# Sustainability Report 2022

## Vancouver Fraser Port Authority

**Overview** **03**

About the Vancouver Fraser Port Authority 04

Our sustainability approach 05

Collaboration 06

About the Port of Vancouver 07

**Economic prosperity through trade** **08**

Competitive business 09

Effective workforce 10

Strategic investment and asset management 11

**Healthy environment** **13**

Healthy ecosystems 14

Climate action 15

Responsible practices 16

**Thriving communities** **17**

Good neighbour 18

Community connections 19

Indigenous relationships 20

Safety, security, and emergency preparedness 21

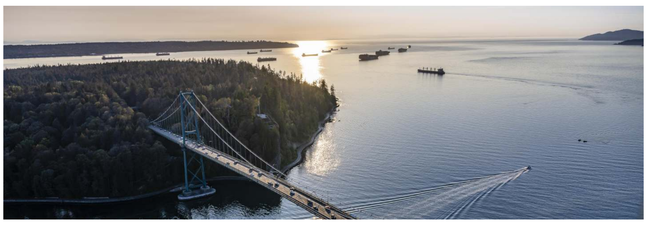
**About this report** **22**

Global Reporting Initiative index 23

Assurance 24

**Corporate performance data** **25**

# Sustainability report 2022



This report covers topics representing the Vancouver Fraser Port Authority's and Port of Vancouver's most significant economic, environmental, and social impacts, and the approach the port authority is taking to manage and address these impacts. This report has been prepared in accordance with the Global Reporting Initiative (GRI) Standards (2021).

We define a sustainable port as one that delivers economic prosperity through trade, maintains a healthy environment, and enables thriving communities through meaningful dialogue, shared aspirations, and collective accountability. Our definition, developed with extensive input from internal and external stakeholders, identifies 10 areas of focus and 22 statements that define success, which together describe the attributes of a sustainable port.

Within these areas of focus we have identified material topics that reflect the port authority's and Port of Vancouver's most significant impacts under each of our three pillars of sustainability. The identification of these material topics was informed by engagement with internal and external sustainability reporting stakeholder panels and interviews. Further information about our materiality process to determine report content is located in report details.

## Report topics

### Economic prosperity through trade

| Focus Area | Material topics |
|---|---|
| Competitive business | Supply chain efficiency and resilence |
| Effective workforce | Worker health, safety, and wellness<br>Diversity, equity, and inclusion |
| Strategic investment and asset management | Land use and supply<br>Trade-enabling infrastructure |

### Healthy environment

| Focus Area | Material topics |
|---|---|
| Healthy ecosystems | Biodiversity |
| Climate action | Air quality and greenhouse gas emissions<br>Climate adaptation |
| Responsible practices* | |

### Thriving communities

| Focus Area | Material topics |
|---|---|
| Good neighbour | Community relationships<br>Community concerns, including noise and nuisance |
| Community connections | Community benefits |
| Indigenous relationships | Indigenous rights and reconciliation |
| Safety and security | Safety, security, and emergency preparedness |

*The responsible practices focus area describes the approach taken to foster collaboration across the supply chain, and does not report on a specific material topic.

All uses of "we" and "our" in this report refer to the Vancouver Fraser Port Authority.

Throughout the report "the gateway" refers to the trade and transportation network in key trade areas throughout B.C.'s Lower Mainland region.

Click this icon throughout this report to adjust how data is presented and to see additional data.

Throughout the report, a √ denotes metrics for which we obtained independent limited assurance. See link for the limited assurance report.

## Message from the President and Chief Executive Officer

**"The year's complex dynamics validated and reinforced our focus on advancing sustainability and resiliency at the port, and we are proud to have progressed meaningful work across our three sustainability pillars: economic prosperity through trade, healthy environment, and thriving communities. "**

As a Canada Port Authority, the Vancouver Fraser Port Authority is federally mandated to enable trade through the Port of Vancouver, Canada's largest port. We have set, and are working towards, a vision for the Port of Vancouver to be the world's most sustainable port. For us, that means a port that's successful at delivering economic prosperity through trade, maintaining a healthy environment, and enabling thriving communities.

On the heels of two challenging years, the trade landscape in 2022 remained complex. Coming into the year, the port's supply chains remained backlogged from British Columbia's atmospheric river event in late 2021 that cut the port off completely from national supply chains for eight days. Just as weather-related backlogs resolved, supply chains faced a new problem: congestion of eastbound supply chains as a surge in volume through the network overwhelmed capacity in warehouses in Ontario and Quebec, and delayed cargo movement all the way back to the west coast.

