
A FOUR-YEAR PLAN FOR CLIMATE ACTION
MAINE
WON'T WAIT
MAINE CLIMATE COUNCIL

Maine Climate Council

Maine Resource Recovery Association
Fall Workshop: Grants

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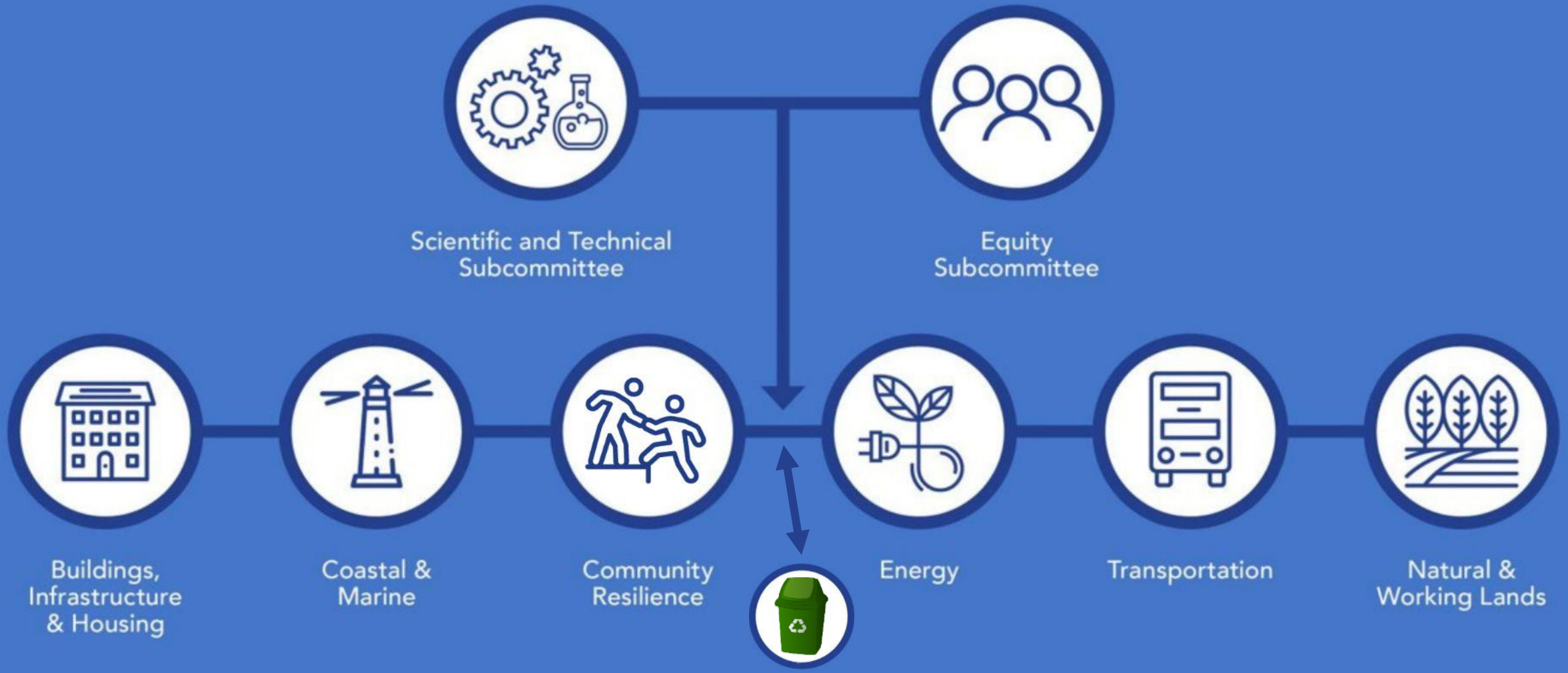
GOVERNOR'S OFFICE OF
Policy Innovation
and the Future

MAINE DEPARTMENT OF
Environmental Protection

Monday, October 27th, 2025

Maine Climate Council



Jan 2024-June 2024

Maine Won't Wait Goals:

1. Reduce Maine's **greenhouse gas emissions**
2. Strengthen **resilience** to climate impacts
3. Create **jobs** and **economic prosperity**
4. Bring climate action to **all Maine people**

