

MaineDOT Clean Ports Planning Project

Searsport, Maine

Stakeholder Engagement Meeting

May 12, 2026

Ramboll

Project Lead



Funding Support



Planning Consultant

Jacobs

Introductions



Agenda

- EPA Clean Ports Program Introduction
- MaineDOT CPP Project Overview & Goals
- Site Specific Considerations
- Project Framework
- Task Descriptions
- Stakeholder Input



EPA Clean Ports Program



Clean Ports Program

EPA is funding zero-emission (ZE) port equipment and infrastructure to reduce greenhouse gases and air pollutants at our nation's ports, delivering cleaner air for communities across the country.



SEAPORT ACTIVITY ACCOUNTS FOR:

31
Million
Jobs*



26%
of the U.S.
economy*



**Ports serve as
vital gateways**
for the movement of
goods and passengers
across the country.

EPA Clean Ports Program

Exposure to diesel exhaust can lead to serious health conditions like **asthma**.



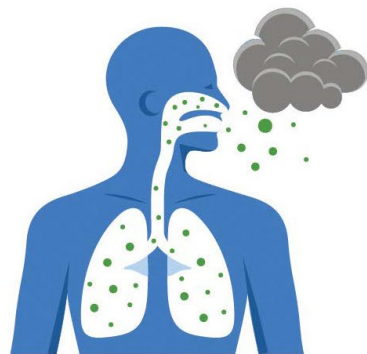
Older diesel equipment emits **harmful pollutants** including air toxics.



This pollution can worsen existing heart and lung disease, especially in **children** and the **elderly**.



PROGRAM BENEFITS



Decreases exposure to harmful pollutants



Reduces greenhouse gas emissions

*American Association of Port Authorities (AA PA) , <https://www.aapa-ports.org/advocating/content.aspx?ItemNumber=21150>.

For more information, please visit [Clean Ports Program | US EPA](#)
To learn more about reducing emissions at ports, visit [EPA Ports Initiative](#)

MaineDOT Clean Ports Planning Project

- Funded through the **U.S. EPA Clean Ports Program**
- **Led by the Maine Department of Transportation** in partnership with state and maritime stakeholders
- Evaluate the **feasibility of port electrification technologies and shore power** at four Maine ports
- Develop a **planning roadmap** for potential future investments



