



PENOBSCOT CLIMATE ACTION

APPENDIX A

Additional Strategies

BUILDINGS AND ENERGY

Building retrofits

Note related to GHG emissions reductions: *Building retrofits may have the greatest impact on GHG emissions in the region by directly reducing the energy use intensity of existing buildings through increased energy efficiency and the electrification of heating and cooling systems.*

Energy audits and deep energy retrofits for municipal buildings and public schools – Commission a strategic energy management plan (SEMP) for decarbonizing municipal building portfolios, and use the SEMP to begin implementation of deep energy retrofits for municipal buildings, including beneficial electrification of building systems and improving energy. Launch a coordinated program to retrofit municipal and public school buildings, including the installation of energy efficient cooling systems. Enter into power purchase agreements to get renewable energy for facilities. Increase staff capacity for management. As an example, the Town of Orono recently completed energy audits on municipal buildings.

Energy audits and deep energy retrofits for commercial buildings – Launch a coordinated program to retrofit commercial buildings, including the installation of energy efficient cooling systems. Enter into power purchase agreements to get renewable energy for facilities. Increase staff capacity for management.

Implement benchmarking and “tune-up” or performance standards – Implement an ordinance that requires commercial and multifamily residential buildings over a

particular size threshold to track and disclose energy use and greenhouse gas emissions. Tracking will help identify and prioritize larger consumers that could most benefit from energy retrofit programs. After tracking and reporting for a set period of time, benchmarked buildings would then be required to start achieving energy savings and/or greenhouse gas emissions reductions through building “tune-ups.” This may require additional staff capacity to track, and to support small landlords with necessary capital to make upgrades. This will have significant impacts on the region’s ability to meet GHG emissions reductions goals as identified by the state.

Implement energy efficiency standards for rental housing – Integrate energy efficiency standards into existing rental licensing programs and/or adopt rental licensing programs that integrate energy efficiency. Municipalities would then develop a program that involves registration, inspection, and eventually pathways for retrofits for noncompliant rental units to address known health, safety, and energy efficiency issues, with a specific focus on protecting housing affordability and reducing burden on small-scale landlords. This will have significant impacts on the region’s ability to meet GHG emissions reductions goals as identified by the state.

Create a historic preservation and resilience plan – In addition to vulnerability assessments, cities or towns can create a historic preservation and resilience plan to target historic buildings for resiliency upgrades. See Rhode Island’s “Keeping History Above Water” initiative, as an example.



Resilient and renewable energy systems

Note related to GHG emissions reductions: *Strategies that build and strengthen resilient and renewable energy systems will contribute to emissions reductions by supporting the expansion of local solar and improving the region's Renewable Portfolio Standard (i.e., greening of the grid).*

Implement resilient power systems – Conduct an assessment of potential sites for a resilient power system (i.e., solar and storage) that would provide backup power to support critical infrastructure or operations. Prioritize municipal buildings and parking lots, as well as sites that serve residents with greater vulnerability (e.g., affordable housing, nursing homes or assisted living facilities, community centers, shelters, or health clinics). Consider clustering multiple sites with a microgrid.

Facilitate expansion of rooftop solar – Launch a coordinated effort (marketing, education, technical assistance, program financing) to support the expansion of rooftop solar – starting with municipal buildings and parking lots – and then expanding to homes, multifamily housing, commercial and industrial buildings. Procure grant funding to assess suitable buildings, hire “solar ambassadors” to lead targeted outreach, and work with a solar developer to facilitate solar installations.

Update zoning to expand renewable energy infrastructure while protecting critical ecosystems and wildlife habitat – Update zoning to enable construction or expansion of renewable energy infrastructure. Implement ordinances that ensure solar installation is prioritized on already developed land, such as rooftops, parking lots, brownfields, or landfills; that low-impact development practices are used when considering siting infrastructure in forested/agricultural land or in significant wildlife habitat; and that incentivize solar ready new construction. Consider bulk purchasing programs to support expansion of renewable energy infrastructure.

Facilitate expansion of community renewable energy systems – Explore sites, ownership, and financing options for a community solar project to expand access to solar for renters and residents without access to financial resources or a rooftop suitable for solar. This action could also involve assessing additional options for community wind.

Access to resilient and affordable housing

Enhance community resilience through housing support programming – Access to resilient, energy efficient, and safe housing is essential to community well-being and economic security. Housing support and service programs for those experiencing housing insecurity also needs to be reinforced so services aren't interrupted during extreme weather events. This reinforcement could take many forms, including implementing a “housing first approach”, using ARPA funds for eviction prevention and diversion, or implementing disaster recovery planning that leverages disaster recovery activities to further fair housing goals. This strategy would be particularly successful if approached regionally.

