# Maine Climate Council



Scientific and Technical Subcommittee

Equity Subcommittee

Buildings, Infrastructure & Housing

Coastal & Marine

Community Resilience

Energy

Transportation

Natural & Working Lands

**Jan 2024-June 2024**
Materials Management Task Force

CLIMATE COUNCIL GOALS

12.01.24
Updated Climate Action Plan Due

Achieve State Carbon Neutrality by
2045

REDUCE MAINE'S GREENHOUSE GAS EMISSIONS BY TARGETS OUTLINED IN STATE LAW

45%
BELOW 1990 LEVELS BY 2030

80%
BELOW 1990 LEVELS BY 2050

ENSURE MAINE PEOPLE, INDUSTRIES, AND COMMUNITIES ARE RESILIENT TO THE IMPACTS OF CLIMATE CHANGE.

# *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:
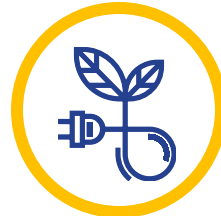
**A** —————

**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**

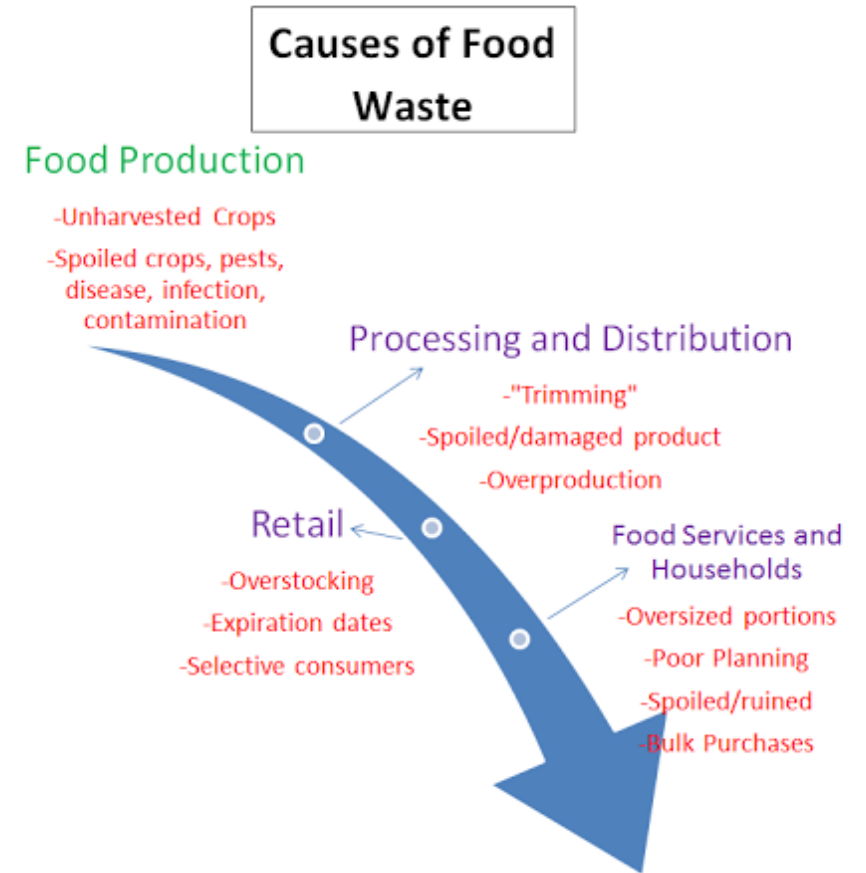## Goal: Reduce food loss and waste 50% by 2030

## 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**

# Why Study Food Loss and Waste?

- Inform future infrastructure and **funding** decisions

- Comprehensively **inventory and characterize** surplus food generation and food waste in Maine

- Learn how surplus food is currently being **managed**

- Estimate **annual** food waste generation in commercial, residential, and institutional sectors.