Maine Won't Wait Strategies:

A
Embrace the future of transportation in Maine

B
Modernize Maine's buildings: energy-efficient, smart, and cost-effective homes and businesses

C
Transition to clean energy

D
Create jobs and grow Maine's economy through climate action

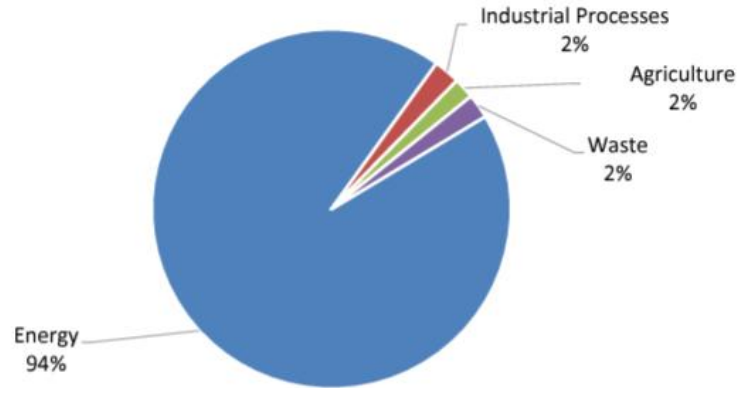
E
Protect the environment and natural and working lands and waters in Maine

F
Build healthy and resilient communities

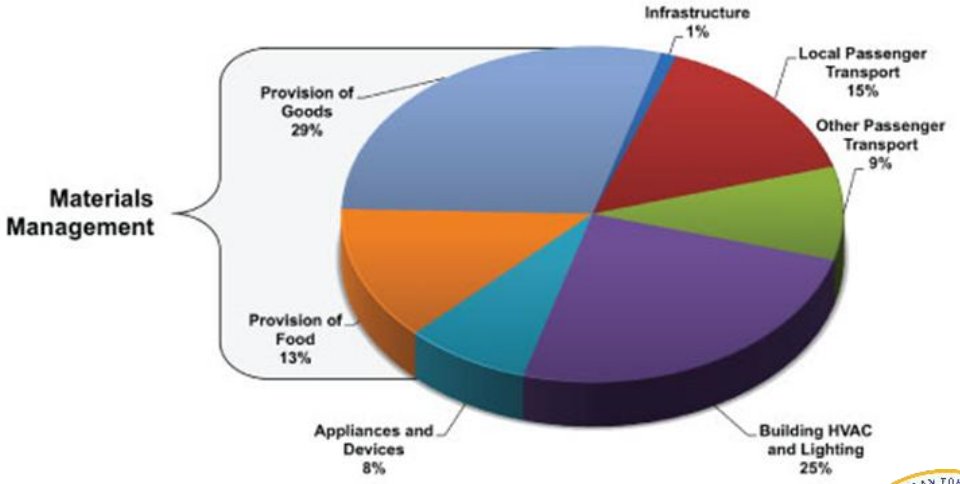
G
Engage with Maine people on climate action

Why Bring in Materials Management/Waste?

- *Maine Won't Wait 2020* did not include recommendations to tackle emissions from our waste sector.
- Maine's waste sector contributes **just 2%** to our sector-based inventory
- Reductions in this sector can be achieved by:
  - ✓ reducing organic materials going to landfills
  - ✓ reducing/capturing methane from waste sources (improved cover, gas capture, etc.)
  - ✓ reducing waste and associated emissions from transportation, sorting, etc.
- But territorial, sector-based emissions from waste are a **tiny piece of a much bigger picture**…



Maine's gross greenhouse gas emissions by source category, 2021 (includes biogenic emissions)



EPA Systems-Based Emissions Inventory for the U.S., 2006

Material Use Impacts Our Global Emissions

- Everything that makes up our daily lives is made of **material resources that eventually become wastes** that we need to dispose of - packaging, clothing, toys, electronic devices, batteries, books, appliances, carpets, furniture, buildings, cars, trucks, trains, boats, bikes, roads, bridges, and so much more...
- When we design products and systems for longevity, reuse, repair, and refill, and preserve the materials we have for as long as possible through reuse and repair, we reduce the emissions generated from extracting more resources to make new stuff.

