of a plan to reduce and capture methane from these sources. Strategies could include avoiding landfilling high methane-generating organic wastes, technical assistance to facilities, and voluntary opportunities to reduce and capture methane through best practices, like gas capture, biologically active cover, and fire prevention.

Maine's 2024 materials management plan recommends evaluating subsidies for anaerobic digestion and other processes to reduce waste. Nearly 60 percent of landfill methane comes from food, making food diversion key to methane reduction.<sup>9</sup> Compost cover can reduce methane emissions at landfills, especially closed landfills.

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<sup>9</sup> <https://www.epa.gov/land-research/quantifying-methane-emissions-landfilled-food-waste>

## Strategy F: Build Healthy and Resilient Communities

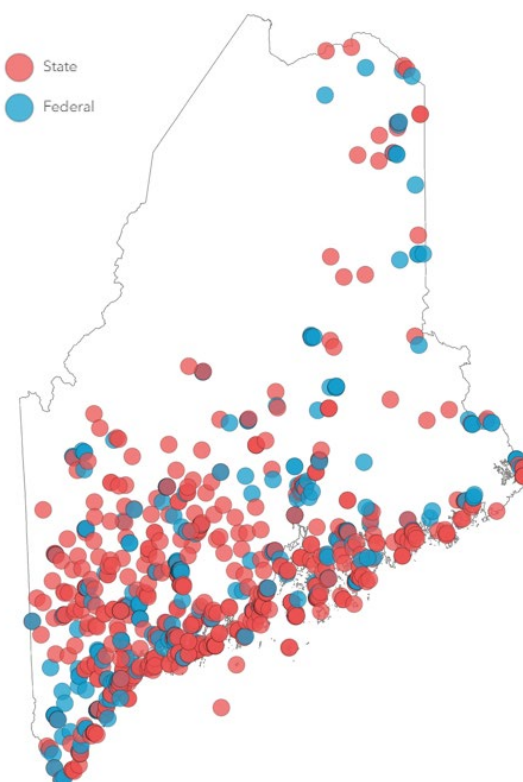
The past two years have thrown into sharp relief the impact of climate change on Maine people. Persistent warming trends on land and at sea are generating more frequent and damaging storms, rising seas, flooding, and drought, all of which threaten the lives of Maine's people, their livelihoods in Maine's heritage industries, and our economy and environment.

Maine continues to recover from a series of devastating storms in late 2023 and early 2024 that caused unprecedented damage to infrastructure and communities and claimed four lives. On December 18, 2023, catastrophic flooding overflowed the banks of the Kennebec, Androscoggin, and Saco Rivers, resulting in two municipalities performing emergency evacuations. Widespread prolonged winds compounded the impact by downing trees and power lines, leaving over 440,000 households without power for several days. Four people lost their lives as a result of the storm, including two whose vehicle was swept away by floodwaters.

Just weeks later, on January 10, 2024, another storm hit the Maine coast, causing significant flooding and infrastructure damage, including ruined homes, buildings, and roadways, damaged lighthouses, and devastated docks, wharves and piers serving Maine's iconic and vital working waterfronts. With natural and manmade coastal protections severely weakened, on January 13, the state suffered a second coastal storm and a record high storm tide that further battered coastal homes, businesses, beaches, and waterfronts.

Estimates of the combined damage wrought by these storms were estimated to exceed \$90 million dollars in damage just to public infrastructure. Some of the hardest hit areas of the state included rural communities with limited funding and local capacity for guiding and implementing recovery projects. These storms have further driven home the danger posed by the climate risks facing our state, and the urgent need to plan for and invest in climate resilience at the

**Investing in Resilient Maine Communities** Since 2020, state and federal agencies have awarded an unprecedented \$\_\_ to Maine communities to help them become more climate resilient. To funnel support to areas more in need, state agencies have lowered match requirements and prioritized underserved communities and areas especially vulnerable to climate impacts. \_\_ percent of funding since 2020 has been awarded to small communities with fewer than 4,000 people.



state, regional, and local levels. Maine communities continue to need funding, tools, and support to tackle these climate impacts as they balance the interconnected challenges of aging infrastructure, affordable housing, public health, and more.

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### ***Progress Since 2020***

**Empowering Local and Regional Resilience Efforts:** The Mills Administration established the Community Resilience Partnership in 2021 to support climate and clean energy action by municipalities and Tribal governments. Today, over 225 communities are enrolled in the Partnership, which has awarded \$\_\_\_ to communities to reduce carbon emissions, transition to clean energy, and become more resilient to climate change impacts such as extreme storms, flooding, rising sea levels, public health risks, and more.

The Maine Office of Community Affairs (MOCA) was established in 2024 to partner with Maine communities to strengthen planning and implementation at the local level. Communities across Maine are contending with increasingly complex challenges, such as the impacts of climate effects like extreme storms, flooding, and rising sea levels, as well as housing shortages and population growth. MOCA will serve as a one-stop shop within State government to provide coordinated and efficient planning, technical assistance, and financial support to towns, cities, Tribal governments and regional entities, which will help them better plan for common challenges, pursue solutions, and create stronger, more resilient communities. Programs involving land use, housing and flood plain planning, as well as building codes, coastal management, and some climate resilience funding and programs, will be reorganized into the new Office starting in July 2025. Other state programs that provide relevant services to communities will remain in other agencies, with MOCA ensuring increased coordination across agencies and program staff.

**Establishing the State Infrastructure Adaptation Fund:** The Mills Administration established the Maine Infrastructure Adaptation Fund to provide funding to municipal and tribal governments to adapt critical infrastructure to reduce vulnerability to climate change. Since 2022, the Fund has awarded more than \$76 million in grants to Maine communities, including

- nearly \$20 million in federal funds from the Maine Jobs and Recovery Plan awarded to 13 communities in 2022 to protect vital infrastructure from effects of climate change, including projects to address flooding along ocean and riverfronts, protect stormwater and wastewater systems, and install culverts to reduce flooding;
- \$5.4 million awarded to 37 communities in 2024 to support projects that protect vulnerable infrastructure and improve resiliency to the effects of climate change, including \$4 million for 20 culvert projects in 18 communities; and
- \$50 million in recovery funds from Governor Mills and the Maine Legislature to help Maine communities rebuild in the wake of devastating storms in December 2023 and January 2024 and ensure their infrastructure can withstand the impacts of extreme storms in the future. This included \$25 million for working waterfront resilience and \$25 million for significant infrastructure adaptation, repair and improvements that support public safety, protection of essential community assets, and long-term infrastructure resiliency.