TRANSPORTATION SYSTEMS

Resilient infrastructure

Culvert inventories – Audit culverts impacting local roads in conjunction with BACTS conducting a culvert inventory along key corridors, to assess their condition and prioritize upgrades based on climate projections and for future capacity needs. This strategy could be combined with “Identify and Address Priority Stormwater Infrastructure Upgrades” (See section on Environment, Water, and Waste Systems) to more holistically address flooding and stormwater infrastructure upgrades.

Build out asset management systems with climate data – Begin logging and tracking flooding incidents, storm damage, or other climate data in asset management systems in order to collect data, predict needed upgrades, and prioritize infrastructure investments.

Complete streets

Develop complete streets guidelines and model ordinance – BACTS will develop complete street guidelines that are tailored to different size municipalities, and model ordinance language to help municipalities adopt complete street ordinances. Note that this action dovetails with many of the steps and components outlined as a part of fostering complete and walkable neighborhoods (**Toolkit #5**).



Additional mobility options

Conduct a feasibility assessment and business plan for an income-tiered EV car-share program – An income-tiered EV car-share program could be an additional way to expand (low-carbon and low-pollution!) transportation options to people without access to a private vehicle. Such a program could be based and/or operated at a site with other services accessed by low-income families.

Implement (or expand) electric bike-share or scooter-share program – Old Town has had Bird Scooters since 2022, and the program has recently expanded to Orono. Expand and/or implement bike-share or scooter-share programs in other towns. Broaden access to e-bikes through programs such as credit-free payment options, rebates for residents purchasing their own e-bikes, and expanding adaptive fleets that could include recumbent bikes, cargo bikes, child-sized bikes, or other models to fit a wider range of people's needs.

Vehicle electrification

Note related to GHG emissions reductions: *Vehicle electrification is particularly impactful for reducing GHG emissions associated with on-road vehicles using gasoline and diesel by increasing the share of low- or zero-emissions vehicles being driven in the region.*

Develop a transition plan for municipal vehicle fleets – Develop a capital transition plan for transitioning municipal vehicles and lawn-care equipment to electric and alternative fuel vehicles. Consider using performance-based procurement for contracted vehicles (such as school buses), which would give preference to companies that use electric vehicles in their fleets.

Expand electric vehicle charging stations in existing lots – Build out EV charging stations in municipal lots, including lots for employees. Launch an outreach and information campaign to encourage the buildout of public charging stations in private lots. Such a campaign would share testimonials and case studies from other local businesses who have installed EV chargers, as well as information on available tax credits, rebates, and other financing mechanisms to support EV charger installation. Coordinate with state and federal partners to select locations for charging stations that align with local priorities as part of state and federal plans to expand EV charging along key corridors.

Integrate EV charging requirements into zoning ordinances

– Update zoning ordinances to require commercial and residential new developments with off-street parking (as well as any new municipal facilities) to equip a certain percentage of parking spaces with EV charging stations and/or consider requiring that a specific percentage of spaces meet EV-ready parameters.

Launch an initiative to encourage personal EV purchasing

– Develop and implement a community outreach plan that aims to demystify, share information on feasibility and options, and encourage residents in the Bangor region to consider an EV vehicle purchase. Promote the rebates offered through Efficiency Maine and participating dealerships and consider creating municipal incentives for installing charging systems at home. Host promotional events in collaboration with local car dealers to host an “EV showcase” that would allow residents to test drive and consider a range of EV options.

ENVIRONMENT, WATER, AND WASTE SYSTEMS

Waste systems

Advance research, education, and advocacy for long-term regional approaches to waste – The waste landscape in the Penobscot Climate Action region has undergone many changes in recent years. Launch an effort to take a holistic approach to research and evaluation of potential options; education to increase transparency and communication around waste; and advocacy towards a suite of regional approaches for diverting waste from landfills, minimizing pollution and leaching of toxic chemicals, cultivating economic opportunities, and creating value from waste.

Promote zero-waste business initiatives – Launch an outreach campaign that connects with local businesses to provide information, resources, and technical assistance for identifying ways to reduce waste, reuse materials, source recycled or compostable products (such as packaging and serveware), or offer low- or zero-waste product options. Pair this campaign with small grants for businesses to embark on zero-waste efforts, and/or marketing to champion local success stories and to celebrate work businesses are doing to reduce waste. Note State of Maine's Extended Producer Responsibility Bill for Packaging.