Waste and materials management are key to emissions reduction and resilience

Promote the manufacture and use of climate-friendly building products

Actions:

- **Divert demolition debris from landfills** by encouraging municipalities to give two weeks' notice for **salvage** opportunities
  - Posting two-weeks public notice of pending demolitions along with a **liability waiver** to reduce risk would enable building materials salvage and **reduce debris disposal**

Actions:

- Require large commercial and state-funded buildings to be **designed for deconstruction** and reuse
  - Global warming potential from buildings would be **reduced by 88%** if they were designed for deconstruction and reuse.

Continue to lead by example in publicly-funded buildings

Goal: Reduce food loss and waste 50% by 2030

Did you know?

- A family of four spends almost **$3,000 per year** on food that is never eaten.
- That's **about $56 per week spent on food that is thrown away**—money that could be used for bills, necessities, household savings, or fun!

Actions:

- Require large generator **food waste reporting**
- Maximize **food rescue, recovery and donation** of edible food

Actions:

- Develop a plan to **reduce and capture methane** from landfills
- Provide incentives for **methane capture**, **anaerobic digestion** and **composting** and other methods to keep food, manure, and other high methane producing materials **out of landfills**

Increase local capacity for climate resilience

Actions:

- Expand **grants and assistance** to communities through programs like the **Community Resilience Partnership** and the **Maine Infrastructure Adaptation Fund**
- Increase capacity to **manage storm debris**

(Photos courtesy the Hatchery and Pen Bay Pilot)

Reduce waste and emissions from products that Maine people buy and use

Actions:

- Support **reuse, refill, and repair**
- **Lead by Example** at state facilities through food waste prevention, reuse and repair
- Develop a **consumption-based emissions inventory** for Maine's greenhouse gas reporting
- Coordinate and fund **regional waste management** planning
- **Increase access to waste reduction and diversion programs** through educational materials and tools

Funding to Tackle Waste at the Local Level

- The Community Resilience Partnership's (CRP) Community Action Grants offer **funding** for a wide range of waste reduction initiatives **in alignment with *Maine Won't Wait 2024*.**
- The DEP Waste Diversion Grants offers public and private entities funding to tackle any project that will **keep waste out of the trash** (landfill and incineration).
- Small grants are also available through the Natural Resources Council of Maine and ecomaine (limited to members)
- Upstream Funding Trackers – Public and Private

Help Grow Maine's Circular Economy

- Economic demand for reused, salvaged, or repaired products, services, and materials **supports businesses and creates jobs**.
- Consider requiring some percentage of reused, salvaged, or refurbished materials in **procurement policies or building codes**
- **Remove barriers** to using reclaimed lumber by removing the requirement that salvaged wood be regraded in local building codes
- Consider adaptive reuse or deconstruction at **brownfield sites**.
- Develop/amend community economic development plans that attract and support **circular businesses or organizations** – like stores with refillable packaging, building deconstruction providers, upcycled foods producers, composters, repair/refurbishing services, secondhand stores (electronics, furniture, building materials, clothes, etc.), or third-party washing services for reusable food & beverage service ware.

"Zero Waste Market" by SFU - Communications & Marketing is licensed under CC BY 2.0.

Recognize & Support Climate Leaders

- Recognize climate leadership by local businesses and organizations and highlight examples of how they've taken action to **reduce and divert waste.**
- Create a climate change education, outreach, and engagement program for residents, businesses, and community partners that talks about the climate benefits of reducing waste and provides tips to get started with **reducing waste, recycling, and composting**.

Example: City of Phoenix, Arizona

- Phoenix Green Business Leader Program **recognizes and promotes businesses** that volunteer to operate in a more environmentally responsible manner through sustainable actions.
- Phoenix Zero Waste Business Program helps their Public Works gather data on participating businesses' **reuse, recycling, or composting** efforts. In exchange for this data, Public Works offers creative ways to **promote the organization's business model** as part of their public outreach and education.