**Adopting Official Sea Level Rise Projections:** LD 1572, Resolve, To Analyze the Impact of Sea Level Rise, was signed by Governor Mills in June 2021. Public Law 2021, ch. 590 – An Act to Implement Agency Recommendations Related to Sea Level Rise and Climate Resilience, revised municipal planning definitions to clarify the definition of a climate action plan and its inclusion in other municipal planning efforts; it also adds a requirement that the award of financial assistance is prioritized in communities who prepare climate vulnerability assessments and adopt climate action plans. P.L. 2021, ch. 590 also added requirements to consider the effect of at least 1.5 feet of relative sea level rise by 2050 and 4 feet of relative sea level rise by 2100 when evaluating harmonious fit of a project under the Site Location of Development Act, within the service area of the Land Use Planning Commission, and the Maine Hazardous Waste, Septage and Solid Waste Management Act.

Incorporating these official projections gives communities the common standards and tools they need to adapt waterfront planning, development, risk reduction, and conservation to become more resilient.

**Equipping Home Buyers with Information:** S.P. 863 Public Law, Chapter 585 took effect on August 9, 2024, and requires sellers of real estate to disclose whether their properties are in a digitally mapped Special Flood Hazard Area, according to the Federal Emergency Management Agency. This law protects home buyers by giving them more information about the flood risk of their potential purchases.

**Assessing Climate Vulnerability to Reduce Risks:** The Governor’s Office of Policy Innovation and the Future has received \$809,000 from the Federal Emergency Management Agency to assess the vulnerability of state infrastructure to climate impacts. The recently updated 2023 Maine State Hazard Mitigation Plan provides an assessment of risk from natural hazards including climate impacts, as well as strategies to reduce risk. The Community Resilience Partnership supports vulnerability assessments at local and regional levels.

## 1. Increase local capacity for climate resilience

- **Expand investment in grants and assistance to communities, so that by 2030, 80% of Maine communities are enrolled in the Community Resilience Partnership (CRP) and have received grants through the CRP or the Maine Infrastructure Adaptation Fund.**
- **Help communities strengthen communication networks before, during, and after disasters, especially for people who traditional channels may not reach.**
- **Develop and share guidance with communities that helps reduce the risks to development in areas vulnerable to wildfire, severe storms, extreme heat and cold, or other climate-related hazards.**
- **Develop tools to help communities and people “get out of harm’s way.”**
- **Increase local and regional capacity for management of storm debris and household hazardous wastes.**

Programs like the Community Resilience Partnership and the Maine Infrastructure Adaptation Fund have helped communities take meaningful steps toward establishing climate and energy priorities, planning to reduce risk, and addressing urgent infrastructure improvements. Sustained funding and assistance, with a focus on leveraging federal investments, will help communities conduct vulnerability assessments, develop strategies that consider the full spectrum of options for reducing risk, and continue to make necessary improvements to infrastructure and regulations. These programs and others should encourage plans and projects that protect access to vital economic infrastructure, like working waterfronts, and that integrate nature-based approaches to risk management, such as marsh conservation, dune stabilization, and river corridor protections.

As Maine communities confront natural disasters and plan for climate impacts, they need information and tools to engage residents in difficult conversations about reducing risk. These conversations should embrace local knowledge, collaborative learning, and deliberation with particular focus to include those most at risk from these impacts.

**Resilience Strategies for Communities** As climate impacts increase and pose a growing threat to Maine people, communities will need to consider a range of responses:

- **Avoid** Avoiding climate impacts can include phasing out development in vulnerable areas through zoning and land acquisition.
- **Protect** Protecting people and infrastructure from climate impacts might mean stabilizing or buffering vulnerable areas using saltmarshes or other nature-based solutions.
- **Accommodate** Accommodating climate impacts can include adapting to more water by elevating buildings and infrastructure.
- **Retreat** Retreating from climate impacts, or “getting out of harm’s way” means relocating people and infrastructure away from hazardous areas.

In preparation for emergencies, the State should help communities establish consistent and effective communications for before, during, and immediately following extreme weather events.

Communities should use best practices for reaching a broad array of residents, such as using accessible language and technologies, translating information into multiple languages, and using many different methods of communication including radio, television, social media, and other networks.

As Maine communities develop climate resilience plans, they can benefit from a number of tools and incentives. Increasing the number of property owners who have flood insurance policies and the number of communities that participate in the National Flood Insurance Program will expand the resources available for recovery from flood disasters. Increasing municipal participation in the Federal Emergency Management Agency (FEMA) Community Rating System incentive program will lower flood insurance premiums for policyholders in those communities by up to 45 percent. Other potential tools could include a voluntary “buyout” program that pays property owners the market value of their property so they can move to a safer location when they decide that options like insurance or adapting in place no longer make sense. Such a program needs to balance risk reduction with other potential local concerns such as identifying safer areas, maintaining the sense of community, ensuring sufficient affordable housing, and impact to municipal budgets.

Storm debris management can prevent building and other materials from ending up in waterways, which reduces public safety risks, damage to waterfront infrastructure such as piping, and potential water pollution. The State should take a comprehensive approach to storm debris management, including supporting municipalities to plan ahead and register temporary debris management sites and adopt early warning systems; updating the State’s Debris Management Plan; providing regional staff capacity; and organizing qualified volunteer networks to assist in debris management after storms.

## 2. Enhance the State’s ability to prepare for and recover from natural disasters

- **Increase capacity for disaster planning and management at state, county, and local levels.**
- **Support planning and decision making that reduces exposure to natural hazards and climate vulnerabilities.**
- **Establish a framework for measuring the effectiveness and equity of adaptation and resilience actions.**

Maine endured a record number of natural disasters in the past two years – a trend that the state must prepare to see continue. Emergency management often falls to relatively small teams or individuals at the state, county, and local levels. This includes planning and readiness, in-the-moment disaster response, long-term recovery for individuals and communities, and proactive measures that reduce the risk of damage from future natural disasters.

Increasing capacity and resources for emergency management at all levels of government will ensure the state and communities are prepared for more frequent storms and are better positioned to recover. Investing in increased capacity to manage disaster events and proactive hazard mitigation efforts at the Maine Emergency Management Agency will enable the state to increase

assistance to communities and maximize federal funding opportunities like the federal Safeguarding Tomorrow program for risk reduction and community resilience projects. Building capacity also includes providing better information, training, and communication about climate hazards to first responders and communities, so they can plan and prepare for the rising frequency and severity of storms and floods. Increasing and coordinating opportunities for qualified volunteers to assist before, during, and after disasters builds capacity and strengthens communities.