- Understand potential solutions by sector to help **keep food out of the trash** and save diminishing landfill space for wastes that don't have significant potential to benefit society and our economy

## Causes of Food Waste

**Food Production**
- Unharvested Crops
- Spoiled crops, pests, disease, infection, contamination

**Processing and Distribution**
- "Trimming"
- Spoiled/damaged product
- Overproduction

**Retail**
- Overstocking
- Expiration dates
- Selective consumers

**Food Services and Households**
- Oversized portions
- Poor Planning
- Spoiled/ruined
- Bulk Purchases

# Addressing Food Waste Requires Data



- **What we already knew about food loss and waste:**
  - A lot of resources go into producing and **transporting** food
  - Food waste happens for a variety of reasons, most of which are **preventable** with appropriate solutions
  - Wasting food is **expensive** – we pay to buy it, and then we pay to throw it away
  - There are Mainers experiencing **food insecurity**

- **What we learned from Maine's Food Loss and Waste study:**
  - How much food is **going to waste** in Maine
  - **Where** food is being wasted in Maine
  - How much of that wasted food could go directly to **feeding people**
  - How much of that wasted food could be used for other good things that boost our economy or **support our communities** like making upcycled food products for people or pets, feeding farm animals, clean energy, or enriching soil health through compost

# Food Waste=Financial Waste

- On average, food waste costs U.S. consumers **$728 per year**

- A family of four spends almost **$3,000 per year** on food that is never eaten

- That is **about $56 per week spent on food that is thrown away**—money that could go towards paying bills, buying necessities, household savings, or fun activities
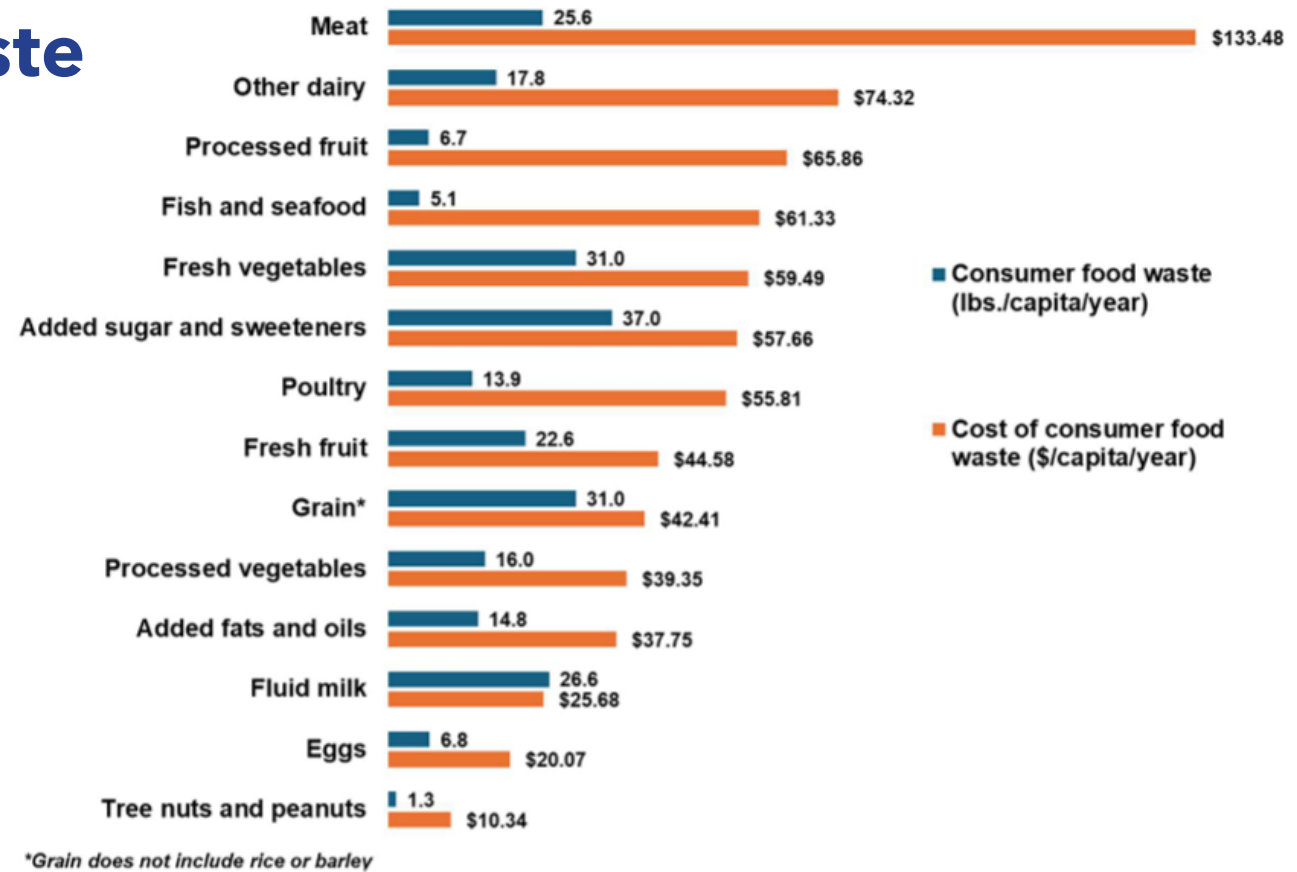


