

Amplifying Rural Voices in Maine Climate Planning

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ABSTRACT

In 2024, the University of Maine's Mitchell Center for Sustainability Solutions partnered with the Maine Climate Council to expand participation in the update of *Maine Won't Wait*, the state's climate action plan, to include people who may experience barriers to engagement: households with low incomes, people of color, older adults, and rural and climate-frontline communities. The team partnered with 21 community-based organizations to conduct 73 engagements in 26 communities, collaborated with Wabanaki partners, and implemented a statewide survey codesigned with partners. Engagement and survey findings highlight the importance of Wabanaki preferences for participation and recognition; climate solutions that meet basic needs; and implementation plans that emphasize education, capacity building, and funding to address climate change and the cost of living in coordination. These insights informed the 2024 Maine climate plan update and continue to guide policy development and implementation.

This article is based on a study commissioned by GOPIF through a request for proposals process, culminating in a series of presentations¹ and a final report, to inform the 2024 update of the state's climate plan. For in-depth details about data discussed in this article, please refer to the final report (MCSS 2024). In this article, we highlight the key findings of the original study related to Maine's rural communities and present insights from a new statistical analysis. We focus on two research questions: (1) what do people from different backgrounds and geographies in rural Maine want to see in state level climate planning? and (2) how can state level climate planning adapt to

INTRODUCTION

Maine's actions to address climate change are a success story for many. However, recent literature in environmental justice recognizes that not all people are equally able or likely to participate in and contribute to addressing climate change (Few et al. 2007). The Maine Climate Council, its Equity Subcommittee, and the Governor's Office of Policy Innovation and the Future (GOPIF) recognized the need to make a special, tailored effort to amplify diverse voices in the 2024 *Maine Won't Wait* climate plan update, noting that the Maine Climate Council should "identify additional opportunities to hear from priority populations and communities" to contribute to the climate planning process (MCC ESC 2023: 90). In response, we report on a study in which we codesigned engagement processes with multiple partners to ensure people in Maine most affected by climate change are aware of and have the opportunity to influence state climate programs and policies, by iteratively, intentionally, and meaningfully engaging diverse communities in the Maine Climate Council's process.

these preferences?

The uncertainty surrounding climate change, and the technical language used to discuss it, present unique challenges when communicating about climate options and planning. Technical language can be inaccessible and exacerbate community distrust of institutions (Markowitz et al. 2014). Institutional discourse about climate change tends toward top-down language that is often irrelevant to challenges faced by rural communities. Specialized climate-action language poses additional barriers for people already managing compounded challenges in their everyday lives, including limited economic capacities, that make taking climate actions difficult (Mycos 2015). Rural communities often experience skepticism about assistance programs and capacity limitations that make it difficult to justify investing in climate actions (MacDonald et al. 2020).

Despite these barriers, a growing body of literature examines opportunities for effective, localized climate change communication and action. Meeting communities where they are—both physically and ideologically—is central to meaningful climate change communication. People are more likely to take action when information is tailored to their needs and when they are involved in the

development of the information (Jasanoff and Wynne 1998). Exchanging local experiences about the changing environment rather than presenting climate change as a broader concept can increase local openness to resilience initiatives (Markowitz et al. 2014). Taken collectively, this literature emphasizes the importance of salient, community-led conversations about climate planning and action to maximize participation in these crucial efforts.

METHODS AND PROJECT TIMELINE

Building from these insights, we sought to engage people from populations that have not historically participated in state climate planning, and those most likely to be vulnerable to the impacts of climate change, in the 2024 update to *Maine Won't Wait*. In December 2023, GOPIF contracted our team from the Senator George J. Mitchell Center for Sustainability Solutions to engage people from a predetermined list of target audiences in planning processes already underway for the 2024 update. In early 2024, we started consulting existing partners and met with potential new partners to discuss subcontracts for new outreach and a first round of engagement activities about priority topics identified by the six working groups of the Maine Climate Council.² We presented the first round of engagement results to each working group to inform their June 2024 recommendations to the Maine Climate Council. We and our partners conducted a second round of engagements in summer 2024, based on the recommendations of the working groups. The resulting 73 total engagements in 26 communities took a variety of approaches, designed to be meaningful and salient to the communities they serve: discussion and focus groups; listening sessions; workshops; interviews; conversations at festivals, shows, and other gatherings; teach-ins; webinars; and Zoom conversations. We also convened our 21 partners 3 times as a group, to reflect on their experiences, share strategies for successful engagements, and gather recommendations for next steps. We presented recommendations to the Maine Climate Council in September 2024 and finalized a report (MCSS 2024) in December.