Supporting planning and decision making that reduces exposure to natural and climate hazards is far less traumatic and more cost effective than rebuilding after a disaster. According to national estimates, every dollar invested in lessening the impact of disasters saves about \$13 in future costs of damage and recovery. Expanding climate vulnerability assessments to include not only physical infrastructure, but also social support networks, threats to public health, and natural resource assets will help the state and communities better anticipate change and take proactive measures to protect public safety. These assessments should blend community knowledge with data and tools that illuminate blind spots and future conditions. Requiring communities in flood plains to draw on available vulnerability assessments and hazard mitigation plans when regulating development and determining where to locate new infrastructure could avoid adding new risk. Increasing the use of nature-based solutions, particularly for bluff and dune management, in community-led projects and local ordinances can provide protection, natural amenities, and ecosystem benefits.

#### **Federal Funding Spotlight: Historic Resilience Grant Positions Maine to Meet the Climate Crisis Head On**

In 2024, Maine won a \$69 million grant through the National Oceanic and Atmospheric Administration's highly competitive Climate Resilience Grant Challenge to protect Maine's communities, environment, and working waterfronts from extreme storms, flooding, and rising sea levels. This represents one of the largest investments in climate resilience ever in Maine history. Over the next 5 years, these grant funds will prove vital to advancing the strategies of *Maine Won't Wait*, including through the Community Resilience Partnership to expand support for local planning and projects to address climate effects, supporting investments in critical infrastructure projects, and bolstering efforts to protect vulnerable coastal and inland ecosystems through natural climate solutions, flood modeling, and community efforts.

How does Maine know if we are becoming more resilient to climate change and natural disasters? The ultimate test would be a major disaster that exposes which resiliency strategies were successful in avoiding damage and which were not. A more proactive strategy would measure progress and test assumptions at regular intervals, both in periods of calm and following natural disasters. The state should, in collaboration with stakeholders, develop a resilience framework that measures the effectiveness and equity of policies, actions, and investments in resilience, providing feedback that allows strategies to adjust and adapt over time.



## Infrastructure Rebuilding and Resilience Commission

The Infrastructure Rebuilding and Resilience Commission – created by Executive Order of Governor Janet Mills in May 2024 – is reviewing and evaluating Maine’s response to the devastating 2023 and 2024 storms, identifying crucial areas for near-term investment and policy needs, and developing the state’s first long-term infrastructure plan to ensure that Maine is ready for the harsh storms ahead. The Commission, comprised of individuals with expertise in infrastructure, construction, engineering, electrical utilities, floodplain management, financing, philanthropy, emergency response, and climate science, released their interim report in November 2024. Recommendations align closely with the Maine Won’t Wait 2024 update, and provide further detail on topics including funding, community support, data sharing, vulnerable infrastructure, energy resilience, and regulations that support rebuilding with resilience. The recommendations also identify gaps in funding and financing resources, proposes new approaches to improve disaster recovery and response in the state, and strengthens resilience supports at the state, regional, and local levels. The Commission will release a long-term resilience plan for Maine in May 2025.

### 3. Expand access to funding and financing for climate adaptation and emissions reduction

- **Expand finance options to ensure sustainable funding and financing for climate-ready infrastructure and adaptation projects. Study the feasibility of a “Resilience Bank” and other finance tools by 2026.**
- **Simplify and coordinate state grant application processes, including a common access portal for information about state grant programs by 2026.**

The Community Resilience Partnership and Maine Infrastructure Adaptation Fund were established to support locally and regionally significant resiliency projects. The state has invested \$\_\_ in resilience efforts across \_\_ communities through these and other programs since 2020. While these investments are significant, the disastrous storms in 2023 and 2024 demonstrated that Maine must substantially increase investments in community resilience and climate-ready infrastructure and expand access to funding for communities.

A resilience bank with access to private capital would augment public investments in resilience. Large and complex community projects – such as protecting wastewater treatment plants from flooding or elevating waterfront infrastructure above storm surges – currently must pull together multiple sources of state and federal funding. A resilience bank could speed projects to completion with financial tools, underwriting, and administrative expertise matched to the complexity of the projects.

To improve access to existing state grant funds, the State should create a single common access portal for information about grant programs, funding uses, eligibility, and application deadlines. Agencies should explore ways to make grant funding more accessible to underserved communities and communities especially vulnerable to climate impacts. This may include simplifying application forms and processes, creating streamlined deadlines and contracting processes across agencies, and targeting assistance for proposal development and grant writing to under-resourced communities, including connecting applicants to organizations that can assist them.

#### 4. Help Maine people prepare their homes and businesses for climate changes

- **Leverage building codes and standards, energy efficiency, education and outreach to help people prepare their homes for climate change, especially low-income families and those with health risks. Invest in mold abatement and prevention alongside weatherization and home repair programs.**
- **Increase funding and financing options for building-scale distributed energy resources like solar and storage (including electric vehicle batteries that are used as energy storage) that can provide electricity during power outages.**
- **Expand education and outreach for programs that encourage installation of building-scale distributed energy resources like solar and storage, including through partnerships with community-based organizations.**
- **Enhance funding to mitigate risks of oil spills from residential oil tanks.**

To help Maine homes and businesses stay resilient in the face of climate change, state and local governments should educate and inform people about ways to prepare their homes and businesses for extreme weather events. This includes helping households understand, for example, how to take important steps such as having flood insurance and a sump pump with a battery back-up.

Many actions that make homes and businesses more resilient to climate change can also reduce greenhouse gas emissions. Building and energy codes address resilience through insulation, fire resistance, structural integrity, indoor air quality, and more. The Federal Emergency Management Agency (FEMA) has estimated that building to the International Building Codes in Maine has prevented \$1.7 million in annual average avoided losses due to damages from hurricanes and flooding since 2000.<sup>10</sup> Building codes also directly improve the health and safety of new buildings. Recent versions of the International Energy Conservation Code include requirements related to mechanical ventilation systems, which addresses problems that can lead to respiratory ailments, such as mold and mildew.

Heat pumps and weatherization also can address health concerns related to climate change. Heat pumps provide air filtration inside the home, which can protect air quality from wildfire smoke. Heat pumps also provide efficient cooling to reduce the impact of extreme heat. Weatherization, when paired with necessary health and safety upgrades, can have additional benefits beyond energy savings, including more livable homes and improved general health.<sup>11</sup> The state should continue to provide assistance for heat pumps and weatherization, and include health and safety remedies and mold abatement and prevention for low-income Mainers.