Figure 1. Annual per capita consumer-level food waste and associated annual costs, by commodity group.

These data are from EPA and reflect ONLY consumer **food purchased for home consumption**, not food purchased at hotels, for eating on-the-go, or at restaurants

# A Snapshot of Food Waste in the U.S.

- According to EPA, one-third of the food available in the U.S. is wasted ever year
- More food reaches landfills than any other material in the municipal solid waste stream
- Wasting food is a waste of:
  - labor and resources used to produce, package, transport, and sell uneaten food
  - nutrients in uneaten food
  - money spent on food that is never eaten



**Typical haul from dumpster diving in a U.S. city –** *Photo courtesy of Robin Green and Food Waste Fiasco*

# Food Waste in Maine

- Based on EPA averages, Maine residents likely spend roughly **$1,020,736,080 yearly** on food that is wasted

- Across all sectors, **361,506 tons** of food goes to waste in Maine every year

- Farms produce roughly **90,000 tons of surplus** every year; about 5,412 tons of that is likely edible

- About 179,680 Mainers **experienced food insecurity** in 2022 - only 49% qualified for SNAP

- Food rescue does not address the many root causes of food insecurity, but it does offer a significant opportunity to get **fresh, local Maine food** to Maine people

- Community driven food rescue also **fosters social connections**, supports local economies, empowers individuals, offers learning and skill-building opportunities, and helps to address hunger while reducing waste
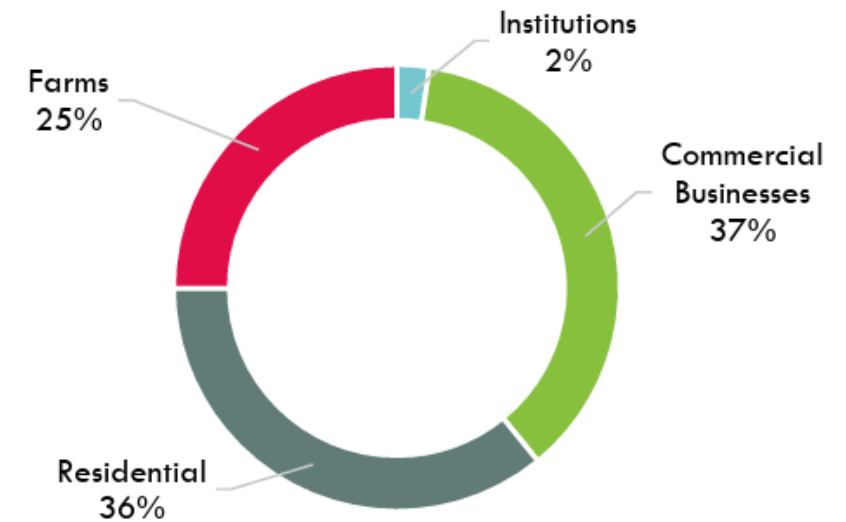


*Food Waste Generation by Major Sectors in Maine*

Institutions 2%
Farms 25%
Commercial Businesses 37%
Residential 36%

# Agenda

**01.** **Background**
*Study focus, timeline & key collaborators*

**02.** **Methodology**
*Multi-step process to quantify food loss and waste including refinements from interviews conducted*

**03.** **Highlights from Study**
*Food loss and waste generation by major sectors & geospatial analysis*

**04.** **Going Forward**

# Background

Study focus, timeline & key collaborators

# Assembling The Right Team

**Study Focus:**
Comprehensive surplus food study to characterize the sources, quantity, quality, and food processing-related loss and waste generated annually in the commercial, residential, and institutional sectors in Maine.