Statewide Survey

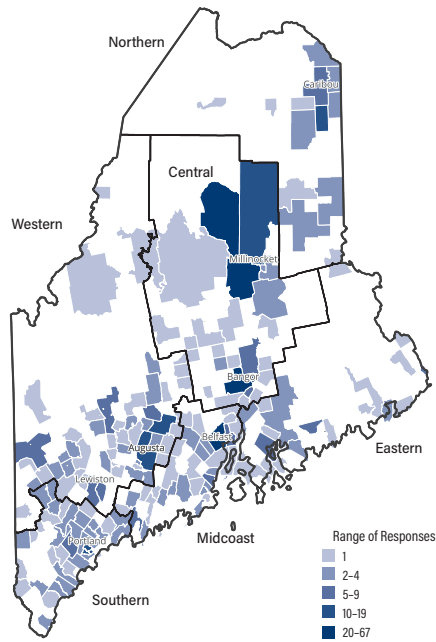
The survey gathered information on perceptions, barriers, and opportunities related to climate action strategies proposed for the 2024 *Maine Won't Wait* update. It built on an in-progress survey codesign process with two pre-existing partner teams: the Wabanaki

Sustainable Energy Team—citizens and government staff from each Wabanaki Nation; and the Maine Community Sustainable Energy Team—representatives from seven rural Maine communities. Together, we codeveloped two separate surveys for their target audiences, to understand tribal and community member preferences for sustainable energy options (renewable energy, energy efficiency, and conservation). This work in turn built on a pilot survey codesigned with Penobscot Nation and the Passamaquoddy Tribe in 2021, underscoring the long-term, iterative nature of relationships in the process.

We asked members of both teams if we could add Maine Climate Council-specific questions to each pre-existing survey. Wabanaki Sustainable Energy Team members expressed concerns related to historical relationships between the Wabanaki Nations and the state of Maine. We then facilitated a series of conversations with this team and other Wabanaki partners to consider how we could support Maine Climate Council engagement with Wabanaki Nations in ways that respect their priorities. The Community Sustainable Energy Team supported the addition of questions specific to this study. We then worked with this team to codevelop the statewide survey and incorporated feedback from other partners. We distributed the survey online and via paper from April to July 2024. Some partners chose to use the survey in their engagements or helped distribute it. Others designed their own surveys. Our survey reached 568 people from the target audiences³ (Figure 1).

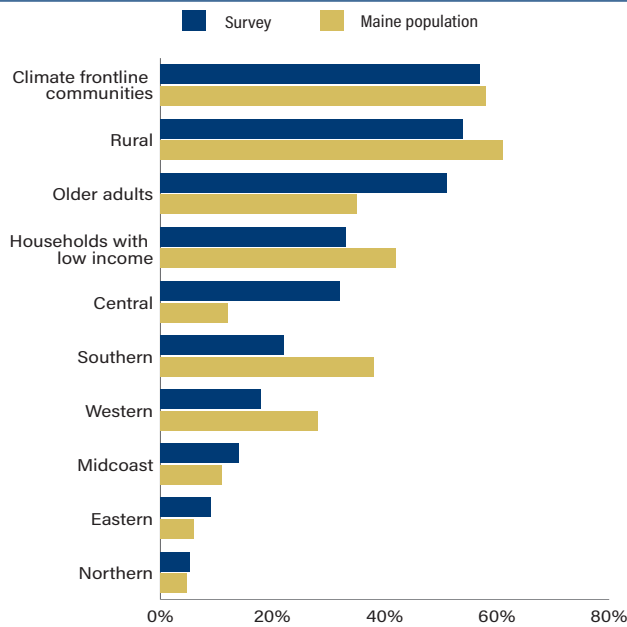
While our original report includes detailed results from all direct engagements and each survey question, we limit findings in this article to a selection of survey questions. We also present a new regression analysis of preferences for eight types of climate solutions for transport (public transit, active transit, public chargers for electric vehicles [EVs], and EV ownership) and heating and energy (heat pumps, weatherization, rooftop solar, and solar arrays on public land),⁴ to provide additional insight into statistically significant differences across the geographic locations⁵ and demographic characteristics of the survey respondents. A total of 456 respondents answered all questions required for the analysis (Figure 2), with survey recruitment focused on climate-frontline and rural communities; older adults; households with low income; and regions with rural populations.⁶ The resulting survey sample includes similar proportions as Maine's population over 18 (who were eligible to take the survey) for climate frontline and rural residents, but the sample overrepresents Maine's older adults and

FIGURE 1: **Total Number of Surveys Completed per Zip Code and Geographic Regions**



Note: 568 total respondents

FIGURE 2: **Target Audiences and Geographic Regions Among Survey Respondents Compared to Maine's Population over 18**



Note: 456 total respondents; some respondents belong to more than one target audience

underrepresents Maine residents in low-income households (Figure 2).

KEY FINDINGS AND RECOMMENDATIONS

Maine's climate planning process is iterative and inclusive of community and expert engagement, strategy and target solutions development, and implementation program design. Three key themes emerged from our partner and participant engagements, encompassing what Wabanaki scholars and diverse people in rural Maine want to see included in the climate planning process: recognition of Wabanaki sovereignty and engagement preferences; climate solutions that fulfill locally identified basic needs and reduce the cost of living; and implementation programs that center poverty in funding decisions, expand educational and capacity-building opportunities, and meet unique needs of specific populations including older adults and people with disabilities. Regarding the second research question, we observe within each theme how state-level climate planning is already adapting to participants' preferences, and we make recommendations to further embed procedural justice and these audiences' needs in Maine's climate planning. Maine climate plan leaders already plan to sustain engagement and development processes into the next four-year planning cycle. How these processes incorporate the diverse needs and perspectives identified in this study is important for gaining trust and participation with members of target audiences and the organizations that serve them. Direct engagement between the state and Wabanaki governments is a prerequisite to climate planning on Wabanaki Territory, so we present these findings and recommendations first.

