

# Freeport x GPCOG Climate Action Planning



**FREEPORT**  
— Maine —

**GPCOG**  
GREATER PORTLAND  
COUNCIL OF GOVERNMENTS

# Agenda



GPCOG Climate Action Planning Process

Freeport Phase 1 Scope

Community Resilience Partnership –  
Service Provider Scope of Work

# Definitions

**Climate-related hazard:**  
an effect of climate change

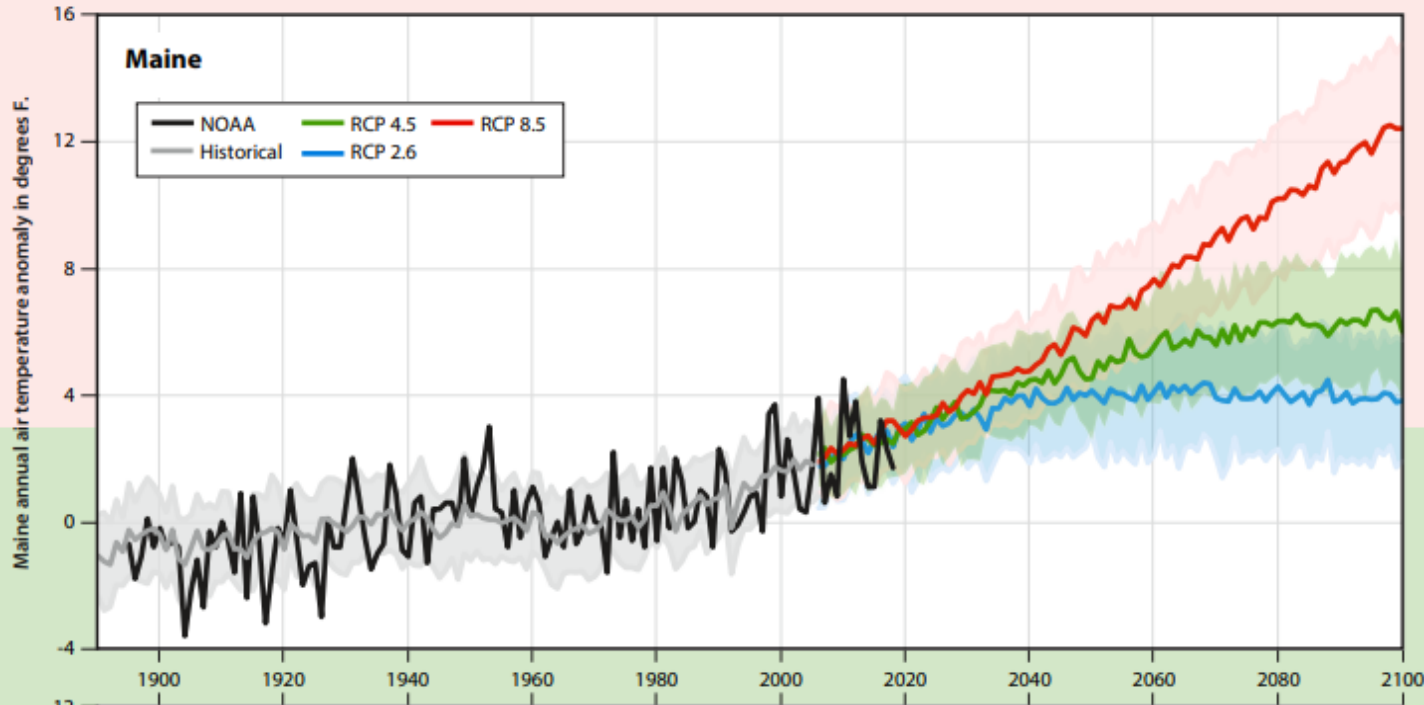
**Climate-related impact:** a harm to people, communities, ecosystems, etc., caused by a climate hazard

**Adaptation:** adjustments in ecological, social, or economic systems in response to actual or expected climate hazards

**Vulnerability:** a measure of risk to a threat, incorporating the likelihood of the threat occurring and how bad it looks to be if it occurs.