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<sup>10</sup> Federal Emergency Management Agency (2020). Building Codes Save: A Nationwide Study. [https://www.fema.gov/sites/default/files/2020-11/fema\\_building-codes-save\\_study.pdf](https://www.fema.gov/sites/default/files/2020-11/fema_building-codes-save_study.pdf)

<sup>11</sup> Oak Ridge National Laboratory (2014). Health and Household-Related Benefits Attributable to the Weatherization Assistance Program. [https://weatherization.ornl.gov/wpcontent/uploads/pdf/WAPRetroEvalFinalReports/ORNL\\_TM-2014\\_345.pdf](https://weatherization.ornl.gov/wpcontent/uploads/pdf/WAPRetroEvalFinalReports/ORNL_TM-2014_345.pdf)

Building-scale renewable energy and storage, including electric vehicle batteries when they are designed for vehicle to home charging, can reduce emissions and energy bills while powering homes, community locations and businesses during power outages caused by extreme weather. As the state seeks to transition to clean and renewable energy, it should ensure that the benefits of the energy transition flow to low-income households and communities especially vulnerable to climate impacts. In 2024, the Governor’s Energy Office will leverage Maine’s \$62 million “Solar for All” award from the U.S. Environmental Protection Agency to increase access to solar and energy storage for low- income households. Significant tax incentives are also available through the Inflation Reduction Act to help homeowners and businesses install solar and storage. As with weatherization and heating systems, the State should provide robust education and outreach to ensure that Mainers understand the benefits and incentives for renewable energy and storage.

Flooding associated with extreme storm events has dramatically increased the number of oil spills from residential heating oil tanks,<sup>12</sup> threatening human health and the environment. To mitigate these risks, the Maine Department of Environmental Protection (DEP) should supplement its existing program to properly drain, remove, and dispose of high-risk residential heating oil tanks 4, with a focus on low- and medium-income households in areas with flood risk; this could be funded by a surcharge on the purchase of residential heating oil tanks for oil or kerosene. Transitioning to heat pumps will reduce the risk of basement oil spills in Maine homes and increase resilience to flood impacts.

## 5. Protect critical working waterfront infrastructure

- **Preserve and expand working waterfront access, including intertidal access. Develop a statewide working waterfront strategy by the end of 2025 to address funding and data gaps, increase publicly accessible infrastructure, and remove barriers to access.**
- **Increase the resilience of public and private working waterfront infrastructure by funding improvements that protect against climate impacts, including clean energy installations that make businesses more resilient during power outages, and addressing workforce and contractor capacity gaps.**
- **Support communities to protect working waterfronts by using planning and zoning strategies, investing in working waterfront infrastructure that meets community needs, and increasing public understanding about the economic and cultural importance of Maine’s working waterfronts.**

Maine’s coastal communities, working waterfronts, fisheries and aquaculture businesses are directly impacted by climate change, including sea level rise and storm surge, and the rapidly changing Gulf of Maine ecosystem. The severity of these impacts was amplified in January 2024, when severe storms caused disastrous damage along the Maine coast, including locations where heavy

“We’ve always had storms, but storms are more out of the south and southeast now, and out of that direction, a lot of our harbor is unprotected.” - Commercial fisherman in Spruce Head

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<sup>12</sup> Yechivi, Hannah. “Recent powerful storms have led to more than 140 oil spill cleanups in Maine.” News Center Maine, 19 January 2024, <https://www.newscentermaine.com/article/weather/severe-weather/maine-department-environmental-protection-oil-spill-cleanup-funding/97-0f4e21d0-85a5-419b-a86b-f99839e72d8d>

wind, rain and flooding destroyed homes and roads, and devastated docks, wharves and piers.

Maine's working waterfronts are vital to the state, both economically and culturally, and access to the ocean is a crucial part of Maine's identity. Maine needs a statewide strategy that charts a path forward to protect and strengthen public and private working waterfront access. The strategy should address funding and data gaps, increase public infrastructure, and remove barriers to access. Maine's working waterfronts include both publicly and privately owned properties, each providing essential access to coastal resources.

To build resilient coastal communities and protect public working waterfront infrastructure, Maine should fund improvements that make wharfs, piers, and other structures more resilient to future storm events. This should include clean energy investments that can reduce business operating costs for working waterfront businesses and can increase resilience in power outages.

Given the large role private infrastructure plays in the marine sector, Maine should increase technical assistance for privately owned working waterfront businesses and properties, including making information about resilience upgrades widely accessible and understandable. Strengthening markets will help to support financially viable fisheries and aquaculture businesses that can also invest in and maintain private working waterfront infrastructure.

## 6. Strengthen Public Health Monitoring, Education, and Prevention

- **Increase funding for additional air quality monitoring stations in locations impacted by wildfire.**
- **Aid communities to establish emergency warming and cooling centers to address extreme temperature vulnerabilities.**
- **Increase assistance to communities to plant trees in urban areas where “heat islands” are most likely to occur.**
- **Assess and communicate the potential spread of water-borne illnesses that cause illnesses in marine, freshwater, and public drinking water systems, especially following severe weather events.**
- **Continue to monitor for and build public awareness about vector-borne diseases from ticks and mosquitoes.**

Our understanding of links between climate change and human health continues to expand. Public health monitoring, education, and prevention should expand to include indoor air quality, drinking water safety, and exposure to extreme heat and cold temperatures. Addressing these climate-related health concerns will benefit individuals and households, especially people at higher risk due to pre-existing health conditions, economic insecurity, or housing quality issues.

Maine should increase the number of air quality monitors across the state to assess impacts of wildfire on rural communities and further promote the Maine Department of Environmental Protection's air quality alert system.

Extreme heat and higher nighttime temperatures are a health risk for outdoor workers and people with pre-existing conditions, including older Mainers. While heat pump heating and cooling

systems are one solution for reducing individuals' exposure to high heat, additional options can benefit all community members. Encouraging communities to establish emergency warming, cooling, and clean air centers will give people a safe option for relief from extreme weather. Ensuring that these centers are accessible, energy efficient, and use clean energy where feasible can reduce emissions while protecting people especially at risk from climate impacts. Tree plantings can provide shade from the sun and reduce the "heat-island" effect in Maine's urban areas.