Engage with the Wabanaki Governments

Consultation with Wabanaki partners highlighted the need for Maine state agencies to directly engage with the five Wabanaki governments. Wabanaki partners desired dialogue that aligned with the recommendations in the 2024 *Annual Report of the Permanent Commission on the Status of Racial, Indigenous and Tribal Populations* (PCRITP 2024). These actions are critical to ensure that the Wabanaki Nations are supported in meeting their climate change resilience goals, including facilitating continued and increased access to traditional means of sustenance and unceded lands.

The initial request for proposals included “tribal communities” in a list of “priority populations.”⁷ Consultation with Wabanaki partners revealed that multiple Wabanaki citizens were not comfortable with the sovereign tribal governments being listed as “tribal communities” or with the state approaching Wabanaki citizens in a similar way to other “priority populations,” due to the sovereign status of each tribal government. We convened a series of discussions with Wabanaki scholars Jasmine Lamb (PhD student), Dr. Darren Ranco, Dr. Natalie Michelle, and Dr. Anthony Sutton to identify a preferred pathway toward Wabanaki engagement in the state climate planning process. We also consulted with former Penobscot Nation Ambassador Maulian Bryant, the co-chair of the Equity Subcommittee at the time. These iterative conversations highlighted three key needs:

1. Recognize Wabanaki tribal sovereignty in Maine climate planning
2. Follow an appropriate government-to-government process
3. Demonstrate meaningful involvement and a commitment to listening and respecting traditional ecological knowledge, in compliance with appropriate data sovereignty guidelines

Wabanaki partners highlighted the importance of the Equity Subcommittee’s recommendations to the state to facilitate a tribal-state partnership through relationship building, including establishing collaboration mechanisms with the Permanent Commission; designation of tribal liaisons for government-to-government dialogue, in accordance with the Tribal-State Collaboration Act (MRS Title 5, Chapter 376); collaboration on natural and working lands and waters protection; incorporating traditional ecological knowledge into climate plans; and partnering with the Wabanaki Nations to establish a data governance plan to ensure data sovereignty as it pertains to the “governance, collection, ownership, and application of climate data” (MCC ESC 2023: 60).

Wabanaki partner preferences align with article 18 of the United Nations Declaration on the Rights of Indigenous People (UNDRIP), which decrees that Indigenous Nations “have the right to participate in decision-making in matters which would affect their rights, through representatives chosen by themselves in accordance with their own procedures, as well as to maintain and develop their own indigenous decision-making institutions” (UN 2007: 15). The recommendations of the Permanent Commission’s 2024 report follow the UNDRIP guidelines: “Policies that affect

tribal nations must be enacted in a government-to-government relationship that honors and respects sovereignty. Policies that impact tribal nations should be crafted and implemented in collaboration with tribal governments and their representatives” (PCRITP 2024: 9).

A commitment from the state to respect Wabanaki tribal sovereignty and increase adaptive capacity to climate change is particularly important given the unique political situation of the Wabanaki Nations. The Maine Indian Land Claims Settlement Act (MISCA) of 1980 and the Maine Implementing Act (MIA) of 1980 caused the tribes to relinquish their claim to over 12 million acres of traditional territories unlawfully taken by the state, leading to a loss of access to resources and limiting adaptive capacity to climate change.⁸ These acts currently restrict the Wabanaki governments’ right to self-governance and prevent federal laws from benefiting the Wabanaki Nations, causing significant challenges for the tribes to develop economically and politically (Kalt et al. 2022).

To appropriately engage Wabanaki Nation governments in state climate planning, we suggest that the state respect the inherent sovereignty of the Wabanaki Nations through direct and meaningful government-to-government engagement. In this context, meaningful involvement requires respecting the nature of Indigenous knowledge systems and acknowledging the socio-cultural impacts of climate change on Indigenous people. These recommendations are important to Indigenous as well as non-Indigenous populations. When asked what can be improved to protect natural areas, a majority of non-Indigenous respondents (51 of 96) selected the survey option, “recognizing Wabanaki sovereignty and working towards rematriation” (MCSS 2024: 149). Non-Indigenous Maine Climate Council working group members also expressed a strong interest in integrating Wabanaki priorities into the climate plan updates. The 2024 Maine Won’t Wait notes a newly established state-tribal climate collaboration to help address these issues; however, Wabanaki partners encourage additional recognition of the important connection between recognizing tribal sovereignty and meaningful engagement with Indigenous ecological knowledge systems.

Elevate Strategies That Intersect with Basic Needs

The most consistent theme in the 73 engagements and survey was that participants already face challenges in fulfilling basic needs, and they would have difficulty taking climate action without first resolving these basic

needs. Climate planning should thus focus on and integrate climate action strategies with public transportation, housing affordability and heating, community services, and other ways of addressing root causes of vulnerability and high costs of living.