Implement composting drop-off programs – Facilitate commercial and residential composting through drop-off programs for food waste, leaf and yard waste. Food or yard waste can be turned into compost and provided to community gardens, small farms, and residents for free. Augusta’s leaf and yard waste composting initiative can be used as an example.

Water systems

Update stormwater design standards and ordinances – Update or adopt municipal stormwater infrastructure design standards that account for local climate projections for higher intensity storm events. Update municipal stormwater regulations to include low impact development standards, which would encourage new development to achieve higher rates of stormwater retention, infiltration, evapotranspiration, and groundwater recharge on site through green infrastructure systems and to incentivize smaller areas of impervious surfaces.

Identify and address priority stormwater infrastructure upgrades based on climate risk and climate justice – Conduct hydrodynamic / hydrologic modeling under future climate scenarios in specific areas to understand the extent of flooding from overwhelmed drainage systems in increasingly heavy storm events. Use this information, in conjunction with local knowledge of areas that already experience frequent flooding, to prioritize upgrades to stormwater systems in capital improvement plans. Of those sites, prioritize locations that affect communities that are already disproportionately affected by climate change. Work with impacted community groups to assess a suite of sites suitable for green infrastructure to minimize the impact on the (gray) stormwater system.

Evaluate the feasibility of a stormwater utility – Conduct a feasibility study for establishing a stormwater utility modeled after the stormwater utility implemented by Bangor in 2012.

Participate in FEMA’s community rating system – The Community Rating System is a voluntary program under the National Flood Insurance Program. When participating communities implement specific flood protection activities, residents within those communities receive discounts on flood insurance premiums.

LOCAL ECONOMIES AND LIVELIHOODS

Climate-ready businesses

Create a green/resilience business passport incentive program – Design a passport initiative program to engage both businesses and customers in educational and engaging and awareness of green, sustainable, and resilience actions taken by local businesses. Example incentives include offering a 10% discount on purchases, offering stickers for filling in passports, and receiving a prize for filling out a full passport. This program is intended to promote environmentally responsible practices among businesses while encouraging individuals to make responsible consumer choices in their community.

Workforce development

Create pipelines for municipal positions (especially that support climate goals) – Bangor created a free commercial drivers license (CDL) training program that then connected students in the program with bus driver and plow driver positions in the city. This action could involve collaborating with education / adult education and career development partners to build out similar programs, specifically for municipal positions that support the region’s climate goals. For example, efforts to decarbonize and increase the energy efficiency of municipal buildings will create a greater need for qualified facilities managers. This action could focus on working with career development partners to develop a local facilities management training program with a focus on energy efficiency and building decarbonization (e.g., Building Operators Certification), including a focus on advancement opportunities for incumbent maintenance staff. Check out the Public Administration courses at UMaine Augusta’s Early College Program for an example of partnerships with local education institutions developing a pipeline of municipal employees.

Create youth summer employment opportunities – Collaborate with organizations supporting youth workforce development to build out a youth employment program that connects youth and young adults with summer job opportunities in municipal government and regional organizations. Consider ways that the program could facilitate job opportunities by providing subsidized wages for youth that work with selected employers, and by supporting youth with job readiness training and other resources. These positions



could align with climate goals, such as “tree ambassador” programs for watering new trees and monitoring for pests. Check out the United Technologies Center and UME Forestry for examples of formal internship programs that connect students with local municipal and private employers.

Expand workforce opportunities through broadband expansion – Much of the BACTS region (Hermon, Hampton, Orrington, Brewer, Orono, Old Town, Penobscot Indian Nation Island, Milford, Bradley) is underserved in terms of [broadband access](#). A number of initiatives and partnerships (e.g., OTO Fiber in Orono and Old Town, Milford’s participation in a regional Get Ready: Community Support Program grant from the Maine Connectivity Authority, etc.) are working to combat that challenge. Target specific next steps to closing gaps in the region.

HEALTH

Food systems

Expand urban farms, food forests, and community gardens
– Remove any barriers for small-scale agriculture and associated structures in urbanized areas through zoning upgrades; identify municipal-owned properties that could be converted to public food forests or community gardens; enable lease-agreements for the use of municipal-owned land for food growing operations; and explore tax or other incentives for buildings or sites that explore innovative features that support health and climate goals (e.g., co-locating rooftop community garden and community rooftop solar).