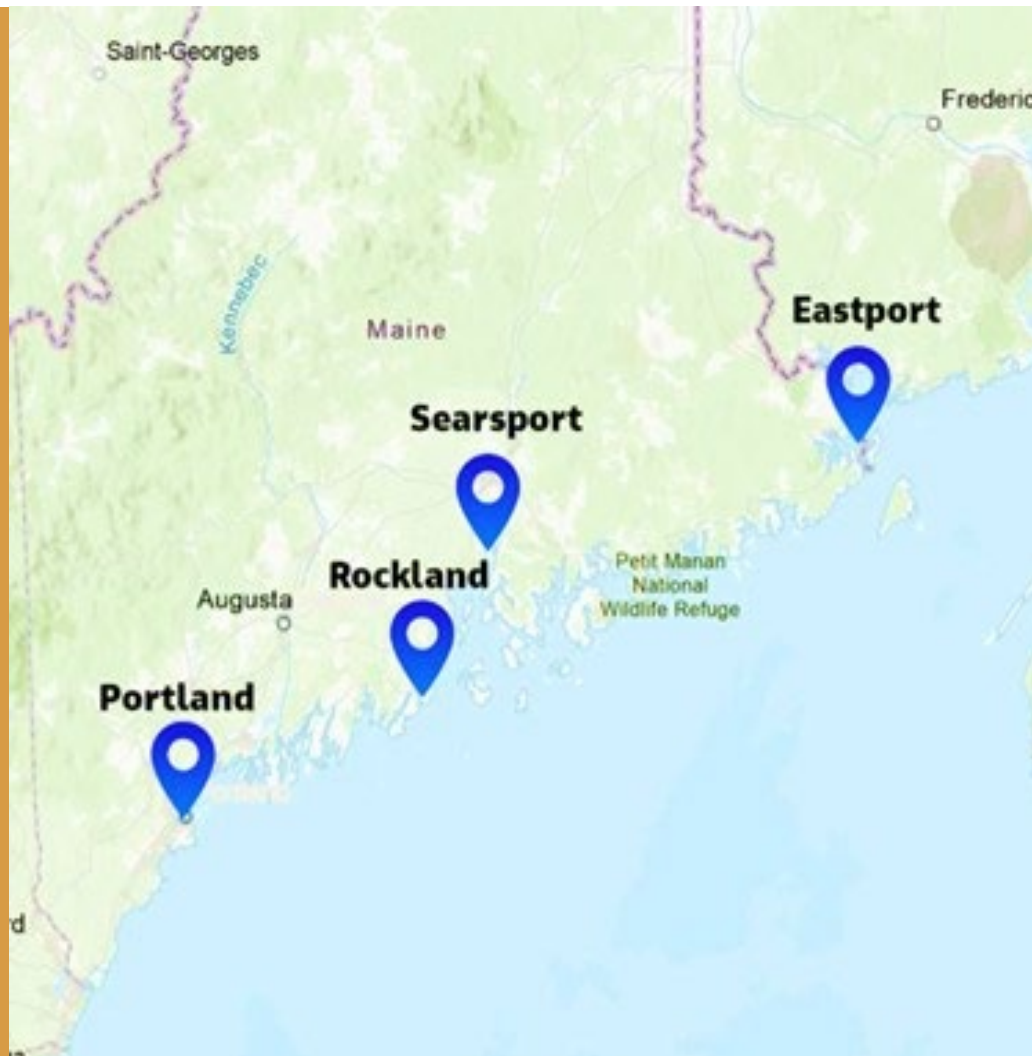
**This project is a planning study, not a construction project.*

MaineDOT Clean Ports Planning Project Goals



- Characterize emissions from port-related activities including: source types, magnitude, and ownership across all four Maine ports
- Develop baseline and future-year emissions scenarios and evaluate the effectiveness of identified emissions-reduction strategies
- Provide technical analyses of port operations and electrification pathways to support informed planning and investment decisions
- Evaluate the feasibility of shore power and related electrification upgrades to inform and support future engineering, design, and infrastructure planning phases

Ports Included in the Study



- Each port has unique infrastructure, vessel activity, and operational needs.
- The study will evaluate conditions at each port individually and develop **port-specific electrification opportunities and planning needs.**

The planning effort evaluates electrification opportunities at four Maine ports:

- Portland
- Searsport
- Eastport
- Rockland

Searsport Considerations

The clean ports planning analysis in Searsport will consider:

Electrification of rail operations and rail cargo handling

Optimizing motors and systems at bulk cargo facilities

Modernizing port operations to align with clean energy

Modernizing infrastructure to reduce emissions

Long-term planning to align with wind project development

Feasibility of aging infrastructure retrofits



This helps ensure the study reflects local operational needs and community context

MaineDOT Clean Ports Planning Framework

- **This project will include the below tasks and will be completed by the end of 2027.**

Task 1 - Kickoff, Collection of Data, Gap Analysis

Task 2 - Grid Infrastructure, Capacity & Transmission Analysis

Task 3 - Emissions Inventories

Task 4 - Emissions Reduction Planning

Task 5 - Port Electrification Feasibility Studies

Task 6 - Stakeholder Communication and Engagement

Task 7 - Workforce Development Tied to Electrification

- **These elements will inform the final planning recommendations.**

Understanding Current Conditions



The project will begin by evaluating existing conditions at each port.

This includes:

Vessel activity and operational patterns

Port equipment and energy usage

Existing electrical infrastructure

Operational and safety considerations

Environmental and regulatory factors

Grid Infrastructure Analysis

Electrifying port operations may significantly increase electricity demand.