Climate change and environmental issues were the third most frequent concern (13 percent) for survey respondents (Figure 3). Housing affordability (23 percent) and cost of living (16 percent) were more frequent responses. Respondents were also concerned with energy costs, food insecurity, and public transit and transportation needs. One respondent connected these concerns with the potential for clean energy jobs: “Access to equitable, low-cost transportation and quality childcare limit people’s opportunity for education and employment opportunities that could reduce poverty and dependence on public systems. If adequately funded, renewable energy could increase employment opportunities.”

After considering these basic needs, survey respondents recorded their support for climate solutions that the state climate plan could emphasize (Figure 4). Active transit (e.g., walking and biking infrastructure) and public transit were among the most supported solutions.

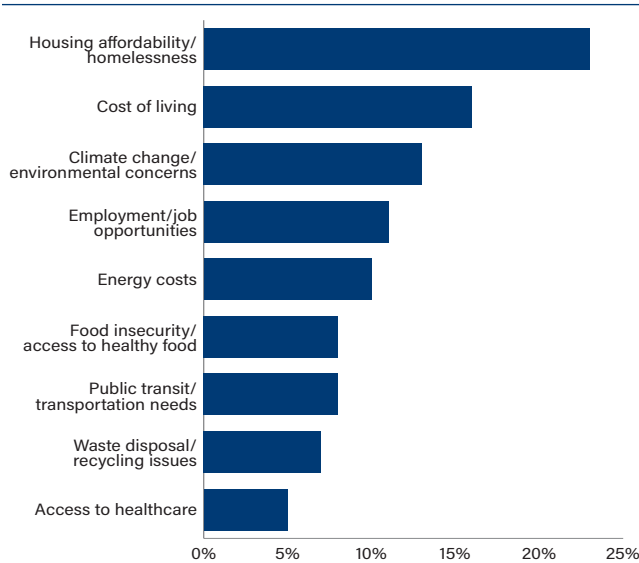
Invest in public transport

Let’s fund public transit way more. Unfair how much money ends up in the highway fund and how little is available for public transit.

— Farmer from the rural community of Buckfield

Because the transportation sector is Maine’s largest source of fossil fuel emissions at 49 percent (MCC 2024), the state climate plan has consistently foregrounded EVs as the most impactful solution for reducing emissions (MCC 2020, 2024). In its 2024 recommendations, the Transportation Working Group maintained this priority of adopting EVs; prioritized public transit within the “reduce vehicle miles traveled (VMT)” strategy; and introduced active transit solutions—not included in the 2020 climate plan—into its proposed actions to reduce VMT (MCC TWG 2024). Our participants frequently raised concerns about these transportation priorities. At a special meeting of Local Leads the Way for small rural towns on Mount Desert Island, multiple participants asked if the state climate plan would include public transportation and bike corridors for commuting and recreation. The facilitators clarified that the recommendation to reduce VMT is where public transit comes in, but participants felt the recommendations should make

FIGURE 3: Survey Responses to Question about Personal or Community Concerns



Note: Open-ended question, “What are your biggest concerns/needs right now for you and/or your community?” (475 total responses coded for themes; some fit within multiple themes)

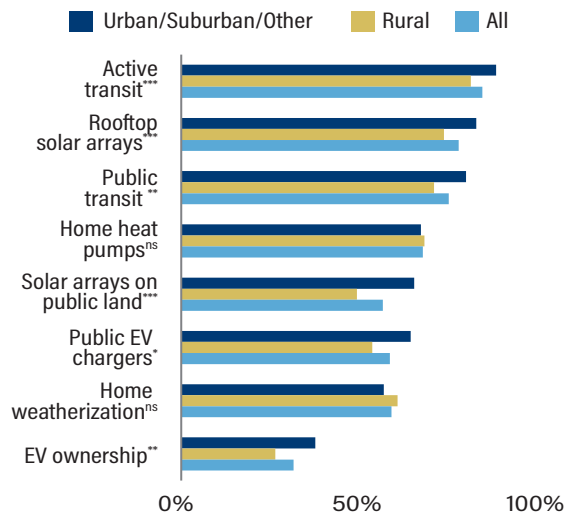
transit options clear and emphasized. They did not understand or agree with the idea of prioritizing EVs rather than focusing on public transit. Similarly, in the survey, high interest in public transit (77 percent) and active transit (86 percent) stood in contrast with lower support for EVs. While 60 percent wanted to improve public EV charging infrastructure, only 32 percent expressed interest in owning private EVs. Addressing the many concerns about all-electric passenger vehicles requires a statewide effort beyond existing education and incentives. One participant summarized trade-offs between EVs and public transit opportunities for communities:

Financial incentives to purchase an electric vehicle is a challenging way to address the climate change challenge. Poor community members struggle to make ends meet, so taking out a loan for an electric car that costs several thousand dollars [more] isn’t the best option. [Electric] public transportation is the most equitable way to combat climate change and lessen mental health issues in places as some people are already experiencing hardship.

—Community Organizing Alliance survey respondent

By the September 2024 draft of *Maine Won’t Wait*, the Maine Climate Council and GOPIF had adapted the transportation strategy of reducing VMT to explicitly include active and public transit (GOPIF 2024). The final 2024 *Maine Won’t Wait* went a step further to change

FIGURE 4: Respondents' Support for Eight Climate Solutions



Note: See endnote 3 for the full survey questions. (456 total respondents; * p<.1; ** p<.05; *** p<.01; ns = not a statistically significant difference)

this strategy's focus from "reduce VMT" to "invest in public, active, and shared transportation" (MCC 2024: 48), noting the importance of public transportation for meeting basic needs of Maine residents.