**Timeline:** December 2023 - April 2024

**Key Collaborators:**

- Resource Recycling Systems (RRS)

- The Mitchell Center for Sustainability Solutions at the University of Maine

- The Center for EcoTechnology (CET)

# Methodology

Multi-step process to quantify food loss and waste including refinements from interviews conducted

# Multi-step process to quantify food loss and waste for 15 generating sectors

## Develop Comprehensive Inventory of Maine Loss and Waste Generating Entities

**Sector**

- Identify generating entities at the county level
- Determine appropriate rates of surplus food loss and waste

## Contextualize further using primary Maine-based research

- Interviews, led by CET, with affected entities

**Use ME specific data to further refine estimate**

**Develop estimation backed by primary research findings**

## Characterization

- Avoidable or Unavoidable
- Predictable or Unpredictable
- Suitable for: Immediate Consumption, Upcycling, Animal Feed or Inedible (Composting or AD)

**Estimate characteristics of food loss & waste generated by sector**

## Data Quality Assurance

- Determine the estimated quantity generated in proportion to overall Mixed Municipal Solid Waste

Summarize findings including map illustrations that depict regional concentrations

# Highlights from Study

Food loss and waste generation by major sectors & geospatial analysis

# Food Loss and Waste in Maine- By Sector

361,506 tons of surplus food are generated annually in the state.

The Residential sector is the largest generator.

Within Commercial Businesses, grocery stores and food manufacturers are major contributors.

Substantial potential edible food.*

*E.g., from grocery stores, restaurants and large residences, subject to further research*