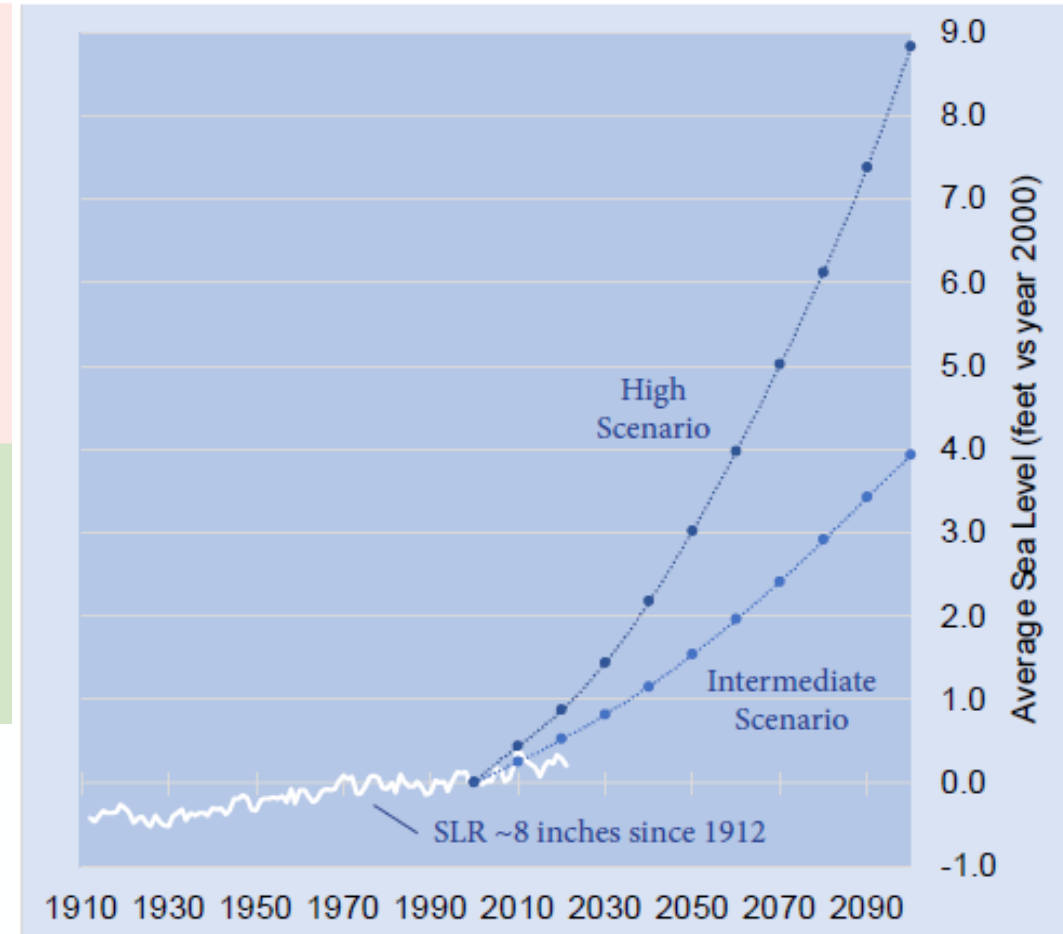
**Resilience:** the capacity to adapt well and/or recover quickly from challenges

# Maine Climate Hazards Now and Future



## Maine in 2050 under moderate warming scenario

- a 5-degree F increase in air temperatures
- 1.5 ft increase in sea level rise leading to 15x flooding
- Possibility of 3.6ft of sea level rise
- Increase intensity and variability of precipitation



*Historical annual average sea level in Maine and intermediate and high projections of Maine's future SLR.*

# Maine Climate Hazards and Impacts

Maine is experiencing an increase in local climate hazards...