Sharing is Caring (for Your Community)

- Start a community sharing/lending program for residents to **rent or borrow** electric vehicles, e-bikes, or electric lawn care equipment!
- Twin Cities, MN Evie Care Share - residents can borrow one of **170 shared EVs** for very low rates when and where they need them, by the minute, hour, or day for up to three days.
- South Portland, ME's Electric Tool Library - residents can borrow electric lawn mowers, leaf blowers, string trimmers, hedge trimmers, and edgers FREE for a week per tool **with their library card**.
- Portland ME's Bikeshare Program offers either classic or electric bikes, with **200 bikes available** at over 40 stations through the city for a modest fee.
- **E-Bike Libraries** are popping up in many locations as a simple, affordable, fun, and healthy way to get around.

Photo Courtesy of Evie Community Carshare

Build Community Together

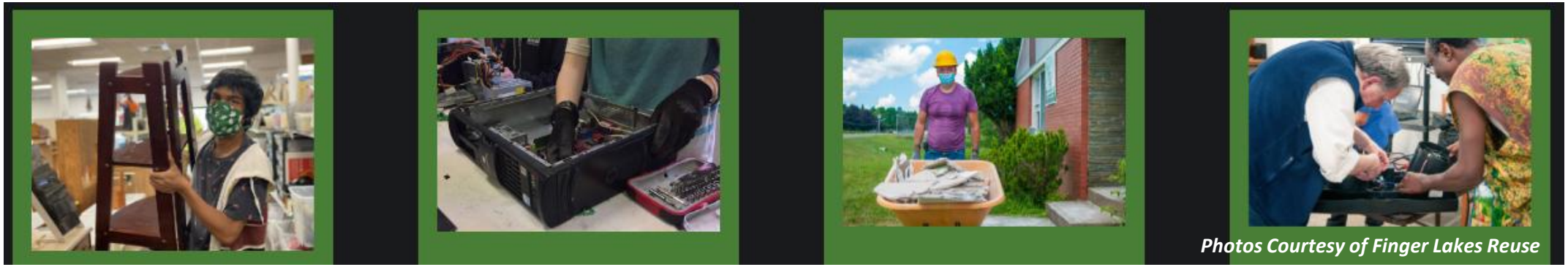
- Start a community reuse center, offer repair cafes, start a tool library, provide job training in reuse and bring people of all ages together to learn, build skills, and share knowledge and materials.

FINGER LAKES ReUSE

Enhancing community, economy, and environment through '***ReUse***'!

Example: Finger Lakes Reuse

- ReSet - job training program with skill building and help with finding and keeping a job
- eCenter – offers affordable refurbished, reused electronics and parts for fixing devices
- Deconstruction - a sustainable way to bring down and source quality building materials
- Fixers Collective – a weekly volunteer event for everyone to come together and fix things!



Photos Courtesy of Finger Lakes Reuse

Prepare to Weather the Storms

- Develop a storm debris management plan that can save your community money and provide opportunities for skill building and training. Even **storm debris can be a resource.**
- **Example:** Camden high school students made picnic tables with wood from a waterfront wharf boardwalk demolished in a storm. Consider collaborating with tech and vocational schools to recover potentially usable material after a storm.

Photos courtesy the Hatchery)

Need More Project Ideas?

- Sustainability Toolbox – University of Maine
- Sustainable Maine Program – Natural Resources Council of Maine
- Reduce, Reuse, Recycle Guides – Maine DEP

Measuring Emissions Impacts with WARM

- Can't be used for developing **GHG inventories**, which rely on establishing a baseline and measuring reductions from that baseline for a specific sector over time.
- Provides **high-level comparisons** of potential greenhouse gas emissions reductions, energy savings, and economic impacts for considering different **materials management practices.**

Waste Reduction Model

- Assesses GHG benefits from a **systems perspective—cutting across the traditional sectors** used in inventories—to show how design and manufacturing, transportation, and end-of-life management practices impact emissions from materials management.
- The biggest emissions reductions come from preventing upstream resource extraction through activities like reuse and repair **to keep materials in use longer**.