Alongside supply-chain challenges, the global COVID-19 pandemic, in its third year, continued to shape aspects of our work. At a corporate level, we introduced a Flexible and Remote Work Program to provide new workplace flexibility to our employees as the majority returned to partial in-office work following two years of working remotely. At the port level, we worked closely with industry and cruise stakeholders to welcome cruising back to Vancouver following a two-year hiatus of cruise in Canada under federal restrictions related to COVID-19.

The year's complex dynamics validated and reinforced our focus on advancing sustainability and resiliency at the port, and we are proud to have progressed meaningful work across our three sustainability pillars: economic prosperity through trade, healthy environment, and thriving communities.

To unlock more trade capacity to meet Canada's growing trade needs, we are working to optimize existing port and supply-chain capacity through programs like the West Coast Supply Chain Visibility Program to drive prairie-to-port supply-chain efficiency, as well as the Active Vessel Traffic Management (AVTM) Program to support enhanced marine-side capacity. Besides delivering trade capacity, these programs help minimize environmental and community impacts of trade.

We are also building additional trade capacity, where needed, by leading projects to deliver new, or enhance existing, port and trade corridor infrastructure. In 2022, we continued to progress a suite of nearly $1 billion in road and rail infrastructure projects around the Lower Mainland, in partnership with government and industry. These projects are carefully designed to deliver trade capacity while also mitigating the impacts of trade on local communities—for example, removing road and rail conflicts to improve trade flow while eliminating wait times at rail crossings, improving public safety, and supporting emergency response.

With west coast container terminals projected to hit capacity by the mid- to late 2020s, we continued to lead the Roberts Bank Terminal 2 (RBT2) Project for a new container terminal in Delta. Following a rigorous environmental assessment process that started in 2013, the project received approval from the Government of Canada in April 2023. We also completed construction on a second container-sector project: the Centerm Expansion Project, for which we received an Envision Platinum Award from the Institute for Sustainable Infrastructure. The project is designed to deliver a 60% increase in throughput, with only a 15% increase in terminal footprint through reconfiguration and optimization of operations.

Turning to our environmental work, we continued to deliver a suite of environmental programs to protect and enhance the environment in and around the port. Together with the port authorities of Seattle and Tacoma and the Northwest Seaport Alliance, we've set a bold vision, through the Northwest Ports Clean Air Strategy, to phase out port-related emissions by 2050 to protect air quality for local communities and to fulfill our shared responsibility to help limit global temperature rise to 1.5° Celsius. Another way we are working to advance climate action is through the Low-Emission Technology Initiative, a joint funding partnership with the Government of British Columbia launched in 2021 to promote the trial and adoption of low- and zero-emission fuels and technologies at the port. The initiative has provided financial support for several pilot projects, including the use of 100% biodiesel in a container ferry, two battery/electric-powered terminal trucks, and pilots of 100% renewable diesel in a terminal locomotive and in one of the port authority's patrol boats. We are also working with the Port of Seattle, the Borough of Juneau, and leading cruise lines to explore the feasibility of creating a green cruise corridor that would connect cruise ports in Alaska, British Columbia, and Washington.

In 2022, the collaborative, world-leading Enhancing Cetacean Habitat and Observation (ECHO) Program led by the port authority celebrated record-breaking participation rates by the marine transportation industry in its voluntary underwater noise reduction initiatives to support the recovery of at-risk whales. Additionally, in 2022, we became one of the first port authorities in Canada to prohibit ships from discharging scrubber wash water—the byproduct of exhaust gas cleaning systems—while ships are at berth or at anchor within our jurisdiction. In response to global biodiversity loss and climate change, we have started work to develop a biodiversity strategy that will guide our collaborative efforts to protect and restore ecosystem health and biodiversity in and around the port.

To enable thriving communities, we are working proactively to be a good neighbour, strengthen community and Indigenous relationships, and uphold safety and security in the port. As we work to deepen collaboration with Indigenous Nations whose traditional and treaty lands intersect the port, in 2021, we were very pleased to sign landmark relationship agreements with Tsawwassen First Nation and Musqueam Indian Band. In doing so, we formalized partnerships to help create long-term, meaningful relationships that support a strong shared future marked by mutual respect and reconciliation. In 2022, we continued to advance implementation of these agreements, and collaboration with both Nations.

Against a complex backdrop in 2022, the port authority and the broader port community advanced vital work to enable Canada's trade and enhance the port's resilience and sustainability. I would like to offer my thanks and appreciation to our dedicated employees at the port authority, and to the broader port community, for outstanding work through a challenging year to enable a strong, sustainable port for today and for the long term.