## Climate Hazards

## Potential Impacts

Sea Level Rise

Coastal Erosion

Coastal Flooding

Ocean Warming and Acidification

Changing Marine Ecosystems

Harm to Fishing Industry

Increased Precipitation and Storm Intensity

Coastal and Inland Flooding

Overburdened Wastewater System

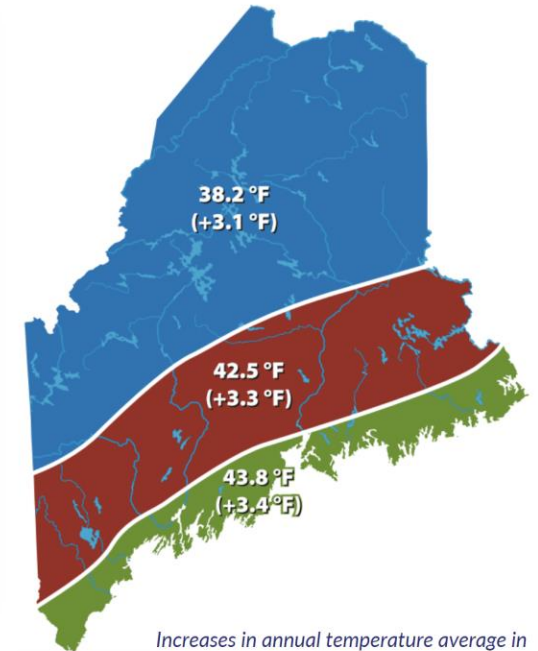
Declining Water Quality

Warming, More Variable Temperatures

Increased Energy Consumption for Summer Cooling

Increase in Vector-borne Diseases

Changing Terrestrial Ecosystems



Increases in annual temperature average in Maine since 1895



# Climate Action Planning

## GPCOG's Approach and Process

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Aligns municipal activities with state climate action

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Reduces costs of planning, monitoring, and reporting on climate actions

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Provides access to data and expertise and supports knowledge sharing in the region

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Takes advantage of regional efficiencies in implementation

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Creates a pipeline of shovel-ready projects ready for funding

# What is Climate Action Planning



## Climate Action Planning is...

- A science-based approach that provides a strategic framework for reducing greenhouse gas emissions and building resilience to climate related impacts
- The data developed during the process is not developed solely for a climate action plan. Climate data and actions can be incorporated into sustainability plans, energy plans, or comprehensive plans.

## Climate Action Planning is NOT...

- A broad plan which addresses environmental, social and economic issues or livability challenges

