



# CLIMATE ACTION PLAN PORT OF VANCOUVER

Commission Workshop  
June 8, 2021



# CONTENTS

Project Overview

01

2019 GHG Inventory Summary

02

GHG Inventory Forecast &  
Relevant Reduction Targets

03

Proposed Climate Actions

04

Sample Implementation Plan

05

Project Schedule & Next Steps

06

# CONTENTS

Project Overview

01

2019 GHG Inventory Summary

02

GHG Inventory Forecast &  
Relevant Reduction Targets

03

Proposed Climate Actions

04

Sample Implementation Plan

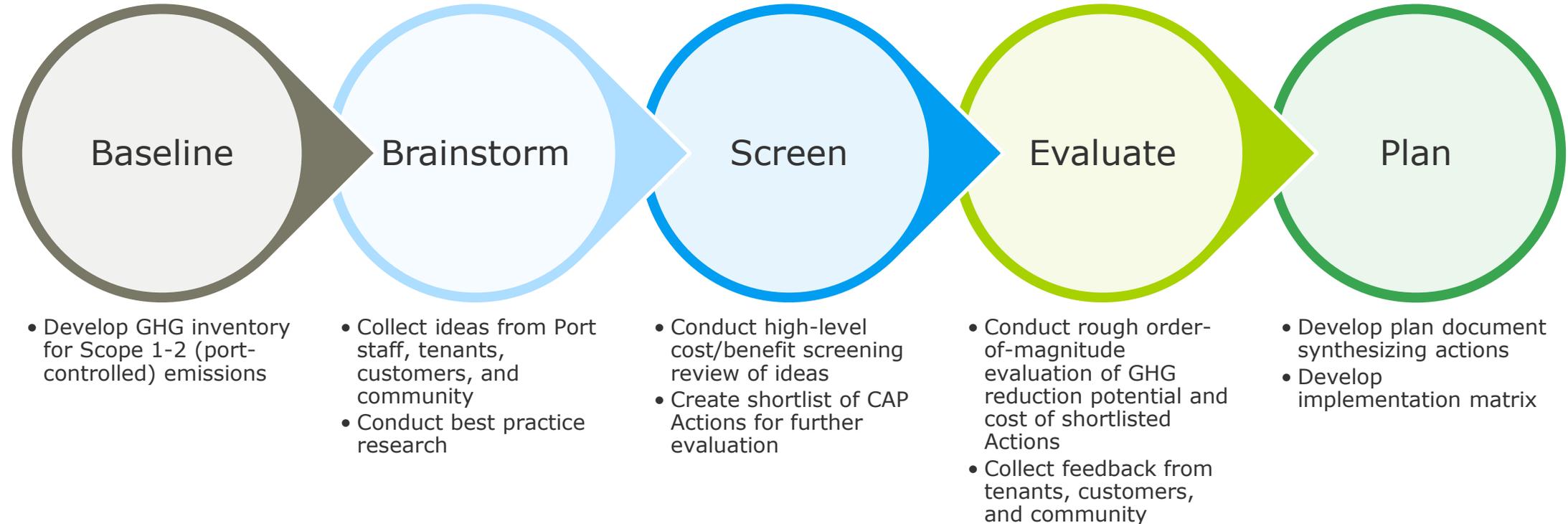
05

Project Schedule & Next Steps

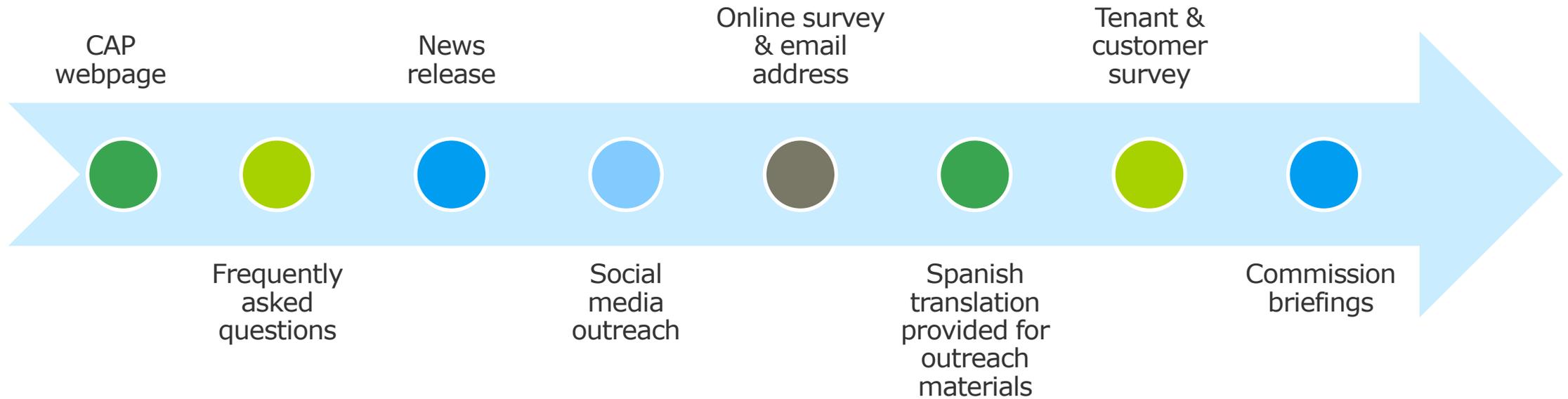
06

# PROJECT OVERVIEW

The Port of Vancouver is developing a Climate Action Plan as part of its 2018 Strategic Plan, comprised of a greenhouse gas (GHG) inventory for port-controlled operations and GHG reduction measures for port-wide activities. We undertook the following process to develop the CAP.



# PUBLIC INVOLVEMENT PROCESS



# CONTENTS

Project Overview

01

2019 GHG Inventory Summary

02

GHG Inventory Forecast &  
Relevant Reduction Targets

03

Proposed Climate Actions

04

Sample Implementation Plan

05

Project Schedule & Next Steps

06

# SCOPE DEFINITION

## Scope 1

Includes direct emissions from sources that are owned or controlled by the port.



- Ex: **Stationary combustion** (generators, boilers, heaters), on-road mobile combustion (port vehicles), off-road mobile combustion (forklifts, yard tractors), and fugitive emissions (refrigerants, fire suppression systems).

## Scope 2

Includes indirect emissions from **purchased energy** consumed by the port. Scope 2 emissions physically occur at the facility where electricity is generated.



- Ex: Purchased electricity.

## Scope 3

Includes **indirect emissions upstream or downstream** of the port's operations.