Robin Silvester
President and Chief Executive Officer

© 2023 Vancouver Fraser Port Authority

# About the Vancouver Fraser Port Authority

### Our mission

To enable Canada's trade objectives, ensuring safety, environmental protection and consideration for local communities

### Our vision

For the Port of Vancouver to be the world's most sustainable port

A sustainable port delivers economic prosperity through trade, maintains a healthy environment, and enables thriving communities through meaningful dialogue, shared aspirations, and collective accountability

### Our values

Accountability
Continuous improvement
Collaboration
Customer responsiveness

The Vancouver Fraser Port Authority is an arm's-length federal agency responsible for the shared stewardship of the lands and waters of the Port of Vancouver. Our mandate, as outlined in the *Canada Marine Act*, is to enable Canada's trade objectives on behalf of all Canadians, ensuring goods are moved safely through the Port of Vancouver, while protecting the environment and considering local communities. As a non-shareholder corporation established by the Government of Canada in January 2008, we are accountable to the federal minister of transport. Like all Canada Port Authorities, we are financially self-sufficient, collecting rental income from terminal operators and other tenants as well as various commercial fees. We invest most of our free cash flow after operations in port-related infrastructure to increase capacity to accommodate Canada's growing demand for trade. We also advance environmental initiatives, and conduct project and environmental reviews of works and projects proposed for port lands and waters.

The mandate of Canada Port Authorities, as outlined in the *Canada Marine Act*, are to:

- Contribute to the competitiveness, growth, and prosperity of the Canadian economy
- Organize marine transportation services to satisfy the needs of users at a reasonable cost
- Provide a high level of safety and environmental protection
- Be responsive to local needs and priorities
- Encourage and take into account input from users and local communities

## Governance

The port authority's board of directors provides governance, oversight, and approval of strategic direction. The appointment criteria and responsibilities of the 11-member board are set out by the *Canada Marine Act* and our Letters Patent, and members are appointed by the following four bodies:

- Federal government appoints eight members, seven of which are recommended by port users
- Province of British Columbia appoints one member
- Prairie provinces of Alberta, Saskatchewan, and Manitoba collectively appoint one member
- 16 municipalities that border the port authority's jurisdiction collectively appoint one member

The board's governance and external relations committee is responsible for overseeing the port authority's sustainability strategy and policy, monitoring compliance with this policy, and providing oversight and guidance on sustainability matters. This includes annually reviewing sustainability-related policies—including the sustainability, environment, and project and environmental review policies—and reviewing and providing guidance on sustainability reporting. Oversight for managing sustainability impacts is delegated to senior leadership through board committee terms of reference and certain board-level policies.

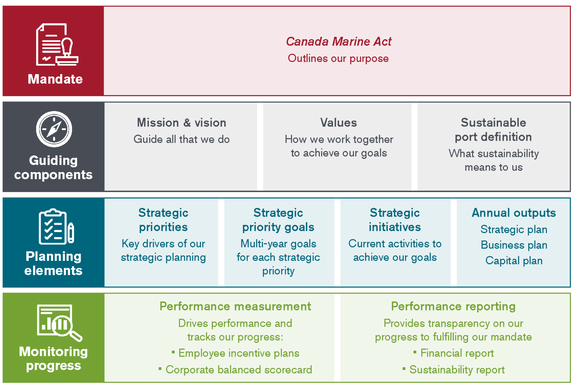
The board has adopted policies to guide the organization and to set expectations for the behaviour of directors, executive, and employees. The Code of Ethical Conduct policy provides the foundation for ethical conduct in the workplace and for conducting business ethically and in compliance with the law. It sets expectations and provides guidance on issues including conflict of interest, anti-fraud, anti-corruption, and anti-competitive practice, as well as procedures for reporting instances of real or perceived misconduct. The code applies to all port authority employees and third parties that work with or that represent the port authority. Employees are responsible for completing periodic mandatory education programs pertaining to the code. The code is communicated to third parties through the procurement process. Any employee concerned about unethical or improper conduct at the port authority can contact ConfidenceLine, an external service provider. All reports are addressed promptly and appropriately. The president and CEO—through the director, risk management and assurance, and the vice-president, people, process and performance—is responsible for facilitating and monitoring compliance with the code.

The port authority's cross-functional sustainability integration team, comprising senior management from key functional areas, provides strategic advice and recommendations to help integrate sustainability within the organization and align efforts to improve sustainability performance. Additional information on our governance structure can be found here.

## Strategic planning

The port authority's strategic plan articulates a cohesive set of priorities, goals, and initiatives that address the most critical factors for our continued success and that enable us to fulfill our mission and advance our vision. It also enables port authority employees to align their work and decisions in a common direction.

The diagram below shows our strategic planning framework:




Our mandate comes from the Canada Marine Act, which sets out our responsibilities and authority. Our activities are guided by our mission, vision, and values, with our sustainable port definition describing our vision for the Port of Vancouver in greater detail. Our strategic planning elements feed into our strategic plan, our five-year business plan, and our capital plans, and we monitor progress to understand how well we are doing in achieving our goals.