# Climate Action Planning

## GPCOG's Process

Preparation and Data Collection

Create advisory committee or team

Plan community engagement

Identify data sources and conduct data collection

Vulnerability Assessment, Emissions Inventory

Vulnerability assessment **Workshop**

Generate vulnerability and emissions reports

Publicize reports; hold **Town Meeting** for public comment

Climate Action Planning through Public Engagement

Hold priority-setting **Workshop**

Develop climate actions based on priorities identified

Publish climate action plan

Publicize reports; hold **Town Meeting** for public comment

Implementation and Tracking Progress

Implement plan and establish tracking approach

Track and report on progress annually



# Timeline

Month

1

2

3

4

5

6

7

8

9

10

11

12

## Phase One

GPCOG/Municipal Kickoff Meeting

Establish Action Planning Committee

Data Collection

Plan community engagement

## Vulnerability Assessment

Data collection worksheet

Conduct workshop

Draft report

Town meeting - public comment on reporting

## Emissions Inventory

Data collection worksheet

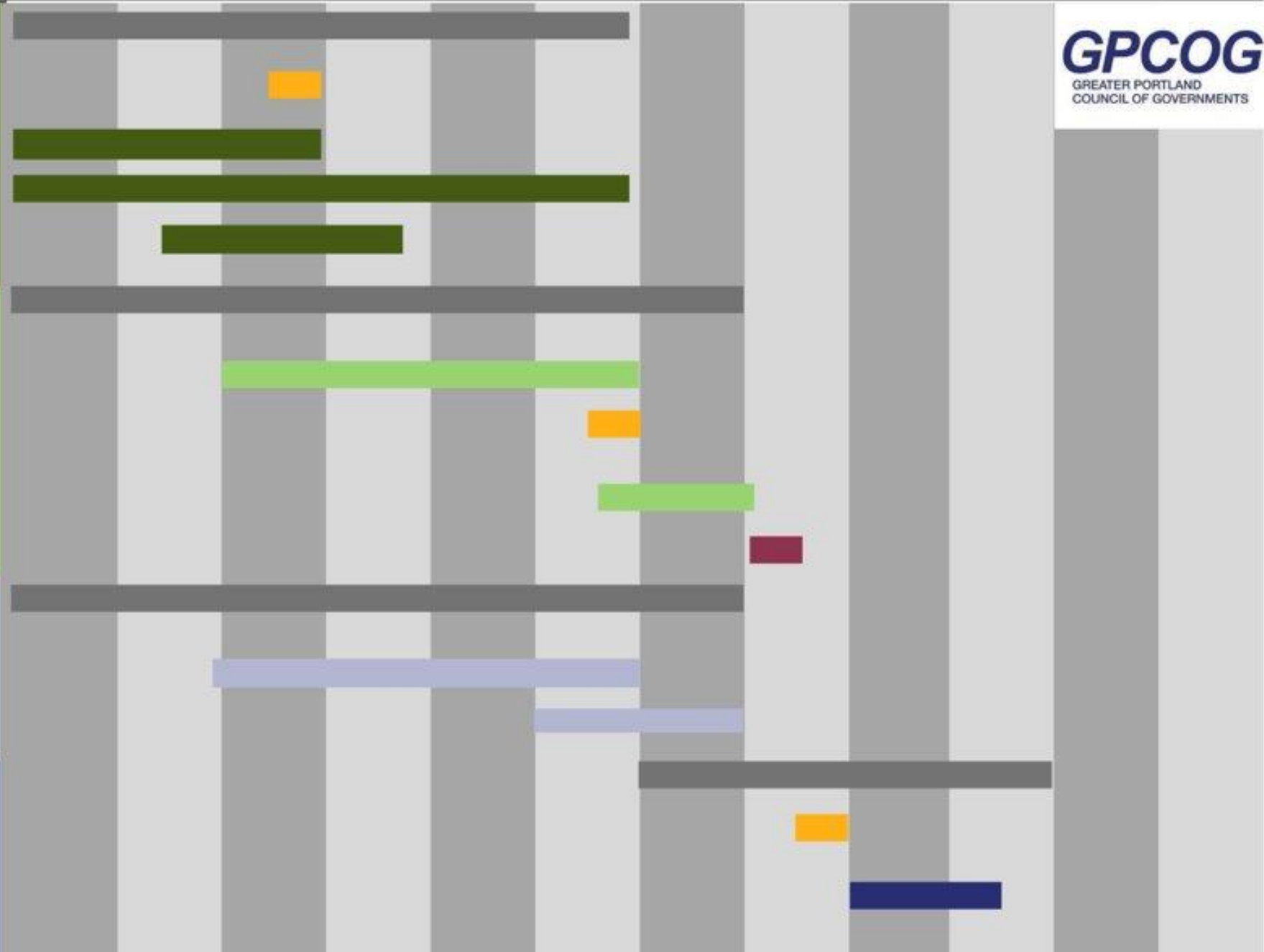
Draft report

## Integrated Action Planning

Priority setting workshop

Action planning

Draft final report



# Climate Action Plan Components

## What is a Vulnerability Assessment?

### **Vulnerability Assessment :**

Collects and analyzes data on exposure and risk climate change poses to town infrastructure, natural resources, and social systems

Supports the climate adaptation planning process

The three components considered in assessing vulnerability - exposure, sensitivity, and adaptive capacity

# Vulnerability Assessment Data Collection



- 1 Examine regional data sources on flooding, land use, and population demographics**
- 2 Conduct a municipal staff survey and interviews**
- 3 Hold a broad stakeholder workshop to identify community vulnerability and concerns**