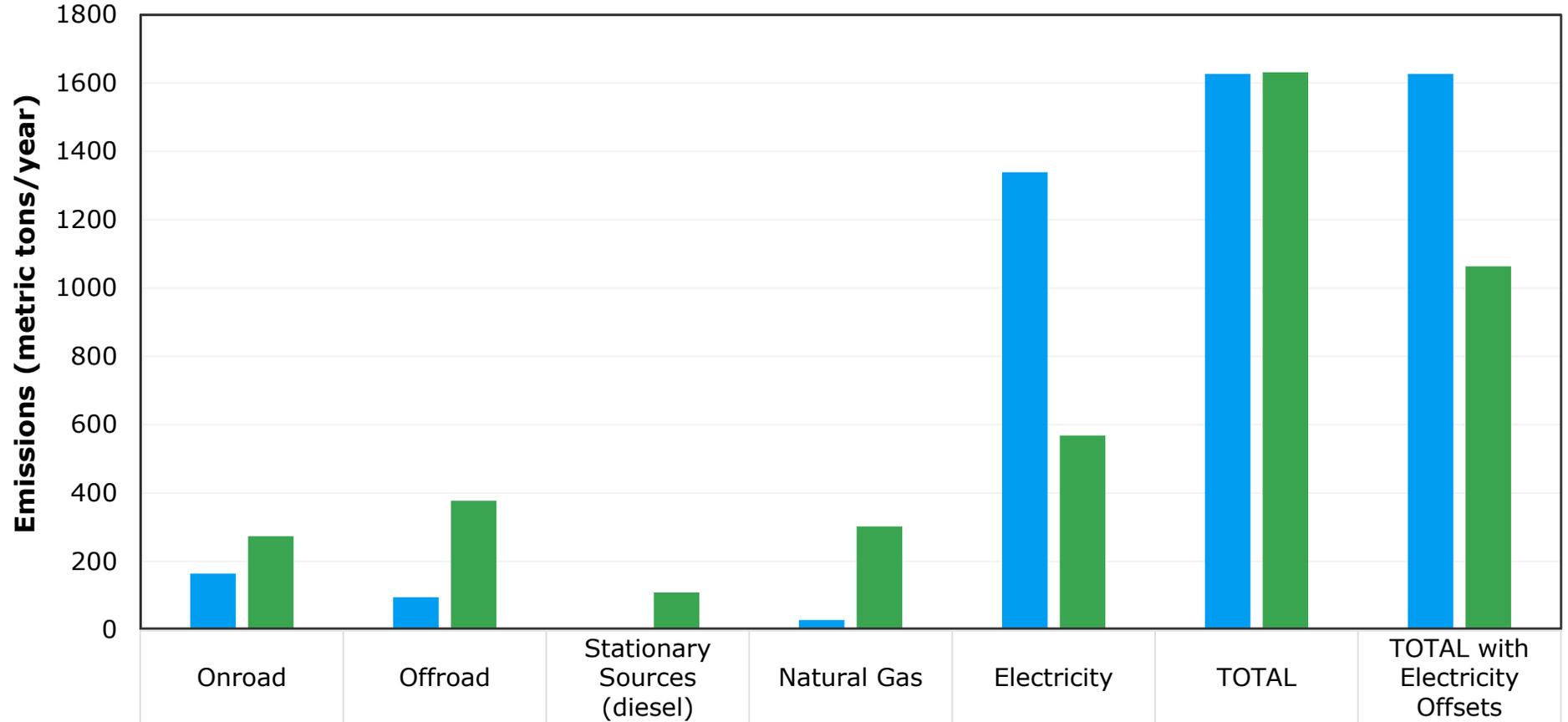


- Ex: Employee commute, solid waste disposal, emissions from marine vessels, tenant activities.
- Note: The port does not calculate Scope 3 emissions at this time.

# 2019 PORT OF VANCOUVER INVENTORY RESULTS

## SCOPES 1 & 2

Annual CO2e Emissions by Source Category



■ 2005 Emissions (metric tons/year)	164	95.3	0	28.4	1,339	1,626	1,626
■ 2019 Emissions (metric tons/year)	273	378	109	303	568	1,631	1,063