## Food Loss & Waste Generation
### by Major Sectors in Maine



Farms
(1 sector)
25%

Institutions
(4 sectors)
2%

Residential
(1 sector)
36%

Commercial
Businesses
(9 sectors)
37%
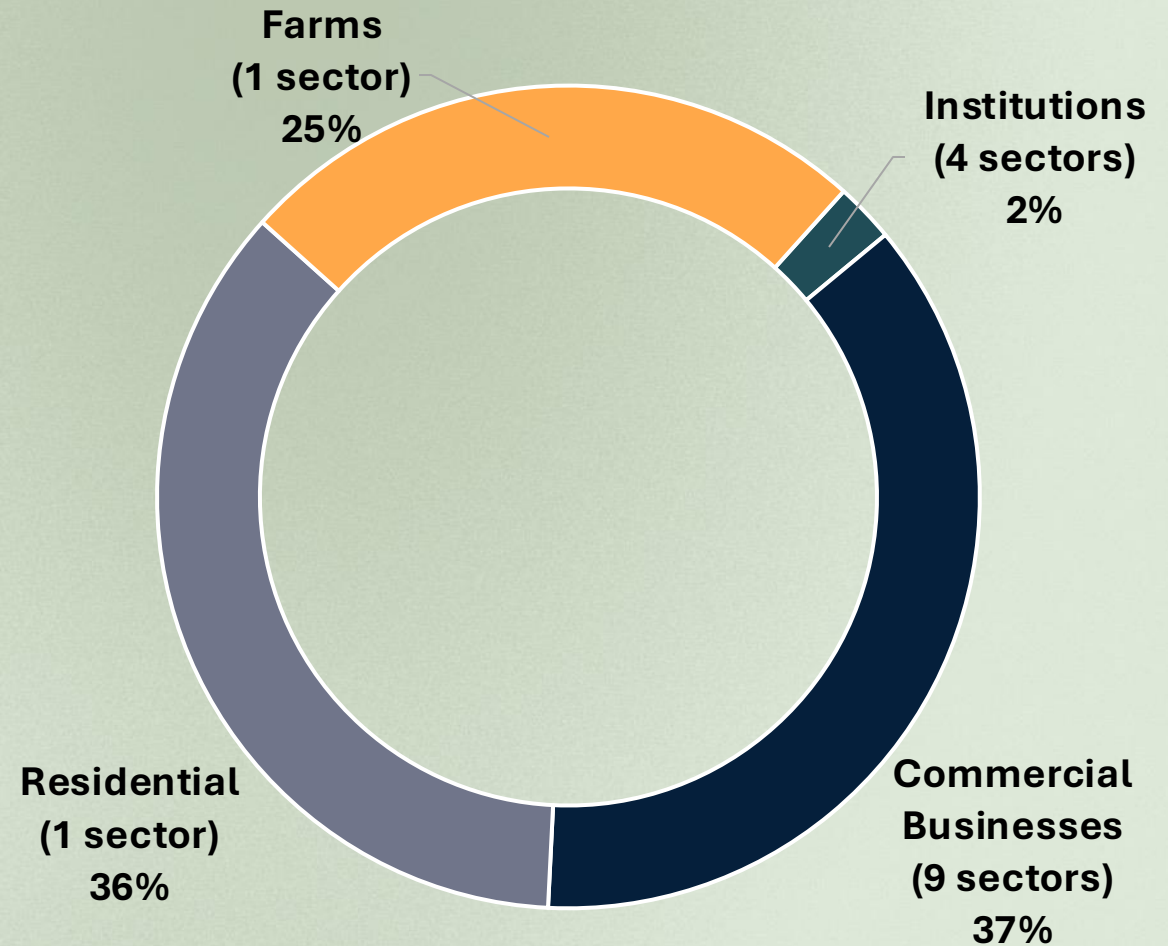
# Identifying infrastructure opportunity gaps

Study identified 8 compost sites and anaerobic digestion facilities that are operational.*

The figure presents a radius of 25 miles around these facilities, paired with an illustration of regional waste food generation.