Algae and invasive species are spreading due to warmer waters. In a warming climate, Maine's marine and freshwater environments and drinking water sources may be exposed to water-borne diseases, invasive species, and flooding-related contamination that pose public health risks. The risks of illness from water-borne diseases and harmful algal blooms should be assessed, monitored, and communicated. Maine should continue to monitor for and build public awareness about vector-borne diseases from ticks and mosquitoes. Expanding the monitoring of public drinking water sources, especially after severe storms, for bacteria, saltwater intrusion, and wellhead contamination from flooding can proactively identify and mitigate potential public health risks. The State should also continue investing in improvements to wastewater infrastructure that reduce threats to public health.

## **7. Increase awareness and action on the mental health impacts of climate change**

- **Better integrate mental health impacts from climate change into resilience planning by increasing post-disaster storm collaboration with Maine CDC and interagency work to support programs for increased awareness, education, and resources.**
- **Strengthen connections between disaster planning and mental health services with a focus on youth, first responders, and other affected groups.**
- **Provide training, assessments, educational materials, and funding across health care services to address mental health impacts related to climate change.**
- **Establish programming and education for schools and communities to build resiliency, agency, and hope regarding climate change.**

Climate change weighs on the mental health and emotional wellbeing of many people across Maine. When natural disasters strike, acute mental health traumas can affect people whose families and livelihoods are upended. First responders and municipal officials frequently and repeatedly navigate mental and emotional stresses while safeguarding their communities. Slower moving climate impacts such as effects on the environment and Maine's natural resource industries can lead to the accumulation of mental health stress over time. Feelings of powerlessness can diminish hope for a safe and prosperous future, especially among young people.

Increasing awareness about mental health impacts of climate change among health care providers, educators, first responders, and community leaders is an important first step. Conducting assessments of mental health preparedness within communities, emergency response organizations, and social service providers can highlight needs to be planned for ahead of a

disaster or emergency, especially for communities facing significant storm impacts and for emergency and front-line workers.

Providing resources to prevent and address mental health impacts of climate change should flow in two directions. “Top-down” approaches include training and support programs for clinicians, health care providers, emergency responders, educators, and faith leaders. “Bottom-up” approaches supplement professional services and normalize seeking mental health support for climate change impacts through peer counseling, community listening sessions, support groups, and volunteer engagement. Importantly for youth, providing information and programming in climate education curricula and service-learning for high school students in developmentally appropriate ways will support resilience, agency, and hope.

## **8. Promote and incentivize land use strategies that help communities avoid future transportation emissions, conserve natural and working lands, create affordable housing, and meet the state’s clean energy goals**

- **Promote and incentivize compact development near community centers, through neighborhood-level land use planning, building in already developed areas with vacant space, and redeveloping existing buildings.**
- **Promote siting of clean energy and electric grid investments that utilize existing infrastructure and seek to minimize impacts to sensitive natural areas and farmland.**
- **Develop incentives and regulations to encourage local land use policies that provide measurable benefits to communities while meeting climate goals.**
- **Expand capacity at the state, regional, and local level to provide technical expertise to support communities in effective land use planning. Utilize the new Maine Office of Community Affairs to help communities align local land use policies with state priorities, including housing and climate goals.**
- **Support community engagement efforts and communications strategies about the benefits of effective land use planning to meet housing, clean energy, conservation, and resilience needs while supporting economic growth.**
- **Avoid growth in areas at risk of flooding, sea level rise, storm surge, or other climate-affected hazards. Seek local planning process that protect sensitive natural areas and habitats to ensure Maine's natural systems remain healthy and resilient.**
- **Support state and regional tools and resources that provide accurate and detailed data to support planning and inform decision-making.**

Maine has promoted a thoughtful approach to land use planning for more than 30 years through the state’s Growth Management law, which establishes goals for the planning and regulatory actions of all state and municipal agencies affecting natural resource management, land use, and development. Land use planning provides opportunities for communities to increase resilience to climate impacts while reducing transportation emissions, protecting the state’s natural and working lands, addressing the urgent need for housing, and meeting the growing need for clean



energy. These principles are now more critical than ever given increasing climate risks, the need to reduce emissions, and the need for more housing in areas where there are existing services and infrastructure.

Maine's affordable housing crisis limits options for people to relocate out of vulnerable areas and can limit local housing options for workforce needs. While encouraging the development of new housing, Maine should incentivize land use policies that increase opportunities for walking and biking through compact development, reducing the amount that residents need to drive and ultimately reducing emissions from vehicles. To encourage compact development, communities can repurpose or rehabilitate existing buildings and vacant lots in already developed neighborhoods.

Maine needs to generate more clean energy to meet our state energy and climate goals. Moving away from fossil fuel energy will require deliberate and thoughtful planning of where to site new clean energy generation and the associated transmission and distribution infrastructure.

Land use planning should also protect natural and working lands from development. Maine's natural and working lands – including tidal marshland, forests, and agricultural land – provide many benefits, such as protection from flooding, storing carbon, and preserving critical habitats. They also support livelihoods, food production, and recreational and cultural uses.

To balance the many pressing land use needs in Maine, the state must incentivize local policies and processes that help meet communities' intersecting concerns. This includes neighborhood-level land use planning, and improvements to zoning and permitting processes that allow projects to move forward when they have tangible benefits to communities and the climate. Programs will need to right-size incentives at different scales: for regional and municipal levels; smaller or larger communities, public land and private land, and individuals and developers.

Maine's communities, whether rural or urban, need support in implementing effective land use policies and navigating conflicts that may arise. Maine is a home-rule state, which means that local governments have the authority and responsibility for most land use planning. Maine should provide support and technical assistance to communities to help them design and implement policies that meet intersecting land use needs.

The new Maine Office of Community Affairs will work to make state programs and planning more aligned and impactful. Several state programs are planned for this new office that support local planning, including the Municipal Planning Assistance Program, which provides technical assistance to support the development of municipal comprehensive plans and land-use ordinances; the Housing Opportunity Program, which provides technical assistance and funding to encourage and support the development of additional housing units; and the Community Resilience partnership, which provides technical assistance and funding for local climate and energy planning and action. Increasing the impact of these and other state programs can support planning that helps communities with broad, intersecting planning needs like expanding housing supply, energy siting, and increasing climate resilience.

Maine should support local engagement and communication that builds shared consensus and helps communities envision future land use changes. Maine can help communities proactively



address fears about land use policy impacts, such as by sharing information about future clean energy demand. Communities should prioritize projects that benefit those most vulnerable to climate impacts and encouraging them to participate in local planning processes.