Quick How-To for WARM

- You'll need **material tons** to enter for comparing two possible management pathways
- Identify your baseline and comparison scenario (recycling vs. landfill, compost vs. anaerobic digestion, etc.)
- Enter tons of material into the correct row to compare the two scenarios

Material Type	Material	Tons Recycled	Tons Landfilled	Tons Combusted	Tons Composted	Tons Anaerobically Digested	Tons Generated	Tons Source Reduced	Tons Recycled	Tons Landfilled	Tons Combusted	Tons Composted	Tons Anaerobically Digested
Paper	Corrugated Containers		150.00		NA	NA	150.00		150.00			NA	NA
	Magazines/Third-class Mail				NA	NA	0.00					NA	NA
	Newspaper				NA	NA	0.00					NA	NA
	Office Paper				NA	NA	0.00					NA	NA
	Phonebooks				NA	NA	0.00					NA	NA
	Textbooks				NA	NA	0.00					NA	NA

Total Change in GHG Emissions ($MTCO_2E$): (529.83)

- Flip through the spreadsheet tabs to view results
- What's your important metric?
- WARM provides:
  - GHG Emissions
  - Energy Savings
  - Labor hours
  - Wages
  - Taxes
- Use the data that is most relevant.

This is equivalent to...		
Removing annual emissions from	112	Passenger Vehicles
Conserving	59,619	Gallons of Gasoline

Total Change in Energy Use (million BTU): (2,305.73)

This is equivalent to...		
Conserving	25	Households' Annual Energy Consumption
Conserving	397	Barrels of Oil
Conserving	19,142	Gallons of Gasoline

Quick How-To for WARM Continued

- Data can be customized to improve accuracy by identifying geographic region, **travel distance** to facilities, and other locale or project-specific circumstances
- Detailed guidance expands the usefulness for **modeling product lifetime extension** (repair), reuse, food donation, and other scenarios that require additional calculations to model.

3. In order to account for the avoided electricity-related emissions in the landfilling and combustion pathways, EPA assigns the appropriate regional "marginal" electricity grid mix emission factor based on your location. Select state for which you are conducting this analysis.

Please select state or select national average:	Maine
Region Location:	New England

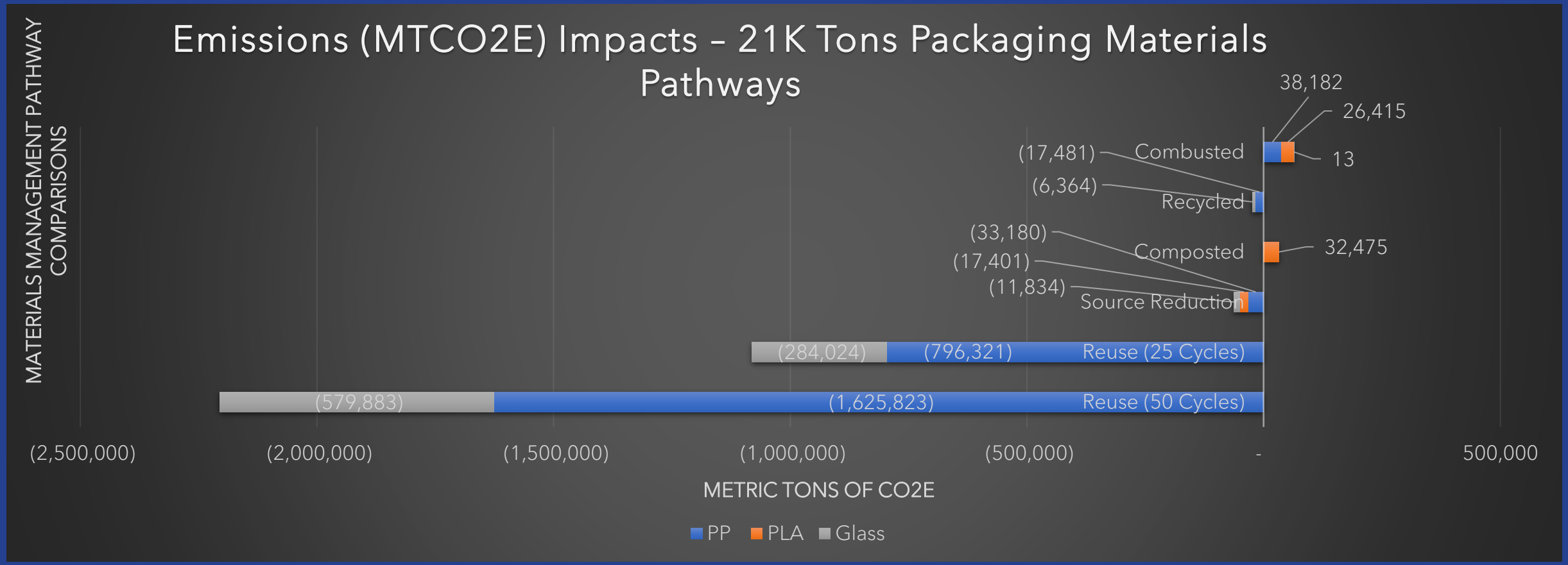
9b. If you have chosen to provide information, please fill in the table below. Distances should be from the curb to the landfill, combustor, or material recovery facility (MRF). *Please note that if you chose to provide information, you must provide distances for both the baseline and the alternative scenarios.