# Greenhouse Gas (GHG) Emissions Inventory

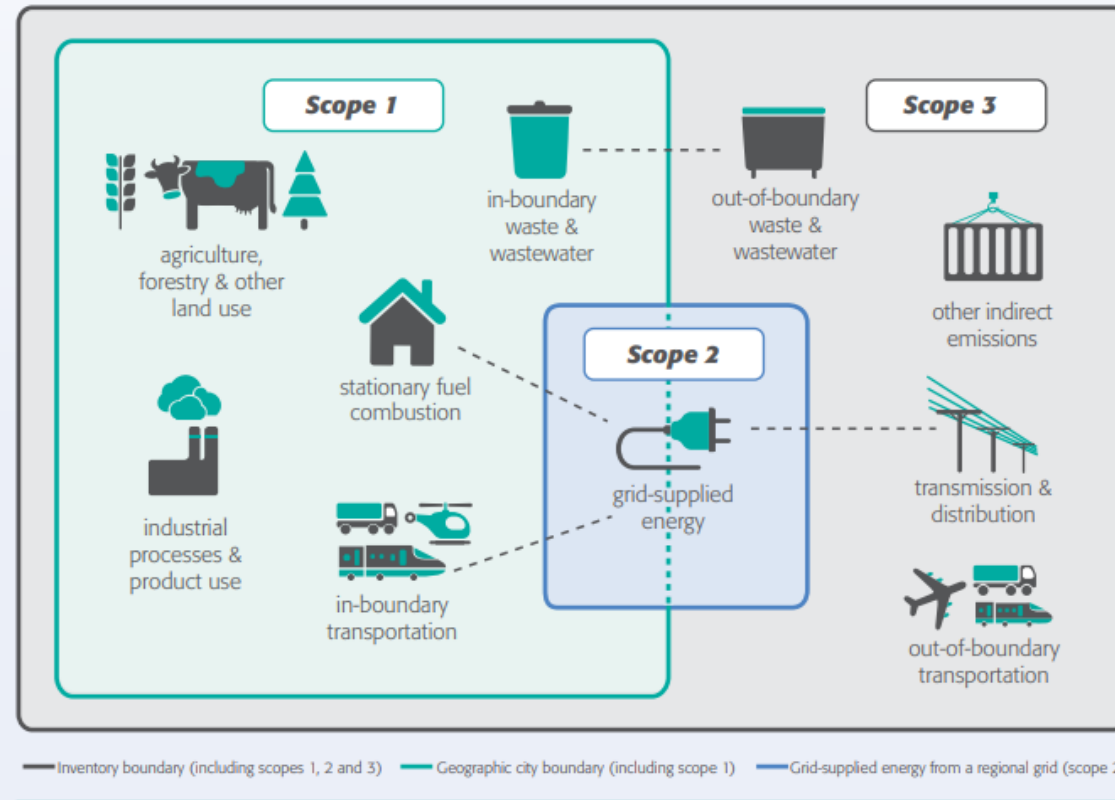
- Boundary restricted view of direct emissions occurring in the community
- Supports regulatory/educational/community emission reduction strategies
- Helps set community-wide targets and strategies that can be implemented by the local government, residents, businesses, and region

# Community vs. Municipal GHG Inventory

*A community-wide* GHG inventory estimates the amount of GHG emissions associated with community sources and activities, meaning those of a municipality's residents, workforce, visitors, and economy.

*A municipal* GHG inventory looks only at the emissions occurring because of local government operations, including those from government buildings and facilities, government fleet vehicles, wastewater treatment and potable water treatment facilities, landfill facilities, and other operations.

Figure 1 Sources and boundaries of city GHG emissions



## What's Included in a Community GHG Inventory?

- Emissions: Carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O).
- Scope 1 Emissions: Directly created (e.g., through household heating or vehicle fuel combustion) by community members
- Scope 2 Emissions: Indirectly created (e.g., through grid electricity use) by community members