The implementation process will also need to adapt transportation programs to both rural and regional concerns and preferences. Rural residents reported less interest in all listed options, with the EV ownership question revealing the largest difference (11 percentage points lower interest than urban/suburban). While active transit received broad support across age and income groups, residents of climate frontline communities selected the option less often. Northern Maine respondents also reported less interest in active transit (75 percent interest) than all other regions (87 percent). Respondents from all regions demonstrated strong support for public transit, but those in central Maine expressed less interest (63 percent) than other regions (83 percent). An older adult in eastern Maine commented, "Transportation is a crisis in our community, and there is almost nothing the municipality is able to do about it. We need countywide public transportation options, and we need MDOT to take the Downeast transportation infrastructure seriously to upgrade and maintain it." Similarly, though respondents in all regions selected the public EV charger option, central Maine respondents were less

likely to select this option than people from other regions. Older adults and respondents in households with incomes over \$50,000 per year were more likely to select public EV chargers than participants under 60 and those with low income. Respondents in southern, midcoast, and eastern Maine expressed more interest in EV ownership than those in central and northern regions. Future climate planning may require additional education, engagement, and listening in rural areas to develop climate solutions that are salient to these groups.⁹

Invest in housing and renewable energy

Affordable housing, heating, electricity, and cost of living go hand in hand. Participants expressed a need to make housing affordable and repair homes, with weatherization and other home energy upgrades, and concerns about current and future high energy costs, which force difficult choices that affect their quality of life. "Many houses in the area are in disrepair to the point of being unlivable. Fixing these houses up could provide more housing in the area and possibly affect housing prices" (survey respondent from Millinocket). Most survey respondents (63 percent) reported high electricity and heating prices as the biggest problem they experience in their homes (Figure 5), followed by drafty windows and doors, poor insulation, and frequent power outages.

Our analysis shows that people's willingness to participate in home- and energy-related solutions connects with their sensitivity to energy costs, home improvement needs, and regional preferences. Thus, the planning process should continue to seek out ways to support basic needs by coordinating across the goal of decreasing energy burdens; renewable energy as a way to lower energy costs; and investment in heat pumps and home weatherization, which the climate plan highlights as the best solutions for modernizing Maine's buildings (MWW 2024). Most people want heat pumps (69 percent) and weatherization (60 percent) and are interested in state and federal incentives, but many do not qualify or do not know how to access energy assistance benefits. Others, including an older adult survey respondent, do not trust heat pumps, because "I have heard horror stories about high electric bills when using heat pumps." Survey participants concerned about home energy costs were less supportive of heat pumps (8 percentage points lower interest) and also less interested in solar on rooftops (11 points lower) and on public lands (16 points lower).¹⁰ However, participants who felt their homes were poorly insulated or uncomfortable were more likely to voice

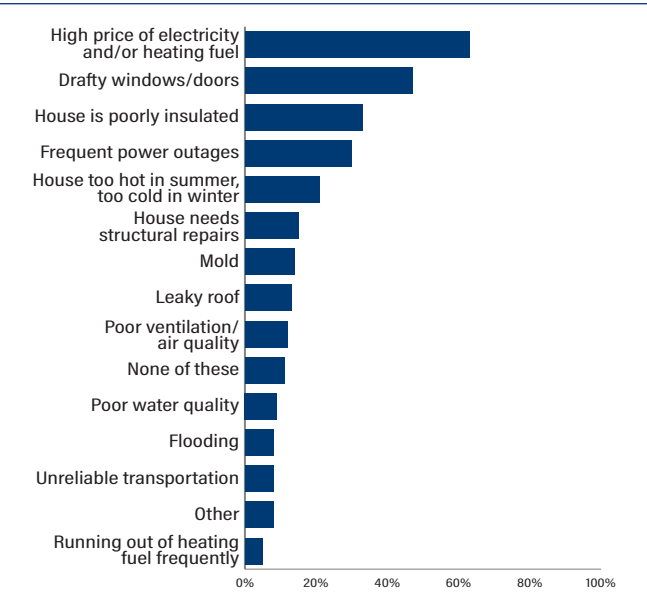
interest in every form of home and solar energy improvement. An East Millinocket rural resident with a disability noted in the survey, “Many of the homes in the region now have heat pumps with great funding assistance from Efficiency Maine. More of these types of efforts would be great.” Many participants echoed this need for more funding for home repair, weatherization, and heat pumps, especially for those who cannot afford the installation cost or loan after Efficiency Maine incentives are applied. The most common barrier to home upgrades was high upfront costs (77 percent of 543 respondents), and only 9 percent said they did not face any barriers.