Management Option	Default Distance (Miles)	Distance (Miles)
Landfill	20	200.00
Combustion	20	200.00
Recycling	20	200.00
Composting	20	200.00
Anaerobic Digestion	20	200.00

10. If you wish to personalize your results report, input your name & organization, and also specify the project period corresponding to the data you entered above.

Name				
Organization				
Project Period	From		to	

Compostable vs. Recyclable vs. Reusable Packaging



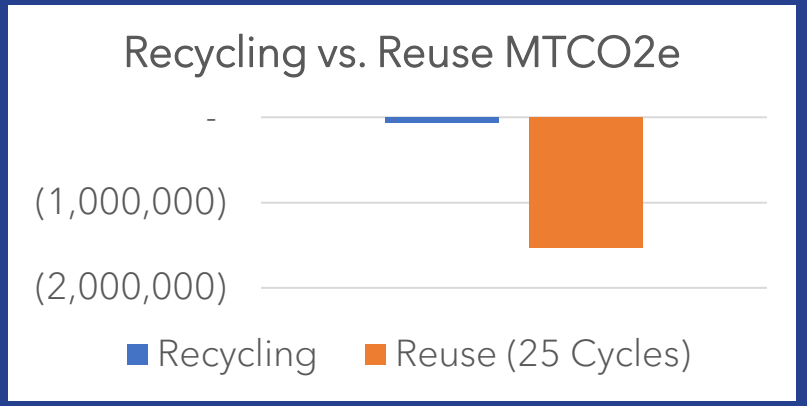
- Compostable (PLA) packaging is not preferable from an emissions standpoint, nor can it be managed through anaerobic digestion.
- Recycling has just a fraction of the emissions reduction potential of material reuse

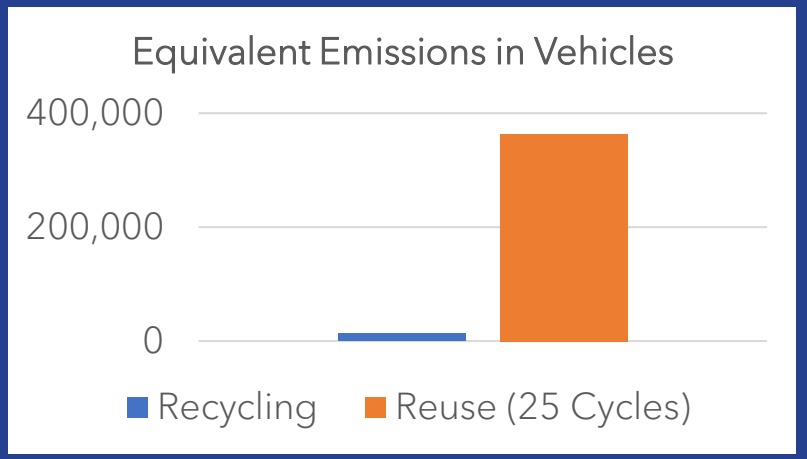
WARM Tool Lifecycle Snapshot – Reuse vs. Recycling

- Maine has funding earmarks to support infrastructure and program development for reusable packaging (amount TBD) and refillable beverage containers ($500K/year)