# CONTENTS

Project Overview

01

2019 GHG Inventory Summary

02

GHG Inventory Forecast &  
Relevant Reduction Targets

03

Proposed Climate Actions

04

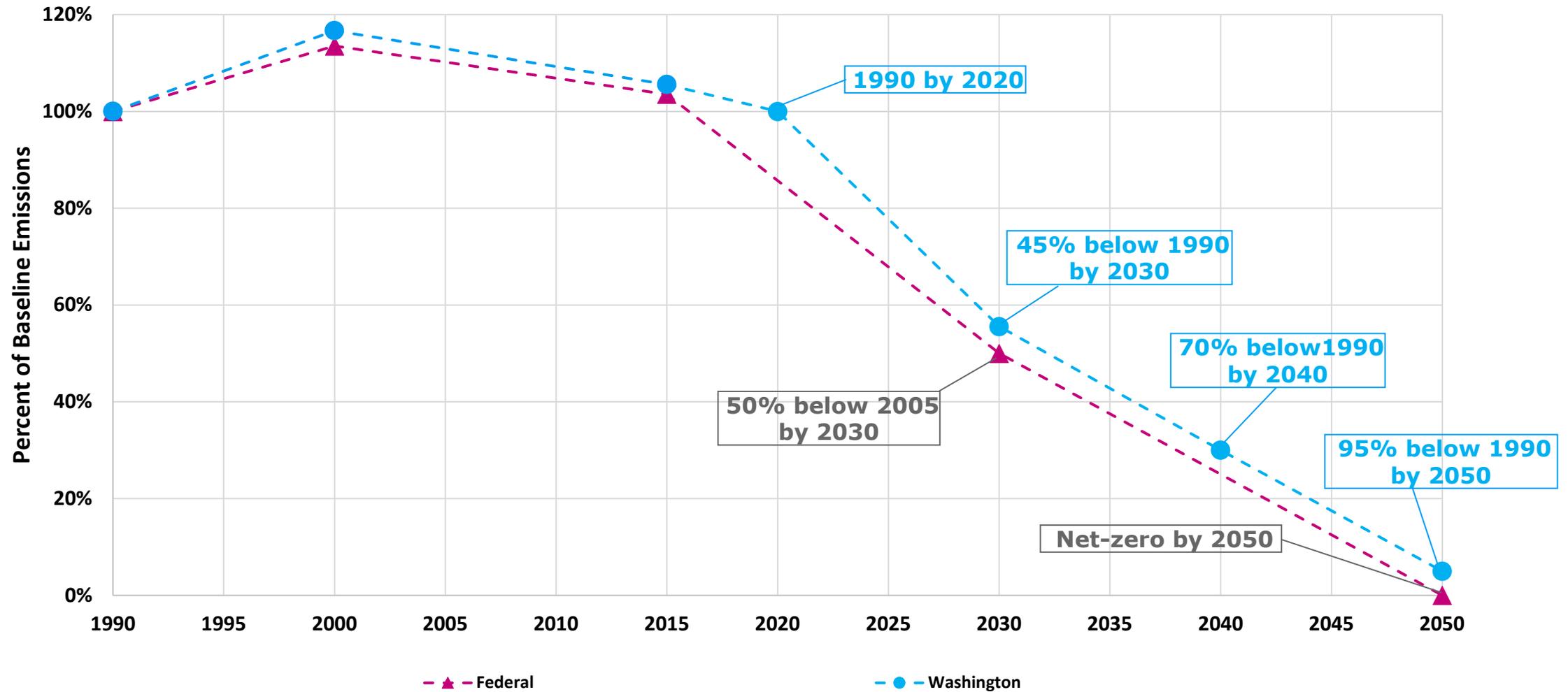
Sample Implementation Plan

05

Project Schedule & Next Steps

06

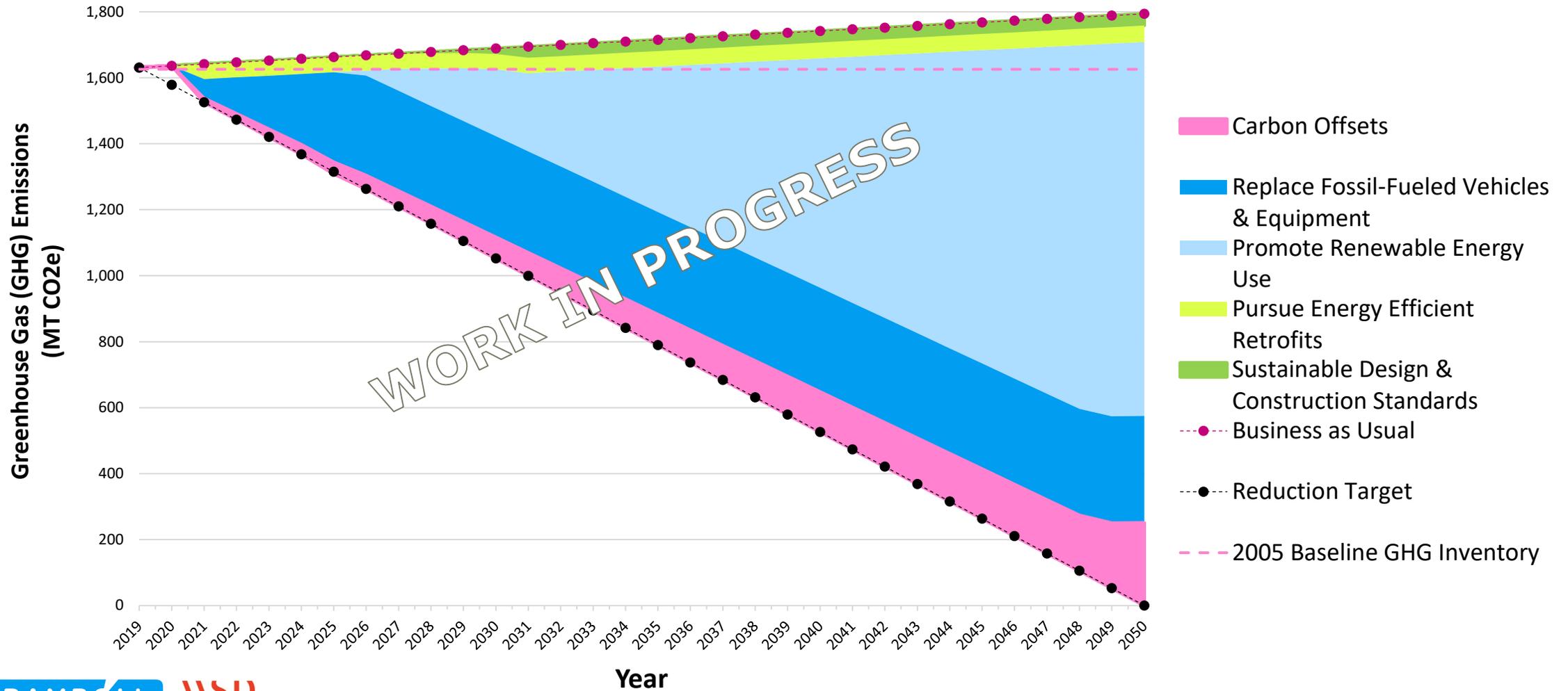
# FEDERAL AND STATE GREENHOUSE GAS REDUCTION TARGETS



Sources:  
Washington Department of Ecology. 2020. <https://ecology.wa.gov/Air-Climate/Climate-change/Greenhouse-gases>. Targets from Bill 2311 (6/2020).  
EPA. <https://cfpub.epa.gov/ghgdata/inventoryexplorer/#allsectors/allsectors/allgas/gas/all>.  
<https://www.whitehouse.gov/briefing-room/statements-releases/2021/04/22/fact-sheet-president-biden-sets-2030-greenhouse-gas-pollution-reduction-target-aimed-at-creating-good-paying-union-jobs-and-securing-u-s-leadership-on-clean-energy-technologies/>

# TOWARD CARBON NEUTRALITY

## ANTICIPATED REDUCTIONS FROM SCOPE 1-2 ACTIONS



# CONTENTS

Project Overview

01

2019 GHG Inventory Summary

02

GHG Inventory Forecast &  
Relevant Reduction Targets

03

Proposed Climate Actions

04

Sample Implementation Plan

05

Project Schedule & Next Steps

06

# PORT OF VANCOUVER CLIMATE ACTION PLAN

## RECOMMENDED ACTIONS FOR PORT OPERATIONS (SCOPES 1 & 2)



### Develop Sustainable Design & Construction Standards

- Apply sustainability standards to new construction projects
- Develop sustainable construction standards such as low-carbon concrete and asphalt, low-emission construction vehicles, construction waste reduction, and materials reuse



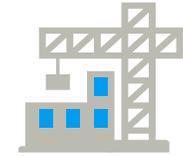
### Pursue Energy Efficiency Retrofits

- Continue lighting retrofits
- Install occupancy sensors, building controls, programmable thermostats and smart meters
- Replace aging HVAC units with energy efficient technology