Respondents shared a similar interest in home heat pumps and weatherization across all Maine regions, and in both rural and nonrural areas. This broad interest in home upgrades contrasts with the diverging preferences for transportation solutions and with regionally polarized support for solar arrays. Though a majority supported rooftop solar arrays in their communities (80 percent) and arrays on public lands (58 percent), rooftop solar was more popular in midcoast and western Maine than in other regions, and northern and central Maine participants were much less likely (34 percentage points lower) than any other region to voice interest in solar on public lands.¹¹ Rural areas also registered lower support for both types of solar arrays. These regional concerns point to the importance of adapting state-level goals to better support local participation in renewable energy siting and development, starting by understanding how different communities want to implement climate actions such as “help[ing] communities plan for clean energy through new stakeholder-informed resources such as model ordinances and best practices for increasing energy resilience” (MWW 2024: 80).

Improve cost of living through community-wide services

Primary concerns for the high cost of living extend beyond transportation and housing to include food, healthcare, childcare, and other services. According to participants and partners, the high costs of these basic needs must be alleviated before their communities can achieve resilience to climate change. In a discussion facilitated by the Island Institute, participants were concerned about “not just recovering from big climate events but day-to-day changes that accumulate over time too,” and noted that resilience also includes “young families moving to our island communities to live and work.”

FIGURE 5: Survey Responses to Question about Problems Experienced in Homes



Note: multiple-selection question, “Which, if any, problems do you experience in your home?” (456 respondents included in the regression analysis)

Financial cost was the clearest barrier to making infrastructure more resilient to a changing climate in respondents’ communities (45 percent, 18 of 40 respondents to an open-ended survey question). Lack of community support and political resistance, information and knowledge gaps, and municipal officials’ limited capacity were also frequently raised concerns. Despite these challenges, state-guided planning and funding for social and physical infrastructure can support basic needs in coordination with climate goals, such as community responses to power outages, extreme weather, and other disasters that could “develop a more formal and visible network of heating and cooling shelters and centers...so that people are aware of what is available.”¹²

Center Poverty, Education, Capacity Building, and Justice

I see climate change as deeply related to other large problems in how our economy is structured for the benefit of the few at the expense of the many. I think information about climate change needs to always be connected with a strategy for how to address poverty and oppression.

— Survey respondent who reported a low income

Participants expressed a strong desire for Maine to implement the climate plan update in ways that center

TABLE 1: **Needs for Education and Information**

Strategy	Education needs
Transportation	EV options, use and incentives; public transit options
Buildings	Heating and housing assistance programs; energy navigators; energy efficiency and electrification technologies, especially heat pumps; materials management including recycling and composting
Energy	Solar and other renewable energy technology; energy bill interpretation
Jobs and economy	Clean energy job opportunities; starting a clean energy career
Natural and working lands and waters	Access to and use of protected areas; local food availability
Resilient communities	Local climate action, vulnerability, and resilience plans; local and regional warming and cooling center availability
Engaging with people	Accessible climate change language that transcends political barriers; guidance on state climate plan strategies and navigating complex climate-related information and decisions; youth education on climate action; methods for community-wide education

Note: Participants raised these needs in engagements and the survey.

poverty, support basic needs, and provide much-needed education, funding, and capacity building. Maine's climate plan needs to integrate the alleviation of poverty, and the procedural and distributional justice principles to ensure it, into all aspects of implementation, by requiring planners to reshape approaches to climate change communication, education, and funding.

Codevelop funding guided by justice principles

Equitable distribution of state funding emerged as a key concern in several engagements. When interviewed by Coastal Enterprises, a farmer from Turner who identified as a person of color emphasized that “[the state] should have a policy to ensure that [distributing funding] is equitable and to go out and look for folks...especially in rural areas, where it is colder and there aren't services.” Another Coastal Enterprises interviewee reiterated the need for careful consideration of funding distribution: “Areas with heavy flooding will need support with flood insurance and the buttressing of their physical buildings from flooding. Folks of color for sure, and women, because any disaster that hits them, hits them harder.”

Under-resourced, rural, and climate frontline communities have an immediate need for funding and technical assistance for adaptation projects and post-storm rebuilding, including developing reserve funds. These concerns also underscore the importance of implementing the equity outcome and monitoring metrics proposed by the Maine Climate Council's Equity Subcommittee, which recognized the need to over-serve and represent vulnerable populations to ensure they are reached (MCC ESC 2023). Funding and education programs need to be codeveloped with people who deeply understand and have experience with poverty (e.g., people who have experienced poverty themselves, social workers, and community action programs) and need to address long-term poverty alleviation, alongside overcoming barriers to adopting climate solutions.

Prioritize education and capacity building

Although participants consistently identified basic needs and cost of living as priorities, they also called for more person-to-person education about energy efficiency, renewable energy, and climate resilience strategies (Table 1); capacity building; and technical assistance. These programs need to respect demographic, political, cultural, and geographic differences and meet people where they are. For instance, participants raised misunderstandings about EVs and electricity sources, winter performance, and battery fires. Education can help bridge the divide between the lens of state climate planners and the lens of people whose major concern is meeting basic needs, by developing a shared vocabulary and actions that address both. This process can help redefine how people interpret the value of climate solutions. For example, collaboratively developed education could use real-life, culturally appropriate cases to demonstrate how combinations of climate solutions can reduce costs: a resident can reduce heating bills by at least 15 percent by replacing heating oil with a heat pump's efficient electricity use, enabling further savings through community or rooftop solar and switching to an EV (reducing annual vehicle fuel costs by at least 35 percent, a \$500 or greater yearly savings for the average Maine driver).¹³ Target audiences need to see their own lives, cultures, experiences, and skepticism in the information and approaches to presenting these cases.