- Maine recycled 43,341 tons of metal, glass, and plastic beverage containers in 2022
  - Lifecycle GHG savings = 67,766 MTCO2e, like taking 14,388 vehicles off the road for an entire year

- What if we reused these containers (25 use cycles)?
  - Lifecycle GHG savings = 1,526,665 MTCO2e, like taking 363,349 vehicles off the road off the road for a year





Repair Cafes – Community Resilience & Climate Solution

- "Intensive use of longer-lived repairable products" identified by the IPCC as a necessary climate action
- Survey data suggests that "nearly every half of all products are discarded after they malfunction or become defective," regardless of repairability

Community Repair Cafés are volunteer run events; people of all ages with different backgrounds, skill sets, and income levels **come together to collectively repair** items like bicycles, electronics, small appliances, and clothing

Repair café **success rates** are high, averaging 67% for most items, with an even higher **89% success rate** for clothing and textiles

A November community repair café in Midcoast Maine recovered 36 items for an **estimated GHG savings of 1,184.4 MTCO2e** - equivalent to taking **282 gasoline powered vehicles** off the road for a year.

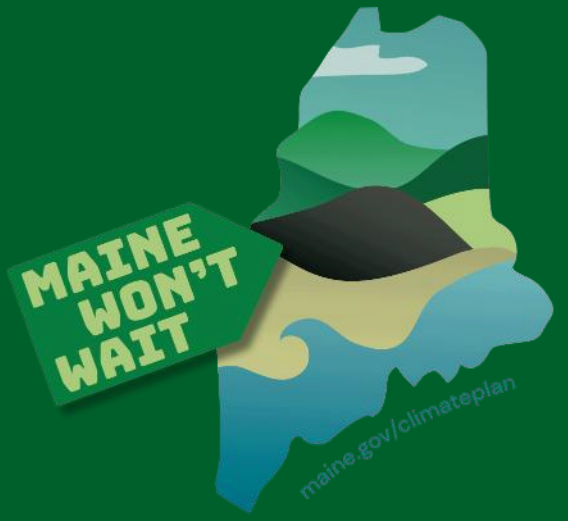
Photo courtesy of Hallie Kirsch and Maine GearShare

Measuring Materials Management Emissions

- EPA Waste Reduction Model (WARM) Tool
- Repair Café Carbon Calculator
- CBEI Guidebook - Creating a CBEI for your city, Urban Sustainability Directors Network
- US Environmentally-Extended Input-Output (USEEIO) Models*, EPA
- Estimating consumption-based greenhouse gas emissions at the city scale, C40 Knowledge Hub
- Forum Products and Toolkits, West Coast Climate & Materials Management Forum
- Waste Impact Calculator Web App, Oregon DEQ
- Smart Tools for a Cooler Planet, Cool Climate Network

*This resource will be moving to an academic institution for preservation and continued improvement, but currently this is the available version.

Suggested Climate Actions



- Businesses can adopt policies to reduce waste from facilities and product supply chains
- Municipalities can adopt policies to renovate and deconstruct buildings and repurpose building materials
- Restaurants, breweries, grocers, and other businesses can opt for reusable/refillable programs to replace single-use food service ware and packaging

CRP Funding Eligibility for Materials Management (1)

- A1: Purchase or lease light-, medium- and heavy-duty electric vehicles, **e-bikes, electric lawn or maintenance equipment,** electric school buses, or electric boat engines for municipal or tribal government-owned vehicle fleets.
- B8 : Adjust **procurement policies** to prioritize climate-friendly Maine forest products (e.g. mass timber, wood-fiber insulation) or **salvaged/refurbished materials** in construction projects.
- B9 : Adopt and implement the most recent "stretch" energy codes, or other **innovative building codes** that are consistent with adopted Maine Uniform Building and Energy Code (MUBEC) and "stretch" codes, that promote resilience and high-performance building standards and **go above and beyond the base code**.
- B14 : Adopt and implement policies for municipal or tribal government construction projects to be sourced from reduced carbon materials and **designed for future deconstruction and reuse of materials**
- C10 : Install a renewable energy project (solar, wind, geothermal, **anaerobic digestion, landfill gas capture,** etc.) on municipal or tribal government property (e.g. school rooftop, wellhead protection area, landfill, brownfield site, etc.).
- C11 : Provide training and educational opportunities for local first responders and code officers to be prepared to **safely handle fires** involving solar photovoltaics and energy storage batteries.
- D1 : Assess the suitability of privately-owned brownfield and disturbed/contaminated sites for clean energy projects and encourage **adaptive reuse or deconstruction** and project development.
- D3 : Develop economic development plans that encourage and support the creation of new businesses that promote clean and efficient energy industries, the forest product sector, and **circular economy initiatives.**
- D5 : Develop programs to connect early career professionals to climate action through careers in climate, clean energy, the **circular economy,** and the natural resources industries.