### Promote Renewable Energy Use

- Explore renewable energy opportunities including onsite solar power generation, small-scale wind generation, geothermal energy, and replacement of natural gas
- Purchase renewable energy credits or carbon offsets



### Upgrade or Replace Fossil-Fueled Vehicles and Equipment

- Electrify or hybridize diesel and gasoline powered vehicles and equipment
- Install EV charging infrastructure
- Replace use of diesel with low carbon fuels such as renewable diesel and hydrogen
- Explore use of fuel cells for mobile equipment

# PORT OF VANCOUVER CLIMATE ACTION PLAN

## RECOMMENDED ACTIONS FOR PORT OPERATIONS (SCOPE 3)



### Reduce Emissions from Employee Commute

- Work with C-Tran to provide transit service to the Port
- Provide transit subsidies to employees
- Install bicycle infrastructure such as secure parking and showers to promote bicycle commuting
- Support effective carpool options
- Promote telecommuting through enhanced virtual work infrastructure and policies
- Use technology to promote remote business meetings



### Reduce Business Travel Emissions

- Offset emissions from business travel
- Promote use of low-carbon ground transport options for business travel



### Reduce Emissions Related to Solid Waste

- Provide recycling services and infrastructure
- Develop a waste reduction plan



### Reduce Emissions Related to Water Use

- Promote the use of green infrastructure to manage stormwater
- Explore water system efficiencies

# PORT OF VANCOUVER CLIMATE ACTION PLAN

## RECOMMENDED ACTIONS FOR TENANT & CUSTOMER OPERATIONS (SCOPE 3)



### Develop Sustainable Design & Construction Standards

- Develop sustainability standards for new construction projects on port property
- Develop sustainable construction standards such as low-carbon concrete and asphalt, low-emission construction vehicles, construction waste reduction, and materials reuse for projects occurring on port property