Study participants repeatedly underscored the need for more support for individual and community-level education and action. Participants in a Sunrise County Economic Council focus group indicated they are

overwhelmed: “What are we worried about? Everything...I’m just realizing how low our capacity is.” A participant in a Center for an Ecology-Based Economy meeting targeting older adults mentioned “it would be helpful to have someone come in and identify and assess which areas a town might have trouble with,” including training residents to identify these areas themselves. In A Climate To Thrive’s meetings with leadership of small, rural towns, a town manager reflected on a seasonal capacity cycle that makes climate resilience planning difficult to sustain without external help, when serving both year-round and seasonal populations—emphasizing the importance of local, trusted organizations to help prioritize local needs. Island Institute discussants noted that limited staff capacity often prevents community work from getting done, alongside volunteer fatigue. These participants also stressed that capacity problems connect to the affordability crisis: “Better capacity in small towns [is related to the] capacity to have affordable housing [for the workforce].”

To help build this capacity, efforts to fund and connect community-led initiatives (e.g., GOPIF’s Community Resilience Partnership, Local Leads The Way, and MAINECAN) should be supported and work together at the state level to enable local assistance programs, including Energy Coaches of York Ready for Climate Action and A Climate to Thrive’s Climate Ambassadors program. A program like New Hampshire’s Energy Circuit Riders could build capacity by connecting Community Resilience Partnership’s regional coordinators, who assist municipal and tribal governments, with community coordinators who support official and unofficial community resilience committees.¹⁴

Support special programs for older adults and people with disabilities

Participants identified special considerations for older adults and people with disabilities, including challenges in transport, housing, heating, and community services, which intersect to increase climate vulnerabilities for these groups. In eastern Maine, a Sunrise County Economic Council focus group participant noted the isolation of rural, older adults: “It is so bad, not being able to get around without a car, that I consider moving away because of the thought of being trapped....I think it’s a serious problem. My neighbors, I never see them, or they’ll come out once a month when the bus comes to take them [to a medical appointment].” Another older adult with a disability responded to the survey with

intersecting concerns for energy costs and a lack of supportive services: “Over 2 years now on a waiting list for senior housing. Would like to age in place in my own home but that is not realistic. Right now, I fear the high cost of electricity will add me to the homelessness population in Maine.” Survey results revealed that older adults were much less likely to support weatherization upgrades in their homes (17 percentage points lower interest), potentially due to difficulty accessing information and incentives¹⁵ or because, as one survey respondent put it, “old age makes payback not feasible.”

Tailored educational programs and direct assistance could lower the climate vulnerability of older adults while reducing their cost of living. Partners applauded the work of the Maine Climate Council Youth Representatives and would like to see an older adult ambassador program that builds on the knowledge and experience of older adults to respond to their unique needs. In a virtual listening session focused on older adults,¹⁶ one person shared, “We are pretty good in Maine taking care of ourselves...but we are getting overwhelmed and reaching a tipping point. It would be a great use to train older adults [in the role of] navigators to help each other.” In discussions with the Island Institute, older adults in coastal communities voiced a need for assistance accessing disaster response funding, including “fishermen [who] were not able to get help rebuilding after the big storms, so we have seen some retiring early,” and older adults and people with disabilities stated they need consideration in disaster plans in a survey led by the University of Maine Center on Aging.

Commit to Long-Term, Iterative Relationship-Building

Climate action planning requires long-term commitments to iterative relationship-building with Maine constituents and Wabanaki governments, in the times and spaces of their choosing. Our team, partners, and the Maine Climate Council have made progress toward understanding how to incorporate procedural and distributional equity. A theme throughout these engagements was the need to start the 2028 update process now, to build on the partnerships and momentum of the 2024 process and to allow more time for engagement. We, GOPIF, and partners demonstrated this inclusiveness by meeting participants in their own spaces, going to events, and talking to people in their neighborhoods. Partners told us these engagements were the first time many participants had discussed these issues. A participant at a Maine People’s Alliance meeting for immigrant leaders

tied this need for engagement to basic heating needs: “We need more education for the immigrant communities around the HEAP and LIAP benefits. This is the first time I hear it, so why is there not outreach regarding these programs?” Only 20 percent of survey respondents considered becoming involved with state-level climate planning, but nearly 50 percent were willing to join efforts in their communities. People need to see that their contributions would make a difference; an older adult with a disability conveyed this need in the survey: “Show me how effective they will be. Show me why I should participate.” Centering poverty and basic needs to achieve just outcomes in climate planning is not only a goal for the future, but an urgent need for Maine to continue addressing at this very moment.

ACKNOWLEDGMENTS

This article builds on a 2024 report we (Senator George J. Mitchell Center for Sustainability Solutions, University of Maine) prepared for the Maine Climate Council and GOPIF, with funding by GOPIF (RFP #202309191, Engaging with Low-Income and Disadvantaged Communities for State Climate Action Planning). The Mitchell Center provided additional staff support. We are grateful for the report contributions and guidance of 21 partner organizations and 16 authors. We especially thank the 2,000+ participants in the 73 engagements and survey for their time and input. This article’s results may differ from the report due to additional analysis this specific team of authors conducted. The order of this article’s authors reflects the relative level of engagement and work in producing this article. The views expressed in this article are those of the authors and do not necessarily represent the University of Maine, GOPIF, the Maine Climate Council or its working groups, or any specific partner organization.