An understanding of the distances between concentrated generation centers and available waste processing sites is crucial in evaluating infrastructure needs.

*Only those with permitted capacity during the study period were included.*

## Annual Surplus by Large Generators
by County, Showing Operational Processing Infrastructure
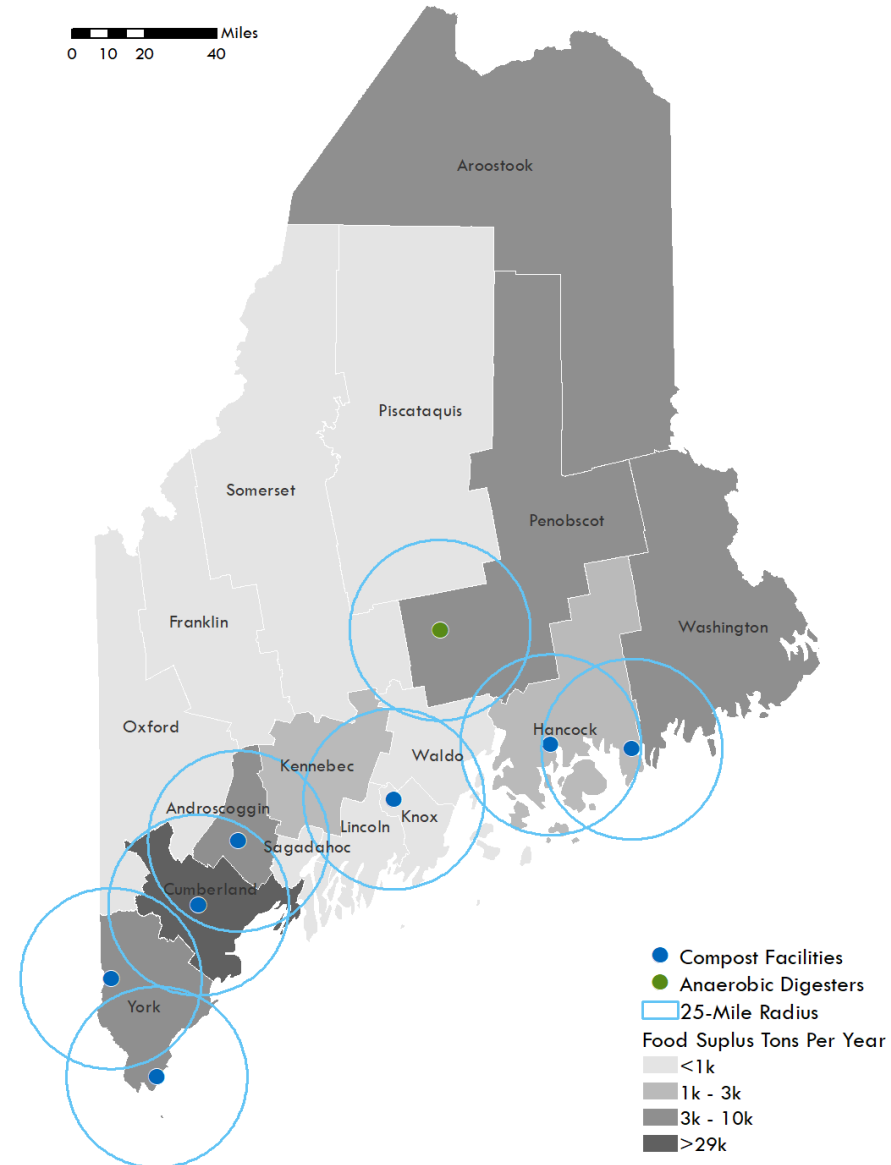
# Going Forward