### Create Incentives & Partnerships

- Explore carbon reduction during collaborations on agreements with tenants/customers
- Pursue partnerships, incentives, and grant opportunities to support tenant/customer energy efficiency, equipment electrification and other carbon reduction initiatives
- Emphasize and increase marketing efforts to pursue innovative business opportunities and renewable, clean energy projects



### Promote Tenant Energy Efficiency Initiatives

- Promote lighting retrofits by tenants
- Promote installation of occupancy sensors, building controls, programmable thermostats and smart meters by tenants
- Promote replacement of aging HVAC units with energy efficient technology in tenant facilities

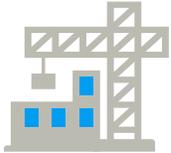


### Promote Renewable Energy Use by Tenants

- Support onsite renewable energy generation by tenants
- Encourage tenants to replace natural gas use with low carbon/renewable alternatives
- Explore communitywide renewable generation partnerships and opportunities

# PORT OF VANCOUVER CLIMATE ACTION PLAN

## RECOMMENDED ACTIONS FOR TENANT & CUSTOMER OPERATIONS (SCOPE 3)



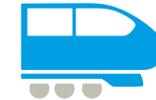
### Promote the Upgrade of Fossil-Fueled Tenant Vehicles and Equipment

- Promote the electrification and hybridization of diesel and gasoline powered vehicles and equipment
- Install common use EV charging infrastructure
- Promote the replacement of diesel with low carbon fuels such as biodiesel, renewable diesel, and hydrogen
- Evaluate the use of fuel cells for heat and power, mobile equipment, and locomotives
- Promote the use of clean trucks and low carbon drayage vehicles



### Promote Low-Carbon Marine Operations

- Evaluate the use of shorepower options for vessels visiting the Port
- Facilitate the development of a terminal equipment inventory to help target new investments and grant opportunities
- Encourage visits by cleaner or more fuel-efficient vessels
- Explore partnerships to promote shipping via the river system for eastbound cargo



### Reduce Emissions from Rail Operations

- Promote idle reduction by rail vehicles/equipment (including locomotives)
- Evaluate the development of infrastructure to support electric locomotives for on-port switching operations

# CONTENTS

Project Overview

01

2019 GHG Inventory Summary

02

GHG Inventory Forecast &  
Relevant Reduction Targets

03

Proposed Climate Actions

04

Sample Implementation Plan

05

Project Schedule & Next Steps

06

# POTENTIAL IMPLEMENTATION & PHASING PLAN

## SCOPE 1-2 ACTIONS



### Develop Sustainable Design & Construction Standards

	Cost Range	GHG Reduction Potential	Implementation Timeline	Co-Benefits
<ul style="list-style-type: none"> <li>Apply sustainability standards to new construction projects</li> </ul>	Low	Low	Near-Term	
<ul style="list-style-type: none"> <li>Develop sustainable construction requirements such as low-carbon concrete and asphalt, low-emission construction vehicles, construction waste reduction, and materials reuse</li> </ul>	Low	Low	Near-Term	

#### Cost Range

Low = \$XXX-XXX

Medium = \$XXX-XXX

High = \$XXX-XXX

#### GHG Reduction Potential

Low = XX-XX MTCO<sub>2</sub>e

Medium = XX-XX MTCO<sub>2</sub>e

High = XX-XX MTCO<sub>2</sub>e

#### Implementation Timeline

Near-Term = 5 years

Medium-Term = 10 years

Long-Term = 20 years

#### Co-Benefits



Operational cost savings



Water conservation



Waste reduction



Reduced congestion



Health benefits



Community benefits



Partnership opportunities

# CONTENTS

Project Overview

01

2019 GHG Inventory Summary

02

GHG Inventory Forecast &  
Relevant Reduction Targets

03

Proposed Climate Actions

04

Sample Implementation Plan

05

Project Schedule & Next Steps

06

# NEXT STEPS

Task	JUN				JUL			
Continue refinements to CAP actions and initiatives	■	■	■	■	■	■	■	■
Develop CAP implementation matrix	■	■	■	■	■	■	■	■
Second Commission workshop	■	■	■	■	★	■	■	■
First draft CAP document	■	■	■	■	■	■	■	■
Final CAP document	■	■	■	■	■	■	■	■
Email for public comment: <a href="mailto:cap@portvanusa.com">cap@portvanusa.com</a>	■	■	■	■	■	■	■	■
Project webpage, email and social media updates	■	■	■	■	■	■	■	■

Bright ideas. Sustainable change.