NOTES

- 1 Presentation to Maine Climate Council (September 25, 2024), <https://www.youtube.com/watch?v=1e1n4hX75Bl> (start 47:25; end 1:16:45).
- 2 Working groups: Transportation; Buildings, Infrastructure and Housing; Energy; Community Resilience; Natural and Working Lands; Coastal and Marine
- 3 The GOPIF project request for proposals recommended using the White House Council on Environmental Quality’s Climate and Economic Justice Screening Tool to identify disadvantaged communities, which we did. We defined climate frontline communities as those designated as high on the Social Vulnerability Index (SVI) developed by Bowdoin College and used by the state’s Community Resilience Partnership. Older adults include those aged 60 and older. Rural respondents self-identified in the survey as living in a rural area through a multiple-choice question that included rural, urban, suburban, and other choices. Low-income includes self-reported household income of \$50,000 or less. Other categories are defined in the final report (MCSS 2024).
- 4 Public transit, active transit, and public EV chargers are response options for the survey question, “How would you like to see transportation improved? Select all that apply.” EV ownership, heat pumps, and weatherization are response options for the survey question, “Which of the following alternative energy options are you interested in for your own life? Select all that apply.” Rooftop solar and solar arrays on public land are response options for the survey question, “Which renewable energy options would you like to see your community pursue? Select all that apply.” For the full set of response options for each of these questions, see MCSS (2024). To prepare the data for analysis, the “all of these” selections in the multiple-selection questions were included in each climate solution’s total count.
- 5 Maine’s geographic regions, defined for the regression analysis, are central (Penobscot and Piscataquis Counties), northern (Aroostook), eastern (Washington and Hancock), midcoast (Waldo, Knox, Lincoln, and Sagadahoc), western (Androscoggin, Franklin, Kennebec, Somerset, and Oxford), and southern (Cumberland and York). Figure 2 shows the relative population of each region out of the total 2024 state population of 1,405,012. The central Maine region is over-represented due to our Millinocket partner’s substantial outreach work, while southern Maine and some areas of western Maine are undersampled by design because of our targeting of more rural areas. All other regions (including northern) are slightly overrepresented in the survey sample. Population estimates source: “Annual Estimates of the Resident Population for Counties in Maine: April 1, 2020 to July 1, 2024,” US Census Bureau, <https://www2.census.gov/programs-surveys/popest/tables/2020-2024/counties/totals/co-est2024-pop-23.xlsx>.
- 6 For more information on the survey recruitment methods, see Appendix F of MCSS 2024, <https://www.maine.gov/future/sites/maine.gov/future/files/2025-01/Appendices%20for%20Report%20on%20Maine%20Climate%20Council%20Engagement%202024-reduced%20.pdf>.
- 7 GOPIF Request for Proposals #202309191
- 8 “Understanding Tribal Sovereignty,” Wabanaki Alliance, <https://www.wabanakialliance.com/sovereignty/>
- 9 EV ownership interest was lower in rural areas ($p < .05$); active transit interest was lower in climate frontline communities ($p < .05$) and in northern Maine ($p < .1$); public transit interest was lower in central Maine than in eastern ($p < .1$), northern ($p < .05$), and southern, midcoast and western regions ($p < .01$); public EV charger interest was lower in central Maine than in western and eastern ($p < .5$), southern ($p < .01$), and midcoast regions ($p < .001$); EV charger interest was higher for older adults ($p < .05$) and for those with incomes over \$50,000 per year ($p < .001$); EV ownership interest was higher in southern Maine ($p < .05$) and midcoast and eastern Maine ($p < .1$) than in central and northern regions.
- 10 Participants concerned about energy costs were less interested in heat pumps ($p < .1$); solar on rooftops ($p < .1$); and solar on public lands ($p < .05$).
- 11 Interest in rooftop solar was higher in midcoast ($p < .05$) and western Maine ($p < .01$) than in other regions; interest in solar on public land was lower in northern and central Maine ($p < .001$) than in other regions.
- 12 Maine Council on Aging virtual listening session, August 2024
- 13 Efficiency Maine Trust heating cost comparison tool, based on winter 2024-25 energy costs, <https://www.efficiencymaine.com/at-home/heating-cost-comparison/>; US Department of Energy Vehicle Cost Calculator, <https://afdc.energy.gov/calc/>
- 14 <https://www.maine.gov/future/climate/community-resilience-partnership>; <https://www.aclimatetothrive.org/localleadstheway>;

- <https://mainecan.network/>; <https://yorkreadyforclimateaction.org/>; <https://www.aclimatetothrive.org/ambassadors>; <https://www.cleanenergyh.org/energy-circuit-riders>
- 15 Maine Council on Aging virtual listening session, April 2024
- 16 Maine Climate Council Youth Representatives, <https://www.maine.gov/future/climate/council/youthreps>; Maine Council on Aging and Governor's Cabinet on Aging virtual listening session, August 2024

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