CRP Funding Eligibility for Materials Management (2)

- D6 : Recognize climate leadership by local businesses and organizations and highlight examples of how they've taken action to reduce energy use, **divert waste,** and grow energy economy.
- E12 : Develop and implement targets, plans, and actions for **waste diversion**.
- E13 : Adopt model ordinances to **support increased access** to waste reduction and diversion programs.
- E14 : Develop and implement programs to lower barriers for consumers to **access local foods**, such as starting a farmers market that accepts SNAP benefits, implementing a community garden program, or connecting local producers to schools or food pantries.
- E15 : Adopt policies that enable, support, or incentivize local food production and consumption from farms, fisheries, and aquaculture, such as policies that promote the use of community gardens and **maximize food rescue**, recovery, and donation of edible food.
- F8 : Develop a **storm debris** management plan.
- F21 : Assess wastewater treatment facilities for **clean energy potential** (solar, anaerobic digester, etc.).
- F30 : Adopt policies that promote and incentivize compact development near community centers, through neighborhood-level land use planning, building in already-developed areas with vacant space, **brownfield redevelopment,** and **redeveloping existing buildings.**
- G2 : Implement strategies to reach vulnerable individuals and communities to increase awareness about **climate impacts and programs and opportunities** and invite input into the design of local programs and policies.
- G3 : Create a **climate change education**, outreach, and engagement program focusing on mitigation and adaptation for residents, businesses, and community partners. G4 : Engage youth in resilience, clean energy, **waste reduction and materials management,** and energy use reduction.

To engage with the Maine Climate Council,

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Sign up for our newsletter

Read the plan!

Home | Climate Impacts | The Plan | Action Guides | Maine Stories | Videos | Dashboard

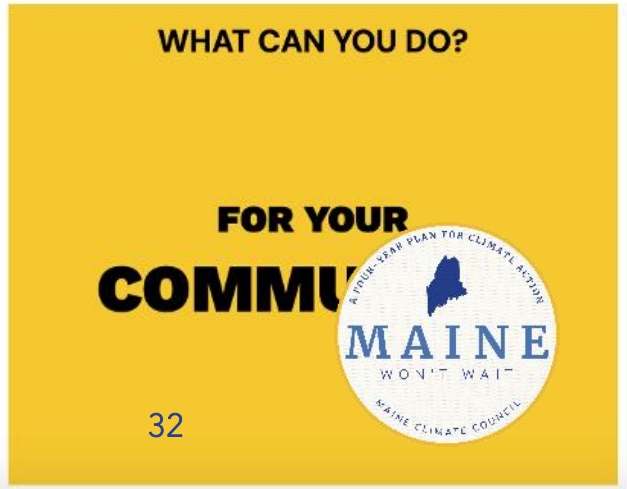
Explore Maine.gov/climateplan

Explore an interactive map showing how climate change is impacting our state's landscape, economies and recreation.

Learn about *Maine Won't Wait*, our state's climate action plan to reduce greenhouse gas emissions and secure a strong future for our people and economy.

Mainers from every corner of the state are taking action and confronting climate change.

GUIDES TO CLIMATE ACTION & INCENTIVES



Climate&Me

A new initiative to engage young Mainers in climate action

Check out the website for resources on how to get involved

Information and inspiration for young Mainers about climate change, the State's climate action plan, and how youth can get involved and make a difference.

Follow us on Instagram to learn about upcoming events @MaineClimateCouncil

Connect with initiative lead
Abigail Hayne
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