**The study
will evaluate:**



Current electrical infrastructure serving each port

Potential power demand from electrified operations

Grid capacity and constraints

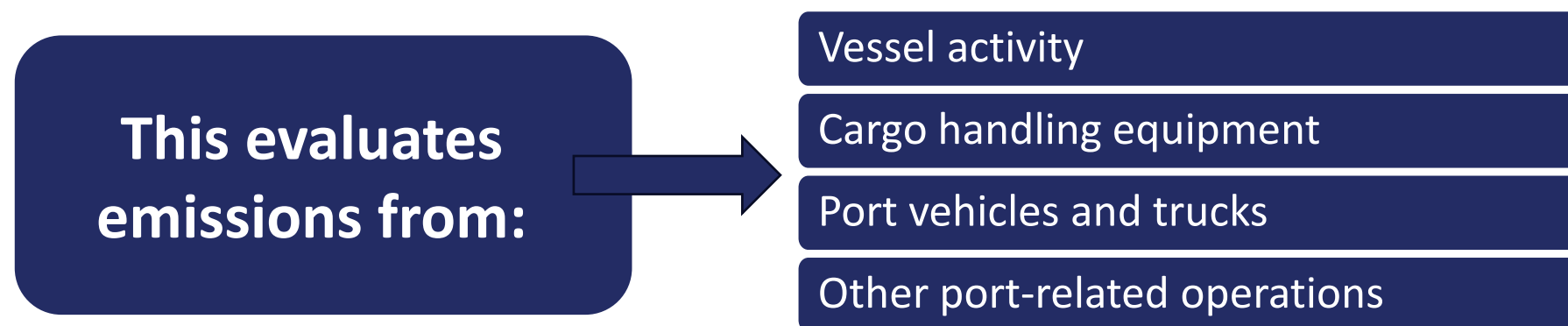
Potential upgrades required to support electrification

Review onsite and offsite supply options to meet demand

This analysis will be conducted in coordination with regional utilities.

Emissions Inventory

The study will develop an emissions inventory for each port.

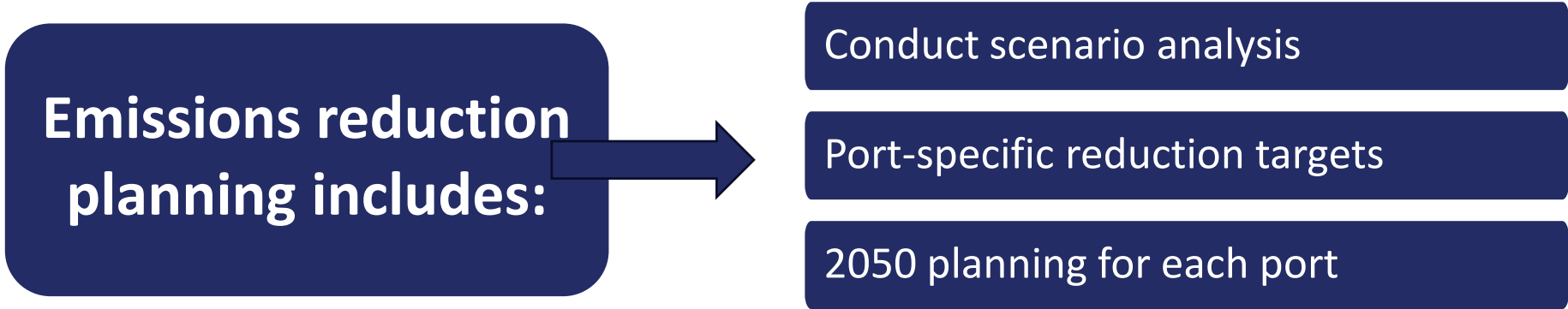


This baseline inventory helps identify opportunities for emissions reductions.

Emissions Reduction Planning

The study will develop a plan for emissions reduction for each port.

**Emissions reduction
planning includes:**



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graph LR; A[Emissions reduction planning includes:] --> B[Conduct scenario analysis]; A --> C[Port-specific reduction targets]; A --> D[2050 planning for each port];
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Conduct scenario analysis

Port-specific reduction targets

2050 planning for each port

The emissions reduction scenarios will inform the final planning report.

Electrification Opportunities

The study will evaluate several potential electrification strategies.