When planning for future development, communities should work to avoid growth in vulnerable areas at risk of riverine flooding, sea level rise, storm surge, or other climate hazards. Maine should support communities to enforce state shoreland zoning requirements and manage state and local building codes and zoning ordinances.

Maine's land use policies must avoid disproportionate impacts on vulnerable communities. For communities and individuals who cannot afford to move out of hazard areas – for example due to a lack of affordable housing elsewhere in their community – Maine's land use policies should support these communities in preparing for climate impacts. Communities should also plan to avoid growth in sensitive natural resources and important plant, fish and wildlife habitats, to ensure Maine's natural systems remain healthy and resilient.

Using the best available accurate and detailed data will help inform decision making. Maine should prioritize making high quality, credible, and transparent data available to guide local planning and decision making about housing, renewable energy, and climate vulnerability and flood planning.

## 9. Measure and reduce emissions across the lifecycle of products that Maine people buy and use

- **Support the development of reuse, refill, and repair systems that provide alternatives to buying new and replacement products.**
- **By 2030, set "Lead by Example" standards for state government, prioritizing waste prevention, extending product lifetimes through repair and refurbishment, replacing single-use disposables with reusable options, and implementing food scrap diversion.**
- **Explore development of a consumption-based emissions inventory to include in the Maine Department of Environmental Protection (DEP) Biennial Report on Progress toward Greenhouse Gas Reduction Goals.**

Reducing single-use plastics is an important strategy to reduce greenhouse emissions from the waste sector. Maine's product stewardship programs for consumer packaging and beverage containers have earmarked funding for reusable packaging infrastructure and programming. While packaging comprises about 40% of all plastic products, there are additional opportunities to reduce carbon emissions through reuse, repair, and lending programs for products like textiles and consumer goods (such as tool or gear libraries, repair cafes, washing and collection hubs), that provide alternatives to buying new. Maine should also investigate opportunities for industrial and regional materials exchanges and support economic growth in the reuse sector (such as training and apprenticeship, business incubator programs for repair and refurbishment).

To lead by example, state-funded institutions should eliminate single-use products when durable, reusable options are available. Possibilities include reusable food service ware at cafeterias and

events, procurement standards for reusable packaging, water refilling stations, and expansion of the state surplus program for durable, reusable goods.

Consumption-based emissions are a way of measuring greenhouse gas emissions that accounts for emissions produced in the manufacture, transport, and disposal of products that people buy and use. Consumption-based emissions inventories (CBEI) allow states to estimate the climate impact of the entire lifecycle of products that people buy, and not just emissions that are produced within the borders of a state. Maine DEP is working with the U.S. Environmental Protection Agency to develop a consumption-based emissions inventory for products consumed in Maine.

## 10. Increase capacity of and access to waste prevention and diversion services

- **Provide state-level coordination and explore funding mechanisms for additional regional capacity to help communities with waste management planning.**
- **Develop education materials, best practice guides and model municipal ordinances, to support increased access to waste reduction and diversion programs for underserved households and smaller communities.**

Increasing staff capacity will allow regional organizations to provide planning and technical support to communities, such as providing examples of programs that have reduced emissions and waste. A network of partnerships across existing programs could support waste diversion along with revolving funds for community projects. Municipal comprehensive plans should be consistent with local and regional solid waste plans that include waste prevention, diversion, and safe management of hazardous waste, food scraps, recyclables, and storm, construction, and demolition debris. Waste disposal surcharges could be applied to non-residential wastes to fund diversion programs.

Municipalities should have access to tools and resources such as the U.S. Environmental Protection Agency's (EPA) Waste Reduction Model to estimate the emissions, health, and environmental impacts of waste management practices.

Maine communities should provide access for all residents to waste prevention and diversion services such as recycling. Recycling is generally more accessible in single-family homes than in multifamily properties, and many communities cannot afford to provide recycling drop-off centers.<sup>13</sup> In addition, rural areas face significantly higher costs. To address this, ecomaine, which provides solid waste services to 73 Maine communities, has received a \$2 million grant from the EPA Recycling Education and Outreach program to make recycling more accessible to residents of multifamily dwellings in ecomaine member communities, which will provide valuable lessons for the rest of the state. Creating statewide translated and image-based outreach materials will reduce language and cultural communication barriers.

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<sup>13</sup> <https://ambr-recyclers.org/wp-content/uploads/2023/06/AMBR-EPR-Guidance-2023.pdf>

## Strategy G: Engage With Maine People on Climate Action

Since *Maine Won't Wait* was released in 2020, Maine has faced destructive storms and weather events that have threatened our state from our shores to our mountains, and our people have deeply felt the impacts of climate changes in their daily lives and communities.

There is increasing awareness of the challenges of climate change, as well as the benefits of many climate strategies, including energy savings, increased community resilience, and new good-paying jobs. As a result, thousands of households, communities, and businesses have taken actions since 2020, increasing momentum for continued progress. Despite that progress, many Maine people still report that they lack clear information about what they can do, or even where to start.

The success of *Maine Won't Wait* relies on the support of Maine people. As climate actions become more urgent, we must increase our strategies around communication and engagement – especially with those populations who have greater challenges in accessing information and programs. With unprecedented federal funding available for climate actions in Maine, there is greater urgency to ensure that communities aren't left out of these time-limited opportunities.

New federal funding, for example, can support an acceleration of weatherization, heat pump, and solar deployment for thousands of low-income households, especially targeting mobile home residents and people living in affordable housing units. These programs can reduce energy bills and improve comfort in the winter and summer. To ensure individuals and families don't miss out on these programs, special effort must be made to reach targeted homeowners and landlords, especially in Maine's most rural, low-income, and underserved communities. Ongoing partnerships with trusted local organizations, like Community Action Programs, municipal leaders, or agencies supporting older Mainers, can ensure that more households across the state benefit from these valuable programs.

Similarly, new federal tax credits and "direct pay" funding can incentivize clean energy opportunities for businesses, non-profits, local governments and schools. To ensure these entities don't miss out on these cost-saving programs, targeted information and technical support is needed, especially for small businesses and non-profits, as well as rural communities and schools.

## Thousands of Maine People Have Shaped This Plan

The Maine Climate Council has been informed by conversations and engagement with people across the state from the beginning of its work in 2019. During the 2023-2024 process to update this plan, increasing the work to reach more Maine people and more diverse voices has been a priority.