# Sectors and Emission Sources



| SECTOR            | SUBSECTOR  | EMISSIONS SOURCES  | ENERGY TYPE                     |
|-------------------|--|--|---------------------------------|
| STATIONARY ENERGY | Residential  | Energy use in buildings as well as losses from distribution systems  | Electricity                     |
|                   |  |  | Natural Gas                     |
|                   |  | Energy use in buildings  | Discrete Fuel                   |
|                   | Commercial   | Energy used in commercial, government, and institutional buildings as well as losses from distribution systems   | Electricity                     |
|                   |  |  | Natural Gas                     |
|                   |  | Energy used in commercial, government, and institutional buildings   | Discrete Fuel                   |
| Industrial        | Energy used in manufacturing and industrial facilities as well as losses from distribution systems | Electricity  |                                 |
|                   |  | Natural Gas  |                                 |
|                   |  | Energy used in manufacturing and industrial facilities   | Discrete Fuel                   |
| TRANSPORTATION    | Passenger Vehicles   | Fuel combusted from all passenger vehicle trips that are attributable to the municipality  | Gasoline, Diesel, Electricity   |
|                   | Commercial Vehicles  | Fuel combusted from all commercial vehicle trips that are attributable to the municipality   | Gasoline, Diesel, Electricity   |
|                   | Public Transit   | Fuel combusted due to passenger miles travelled on public transit  | Gasoline, Diesel, Electricity   |
|                   | Marine Vessels   | Fuel combusted by boats that are refueled at community harbors   | Gasoline, Diesel                |
| WASTE             | MSW - Landfilling  | Landfill gas (CH <sub>4</sub> ) emissions resulting from all trash generated by residential and commercial activity in the community and sent to landfill          | Landfill Gas                    |
|                   | MSW - Incineration   | GHG emissions resulting from the incineration of all trash generated by residential and commercial activity in the community that is sent to an incineration plant | Incineration Emissions          |
|                   | Wastewater   | Process and fugitive emissions from treating wastewater from all residential and commercial activities   | Aerobic and Anaerobic Digestion |


# Climate Action Planning in Freeport

## Not starting from scratch!

- Multiple community and volunteer groups energy to harness
  - Strong foundation of climate actions
  - Existing planning processes to build on and align with



# Climate Action Plan Phase 1 Scope



- 1** Facilitate (2-3) internal municipal staff and sustainability committee meetings
- 2** Coordinate and prioritize sustainability efforts and projects
- 3** Create a framework for incorporating climate change considerations into the comprehensive plan update

# GPCOG Climate Action Plan Phase 1 Deliverables

- ➔ A framework for incorporating climate change considerations into existing planning processes
- ➔ Access to data that supports decision making on climate priorities, this includes regional flooding and *community* GHG inventory emissions data
- ➔ A timeline and process for executing a full climate action plan
- ➔ Priority projects and guidance for sustainability committees and volunteers for next steps

# Freeport Sustainability Groups

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## Freeport Sustainability Advisory Board

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## Freeport CAN

# Sustainability Projects in Freeport

Actions completed regarding climate action planning (FY 2010 – 2022)

- Multiple projects aimed towards increasing energy efficiencies
- Zoning Ordinance amendments pertaining to agriculture and multi-family housing
- CDBG program to fund energy assessment & air sealing in 75 low-income homes
- Established Municipal Tree Task Force
- Authorized purchase of hybrid Fire and Police Chief vehicles

# GOPIF Community Resilience Partnership

Leverage state support for municipal climate action!

Grant Awards for:

- Regional Coordinator
- Service Provider
- Action Grants

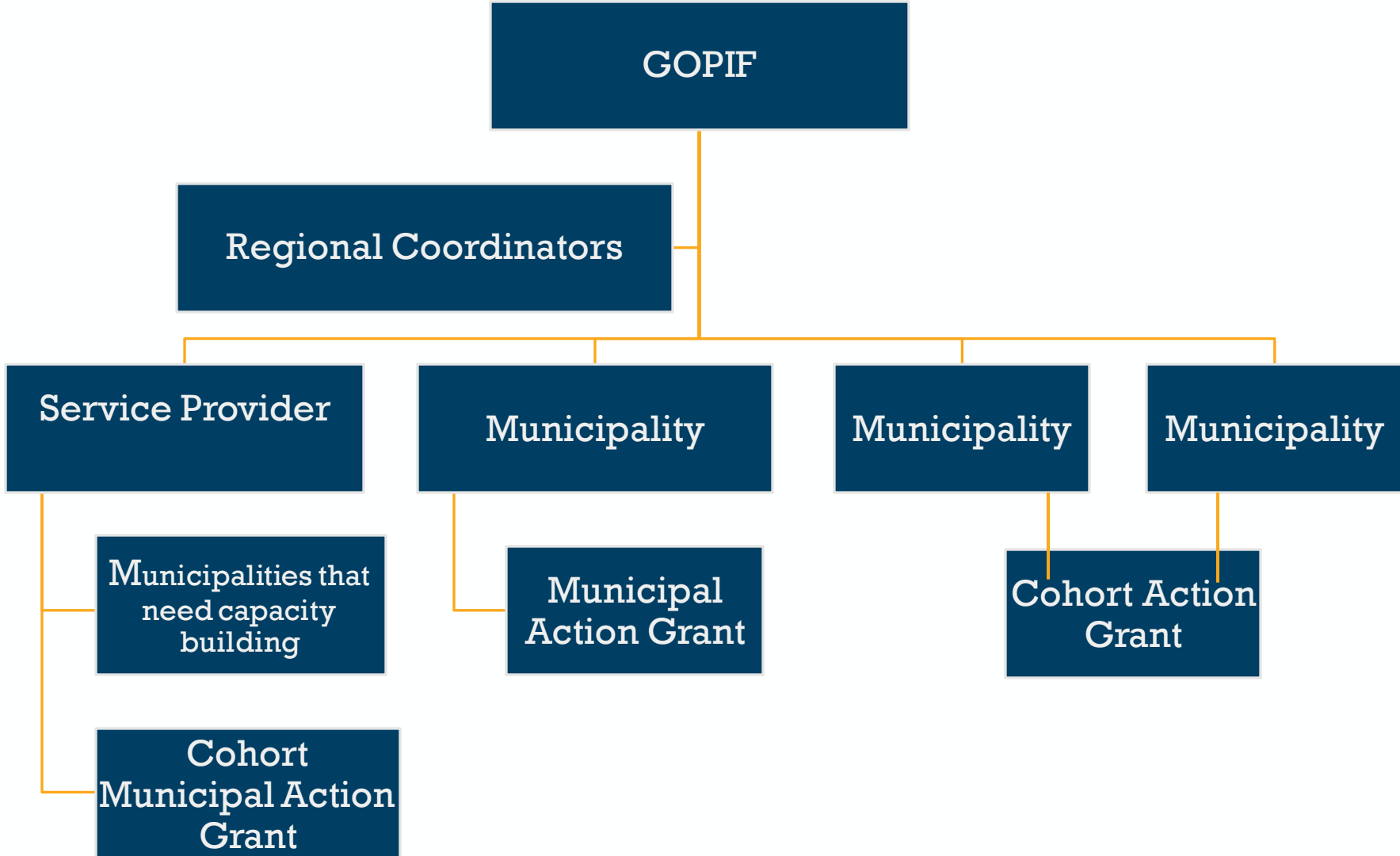


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# GOPIF Community Resilience Partnership Grants

Region – York, Cumberland, Sagadahoc, Lincoln, and Knox



# Regional Coordinator Role

Region 1 : York to Oxford County

Regional Coordinator: Collaborative between Southern Maine Planning and Development Commission, GPCOG and Lincoln County Regional Planning

Supporting Partners: Bigelow Laboratory for Ocean Sciences, Casco Bay Estuary Partnership, Darling Marine Center, Gulf of Maine Research Institute, Island Institute, Maine Sea Grant /UMaine Cooperative Extension Office, New England Environmental Finance Center, Wells National Estuarine Research Reserve

- Conduct trainings and workshops to support climate action planning in the region
- Provide technical support for implementation of action grants to enrolled communities
- Connect communities with Service Providers
- Support access to funding sources (both state and federal)

# Service Provider Activities

**Service Provider Grants:** Support regional service providers who recruit groups of two to five communities to join the Partnership.

- Conduct robust community engagement that sets priorities for implementing actions on the List of Community Actions.
- Complete enrollment requirements for program
- Support applications for Community Action Grants and other funding opportunities to implement community energy and climate priorities.



# Community Action Grant Activities

1) Grants to support implementation of one or more activities in the List of Community Actions that align with the state climate action plan, Maine Won't Wait. **There is no local matching funds requirement for these grants.**

2) Grants to support other community-defined climate and energy implementation priorities. **A local match is required.**

➤ Community action grants have a minimum of 5,000 and maximum of 50,000; collaborative proposals are encouraged and may request 100,000.

GPCOG can help support applications, just reach out!

## NEXT STEPS



- Kick off Service Provider project
- Work internally with municipal staff to identify priority projects committee can work on
- Share a framework for including climate considerations in existing planning processes