These may include:



Shore power for vessels at berth

Electrified cargo handling equipment

Electrified port vehicles and support equipment

Each strategy will be evaluated for technical feasibility, cost considerations, and operational compatibility.

What is Shore Power?

Shore power allows vessels to connect to electrical power supplied from the port while docked.

- ✓ This allows ships to shut down onboard diesel engines used to generate electricity while at berth.

Potential benefits include:

Reduced air pollution near port communities

Lower greenhouse gas emissions

Reduced engine noise while vessels are docked

The feasibility of shore power varies depending on vessel type, infrastructure, and electrical capacity.

Infrastructure Feasibility

For each port, the study will examine:

Space requirements for electrical equipment

Infrastructure siting considerations

Port operational constraints

Potential permitting considerations

Rough order-of-magnitude cost estimates

The goal is to determine **whether electrification solutions are practical for each facility.**

Stakeholder Engagement

Stakeholder engagement is a critical part of the planning process.

**The project will
gather input from:**

Port operators and maritime industry stakeholders

Local and state government agencies and officials

Utilities and infrastructure partners

Workforce organizations and training programs

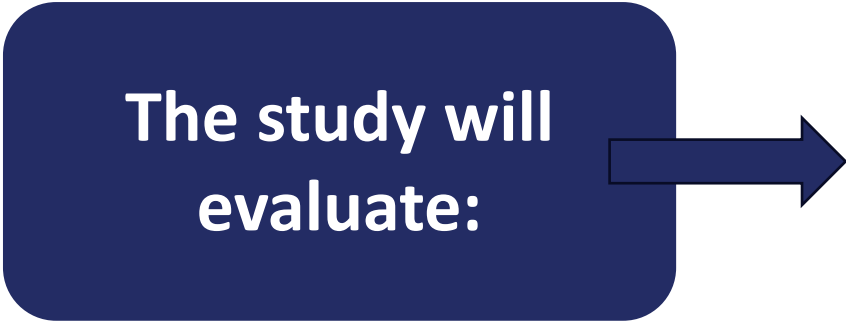
Environmental and community-based organizations

**Stakeholder insights will help inform the technical analysis and planning recommendations.
The project team is committed to keeping stakeholders updated as the project progresses.**

Workforce Development

Electrification of port infrastructure could create new workforce opportunities.

**The study will
evaluate:**



Skills required to transition, operate, and maintain electrified equipment

Training and workforce development needs

Opportunities to partner with local organizations for skilling and upskilling

Equitable access to workforce opportunities and career pathways

**Workforce planning will help prepare Maine's maritime
workforce for potential future transitions.**

Stakeholder Priorities and Input

Open discussion to hear from you on:

- **Operational considerations related to electrification**
- **Infrastructure constraints or opportunities**
- **Safety or emergency management considerations**
- **Workforce and training considerations**
- **Long-term priorities for the port community**

Stakeholder Priorities and Input

Operational considerations related to electrification

- Current utility delivery tariff structures
- Third-party supply contracts
- Fuel prices for future onsite generation
- Electrification timeline

Stakeholder insights are critical to our planning process!

Stakeholder Priorities and Input

Infrastructure constraints or opportunities

- Existing onsite generation
- Available land and roof space for new onsite generation

Stakeholder insights are critical to our planning process!

Stakeholder Priorities and Input

Safety or emergency management considerations

- Emergency access and response considerations at port facilities
- Fire and electrical safety considerations
- Reliability of power for critical operations during emergencies
- Coordination needs with local emergency responders

Stakeholder insights are critical to our planning process!

Stakeholder Priorities and Input

Workforce and training considerations

- Active unions and labor contracts
- Workforce development goals
- Anticipated challenges for workforce

Stakeholder insights are critical to our planning process!

Stakeholder Priorities and Input

Long-term priorities for the port community

- Cost savings vs maximum emissions reduction
- Share of electric load met by renewable energy
- Resilience and redundancy (if the larger electric grid goes down)

Stakeholder insights are critical to our planning process!



Thank you!

Your feedback will help inform this planning study and future recommendations.

Visit
maine.gov/dot/major-projects/cleanports