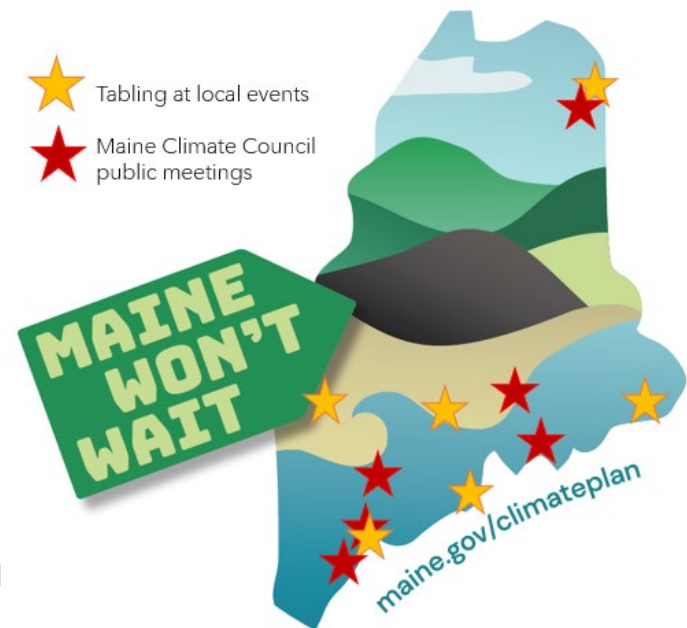
The 39-member Maine Climate Council, as designated in state law, includes scientists, industry leaders, bipartisan local and state officials, and other community representatives who bring expertise and varying perspectives to their role. The plan has benefited from the significant contributions of more than 200 working group and subcommittee members who have shaped the strategies over the course of more than 100 public meetings.

Hundreds of additional members of the public observed and participated in Council planning process. More than 1,000 people responded to the Council's public survey offering feedback as the strategies took shape, and more than 350 people attended in-person meetings to share their input, emphasizing the strategies that were most important to their communities and families.

It was particularly important that the Council increase its efforts to hear from those communities and populations who often don't have time to participate or access public processes, and therefore their voices are often left out. For communities or individuals this lack of access can be due to geography, income, age, race, cultural or language barriers, or disability. It is often those same populations who are most impacted by the challenges related to climate change, from storm-driven power outages to high household energy burdens.

With funding from the federal Environmental Protection Agency (EPA), the Climate Council worked with the Senator George J. Mitchell Center for Sustainability Solutions at the University of Maine and community partner organizations on the ground to directly engage with many of these targeted populations to inform the state's climate plan. The Mitchell Center conducted a survey, held focus groups and listening sessions with communities, groups and individuals across the state, including low-income individuals, older adults, youth, rural residents, local government officials from small communities, New Mainers, and others. These sessions were held in partnership with a variety of community-based organizations that are often more trusted.

Feedback from the Mitchell Center survey results and focus groups – including broad themes and participants own stories, ideas and concerns – were shared with the Council and its working groups



through targeted presentations and a final report, “Engaging Low Income and Disadvantaged Populations in Maine Climate Planning.”

The feedback reinforced the need for robust ongoing engagement to ensure that more Maine people, especially disadvantaged communities, have access to the process and opportunities for action. There was also a consistent thread that the challenges of poverty, and its impacts on households and families, made engaging with state programs and opportunities more challenging.

The Mitchell Center recommends increasing and formalizing engagement strategies with community-based organizations and specific populations to ensure an ongoing role in program implementation and design. This will also assist the state and its partners to ensure more Mainers can overcome the challenges they face in engaging in climate actions and benefiting from the solutions.

### 1. Increase participation and program engagement from underserved Maine people and communities

- **Partner with community-based organizations to reach underserved individuals and communities to increase awareness about climate programs and opportunities and invite input into the design of programs and policies recommended by *Maine Won't Wait*.**
- **Support navigator programs that connect people to climate-related programs and information, utilizing existing community relationships and channels of information sharing.**
- **Ensure that education and outreach about climate change and programs are accessible, use diverse communication channels, and are available in multiple languages.**
- **Design grant application, scoring, and award processes to be accessible to small and under-resourced applicants and consider community capacity in award decisions.**

#### Progress Since 2020

##### **Raising awareness about climate change impacts and opportunities**

MaineWontWait.org is the Maine Climate Council’s user-friendly website to promote the state climate action plan and its strategies. The website includes an action guide, called the Mainers’ Guide to Climate Incentives, that lists state and federal incentives for homes, vehicles, and businesses and how to get started with each one. It also includes the Maine Won’t Wait dashboard, where visitors can see the climate investments highlighted in this report in a series of interactive maps.

##### **Increased Climate Education Programs**

In September 2023, the Maine Department of Education (DOE) launched a \$2 million pilot grant program for climate education as established in L.D. 1902. The program provides grants to preK-12 schools for professional development for teachers and school-based programs.

**Launching Maine Climate Corps** In the summer of 2023, Maine launched the Maine Climate Corps Network to connect more volunteers with community projects working on transportation, energy, housing, and climate resilience.

##### **Recognizing Leadership by Maine Businesses**

The Governor’s Climate Leader Award recognizes business leadership, innovation, or excellence in mitigating climate risks or developing new technologies to combat climate change.

As the Maine Climate Council and individual state agencies carry out the policies and programs recommended by this plan, they must continue to engage with underserved individuals and communities especially vulnerable to climate impacts. The Maine Climate Council should build and sustain relationships with community-based organizations to engage in two-way conversations with people about how they experience climate impacts and how state policies and programs can better serve the needs of Mainers.

Reaching underserved Mainers will require sustained outreach that uses existing relationships and communication channels to make sure that people are aware of and can access programs that provide tangible benefits, such as incentives, heating assistance, and transportation options. “Navigator” programs would help individuals and households to understand the options and navigate the process from start to finish.

To ensure that climate and energy outreach and communications reach broad audiences, state agencies that are implementing climate-related policies and programs should use best practices for making information accessible to all Mainers. State agencies should strive to make written and online materials, assistance, advisory services (e.g., help lines), and meetings accessible by developing plain language guidance, and translating materials into multiple languages.

Smaller communities and organizations often lack capacity and staff to complete long or complicated funding applications. State agencies should identify ways to ease application burden, including state-driven processes to identify and recruit eligible communities, automatic enrollment or eligibility, direct outreach to provide technical, planning or grant-writing assistance, or non-competitive awards. For competitive grant awards, application evaluations should consider community size and capacity.