**Necessity of more data to assess economic, social and environmental potential particularly for surplus and waste food up the food recovery hierarchy**

# Looking Ahead

- Continue to support **partnerships** across Maine to prevent food loss and waste across different sectors

- Continue gathering data to better understand **infrastructure needs** by region based on unique community aspects and geography

- Continue to pursue **federal funding opportunities** to address food waste in communities

- Support schools, businesses, and other organizations in their efforts to **divert food from the trash**

- Support businesses and organizations that move food waste out of the trash and **into our economy** through uses like processing, composting, energy production, etc.

- Support charitable **food recovery** networks

- Provide **education and outreach** about the economic potential of reducing, rescuing, and repurposing food before it becomes waste

**Community Resilience Partnership: over $9.1 million** awarded to municipal and tribal governments to support *Maine Won't Wait* goals
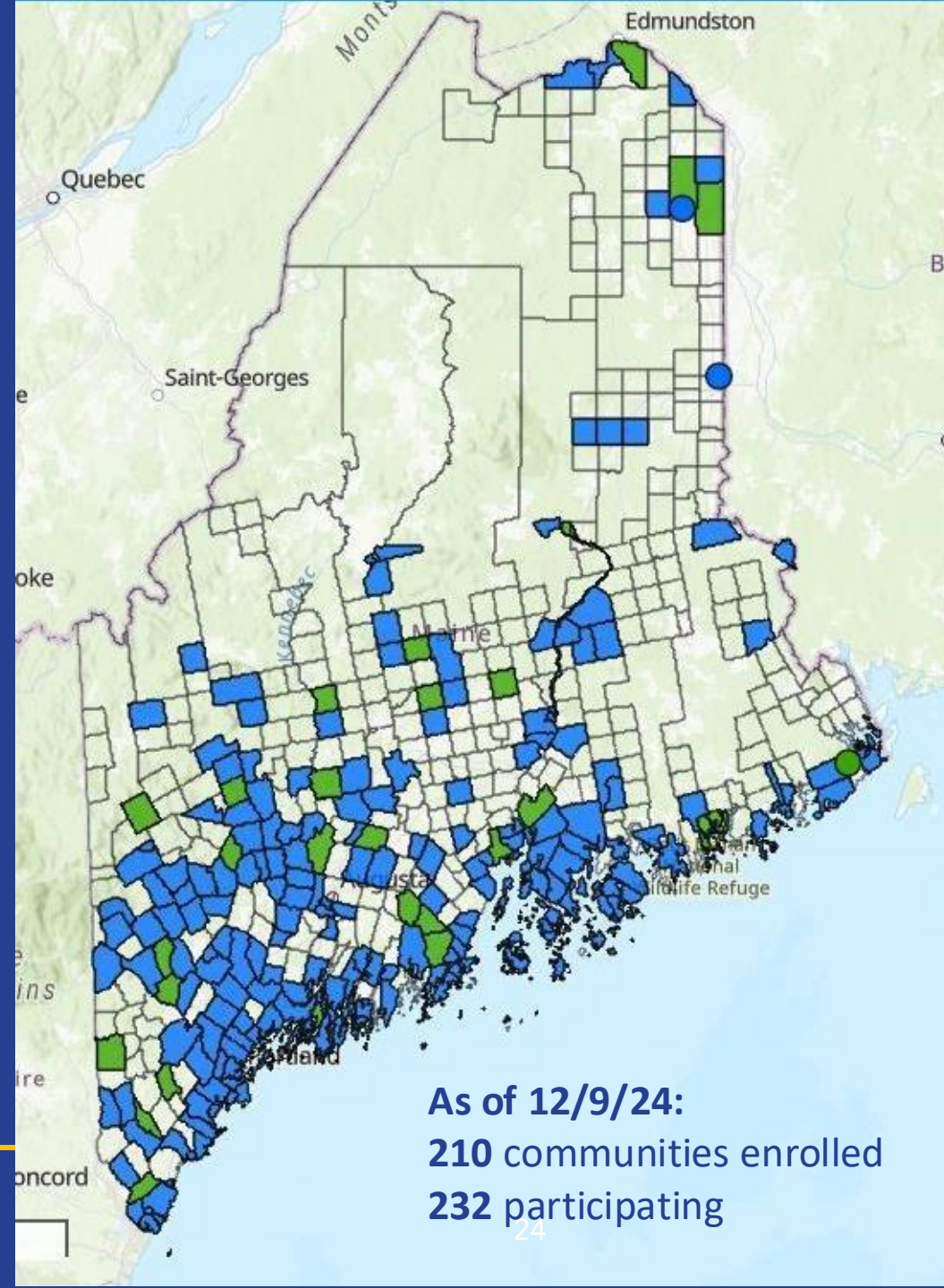
**As of 12/9/24:**
**210** communities enrolled
**232** participating

# Funding Resources

- The **Community Resilience Partnership (CRP)** grant:
  - funds actions from **an approved list** of climate mitigation and adaptation activities that align with the strategies of Maine Won't Wait, and other projects proposed by a community that **support capacity building**, planning, and implementation projects.
  - CRP funds have supported **community composting,** and the list of eligible actions is currently being updated with more waste activities to align with Maine Won't Wait 2024.
- Maine DEP's **Waste Diversion Grant:**
  - open to any public or private entity, specifically focused on **diverting waste** from landfill, with a statutory **priority on organics** and regional or municipal applicants

## Other State Programs

- Maine's Farm to Institution Program helps to support our Lead by Example Goal to grow the share of local food **purchased by state government** to 20% by 2025.
- Maine's Ending Hunger in Maine initiative brings stakeholders together across and beyond state government to create a Maine **free from hunger** with Maine's Roadmap to End Hunger as its guide

# To engage with the Maine Climate Council,

Follow us on Instagram @maineclimatecouncil

Sign up for our newsletter

Read the plan!

**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**

WHAT CAN YOU DO?
FOR **YOUR HOME**

WHAT CAN YOU DO?
FOR **YOUR VEHICLE**

WHAT CAN YOU DO?
FOR YOUR **BUSINESS**

WHAT CAN YOU DO?
FOR YOUR **COMMU**

MAINE
WON'T WAIT

# Climate&Me

**A new initiative to engage young Mainers in climate action**

**Check out the website for resources on how to get involved**

Follow us on Instagram to learn about upcoming events @MaineClimateCouncil

Connect with initiative lead Abigail Hayne abigail.hayne@maine.gov



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.