## 2. Expand broad climate and energy education and outreach for individuals, businesses, local governments, and nonprofit organizations

- **Expand the state’s efforts to raise public awareness and understanding about climate change in Maine, the state’s climate actions, and climate-related programs and opportunities available.**
- **Build a network of trusted partners that can help relay key messages about climate impacts and opportunities, including municipal and tribal governments, community organizations, and other engaged groups.**
- **Grown Maine’s efforts to recognize climate leadership by Maine businesses and organizations, and increase efforts and opportunities to share examples and case studies of how they’ve taken action.**

The Maine Climate Council serves as a key resource for communicating about climate science and climate action in Maine. The Maine Climate Council maintains a website ([www.maine.gov/climateplan](http://www.maine.gov/climateplan)) and publishes print and online materials with information and actionable steps that individuals, businesses, and communities can take to reduce emissions and become more resilient to climate change. The Maine Climate Council needs to expand outreach



efforts, with a variety of partners, to bring targeted information to more communities around the state.

Community-based organizations, municipal and tribal governments, business and non-profit leaders, and other community groups all have important roles to play in climate action. Local governments and tribes can enroll in the Community Resilience Partnership to receive grants and planning support to take action that aligns with the plan. Community-based organizations are a critical part of implementing strategies in the climate action plan, such as by helping people to navigate energy efficiency and clean energy incentives. The Maine Climate Council can support these efforts by sharing regular updates with a network of “trusted partners” in formats that are ready to distribute to community members and by holding regular gatherings online and around the state for partners to share information and successful efforts to advance the goals of the climate action plan.

Maine businesses, both large and small, can make climate-smart decisions that positively impact Maine’s economy, people, and climate action goals. The Governor’s Award for Business Excellence annually recognizes a Climate Leader for business leadership, innovation, or excellence in mitigating climate risks or developing new technologies to combat climate change. Maine should continue to recognize business leaders and increase opportunities to convene businesses of all sizes to share information and success stories.

### 3. Continue to engage with Maine youth to support climate actions

- **Continue to work with youth-centered organizations to help Maine youth learn about climate change, the State's climate action plan, and how young people can get involved and spur climate action in their communities.**
- **Provide support and opportunities for Maine youth to engage with the implementation of the State’s climate action plan through local climate action projects.**

Engaging with Maine youth is critical to ensuring that the state’s climate action plan reflects the needs of current and future generations of Mainers. The Maine Climate Council will continue to engage with Maine youth through its Climate&Me initiative and through partnerships with youth-led and youth-serving organizations and schools.

Maine students have already demonstrated exceptional leadership in climate action projects in their schools and communities. The Maine Climate Council will expand opportunities for youth to lead local climate action projects in their schools and communities.



# Climate&Me

Recognizing the importance of youth involvement in climate action planning, Maine stepped up youth engagement efforts prior to the 2024 update of *Maine Won't Wait*. With the support of community funders in Maine, the Governor's Office of Policy Innovation and the Future (GOPIF) was able to hire a Youth Climate Engagement Coordination Fellow in 2023 to connect young Mainers (ages 13-29) in state climate action by creating pathways for climate work and leadership.

In 2024, GOPIF launched the Climate&Me initiative, which engages Maine youth in climate action in ways that resonate with their passions, skills and community needs. As a part of this initiative, youth engagement fellow Abigail Hayne has engaged over 1,100 young Mainers in climate action through workshops, discussion and listening sessions, and digital engagement through the new Climate&Me webpage.

To ensure diverse voices from Maine youth were reflected in the plan, Hayne conducted 23 workshops with 750 Maine youth at middle and high schools, colleges, libraries, and community events, where students learned about *Maine Won't Wait*, how to get involved in the planning process and provide input, and how to take steps to find climate action that is meaningful to students.

Central to this effort was building connections with community leaders and educators, particularly in Maine's rural and underserved areas.

## Youth Representatives on the Maine Climate Council and Working Groups

Twelve young Maine leaders participate in the Climate Council's working groups, subcommittees, and task force, to directly incorporate youth voices, knowledge and experience in climate action planning. The youth representatives, who span ages 15-25, provided invaluable input for this Maine Won't Wait update. A list of youth representatives on the Maine Climate Council and Working Groups can be found at the end of this report.

### 4. Increase education offerings related to climate change, clean energy, and climate related careers in PreK-12 schools and higher education

- **Continue to increase public education offerings related to climate, clean energy, and climate-related jobs.**

In 2024, the Maine Department of Education convened a climate education task force including educators, school administrators, community partners, and youth to design recommendations for future climate education efforts in Maine. Task Force recommendations (November 2024, [link](#)) include:

- Increasing Capacity Building for Advancing Climate Literacy in Maine Schools, including by permanently funding professional development and expanding access to free and accurate climate curriculum resources for educators.
- Continue to support the development of a comprehensive Maine Green Schools Program, including identifying school sustainability policies and recognizing “green ribbon” school sustainability leaders in Maine (additional actions below).

Climate education includes job and career education. From electricians to engineers to weatherization contractors, Maine students should have access to information and experiences about the thousands of current and future climate and clean-energy jobs that are needed in Maine.

### **The Maine Green Schools Program**

The Maine Department of Education (Maine DOE) supports educators and school administrators to bring opportunities for climate literacy and action to students statewide. In 2024, the Maine DOE [Climate Education Professional Grant Program](#) funded over \$1 million in partnerships to advance equitable access to climate education throughout Maine, reaching more than 50 schools and hundreds of educators with capacity and training. Since 2022, the [Maine Outdoor Learning Initiative](#) has invested \$11.6 million in over 150 programs, bringing outdoor education and environmental science to over 6,500 students statewide. And the Maine DOE [Clean School Bus Program](#) has provided technical support for school bus electrification, resulting in successful federal funding in more than 30 schools since 2022.

The new Maine DOE Green Schools Program, established by statute in 2023 and launched in 2024, will build on the above successes and help Maine schools to reduce energy costs, invest in climate literacy, and support decarbonization projects that serve as teaching and learning opportunities for students. The Green Schools Program will:

- Provide technical support and advice to Maine’s 600 existing school buildings to increase efficiency, install zero-emissions heating and cooling technologies, and utilize renewable energy

- Develop guides and tools for school sustainability policies and planning, including clean transportation programs and climate resilience projects

- Establish a Maine Green Schools Network, to support and enable peer-to-peer learning across Maine schools

- Advance long-term funding and financing options, including competitive federal funding opportunities, to ensure more Maine schools have access to these opportunities