We carry out a strategic planning process each year to keep our plan current and effective. The key elements of this process are shown in the diagram below.

## Risk management

The port authority has a robust enterprise risk management process in place to identify and respond to significant risks to the port authority's business and the fulfillment of our mandate. In 2022, potential key risks identified included lack of suitable land to accommodate trade growth, supply-chain coordination issues, inability to finalize commercial agreements, cost overruns on major capital projects, regulatory or policy change, labour disruption, loss of long-term relationships with community and Indigenous groups, significant health or safety incidents, impact of natural disasters, impacts on the environment from port operations and development, spill in harbour or river, and climate change impacts.

## Strategic priorities

Our strategic priorities identify the areas that have the greatest potential to impact our ability to continue delivering on our mission and pursuing our vision, and where we need long-term focus to ensure future success. Our six strategic priorities are:

- **SP-1 Government, Indigenous, and community support**: Achieve broad trust and support
- **SP-2 Land supply**: Anticipate, deliver, and optimize land supply to support sustainable gateway growth in key sectors
- **SP-3 Infrastructure capacity**: Anticipate, select, and deliver new and repurposed capacity to meet new sector demand
- **SP-4 Supply chain**: Increase supply-chain efficiency, transparency, and optimize operational capacity to deliver enhanced customer and stakeholder value
- **SP-5 Climate action and ecosystem health**: Achieve net-zero emissions by 2050 and make the port resilient to climate change; help reverse biodiversity loss by restoring habitat and protecting species at risk
- **SP-6 Organizational excellence**: Build a more connected and engaged culture to drive operational excellence

To support advancement of each strategic priority, we identify medium-term goals and establish strategic initiatives supported by projects, initiatives, and programs. Progress on strategic initiatives is tracked on a quarterly basis and reported to the president and CEO, and the board. Each strategic initiative includes performance objectives that are included in a corporate balanced scorecard, which are in turn featured in the individual incentive plans for bargaining unit employees, management, and executives. This overall approach and process drives continuous improvement and delivery of the strategic business plan.

## Scenario planning process

We use scenario planning to improve our understanding of key drivers of change that, over the long term, can affect the future success of the port. This process involves a diverse group of representatives from across the port value chain to identify and understand key issues and related implications, and to frame various scenarios for how those issues could play out in the future of the port.

In 2010, we embarked on Port 2050—a long-range scenario planning process—with over 100 individuals and organizations with a stake in the future of the port. The process identified four plausible scenarios for the future, including one we aspire to: The Great Transition. This scenario represented a shift to a low-carbon economy that balances economic, environmental, and social sustainability.

In 2022, we launched Port Forward, a scenario planning initiative that brings together senior leaders from across the Greater Vancouver gateway—including Indigenous groups and other levels of government, industry and trade associations, labour, community groups, emerging leaders, and non-government organizations (NGOs)—to develop a new set of futures scenarios. The initiative aims to draw on diverse perspectives to build a collective understanding of key drivers of change and the implication of these changes for our shared future.

Eight key uncertainties about the gateway's future were identified through interviews with key stakeholders and senior leaders from across the gateway in 2022. The following key uncertainties form the building blocks for the scenarios:

- Climate change impacts
- Global economy, trade, and geopolitics
- Environmental impacts
- Energy transition
- Land use and affordability
- Technology, data, and automation
- Governance, democracy, and reconciliation
- Relationships and trust

We expect to publish a new set of distinct yet plausible scenarios in the fall of 2023. Drawing on the collective knowledge of the gateway, we will use these scenarios in our strategic planning to test our assumptions about the external business environment and the ways in which the gateway may react, adapt to, or even shape that environment. We invite other organizations to use the scenarios for a similar purpose in their own strategic planning.

© 2023 Vancouver Fraser Port Authority

## Our sustainability approach

Our vision is for the Port of Vancouver to be the world's most sustainable port.

Sustainability is integral to delivering our mandate as outlined in the *Canada Marine Act*, advancing our vision, and ensuring the long-term success of the port for the benefit and well-being of all Canadians. We are committed to being a sustainability leader and to advancing sustainability, within both the port and the global maritime sector. To do this, we focus on:

- Integrating sustainability into all aspects of our business
- Providing leadership through our policies and practices
- Collaborating with others to achieve shared sustainability objectives and to continually improve sustainability performance
- Measuring and communicating progress

## A sustainable port

We define a sustainable port as one that delivers economic prosperity through trade, maintains a healthy environment, and enables thriving communities, through shared aspirations, collective accountability, and meaningful dialogue. This definition, which was developed with extensive input from internal and external stakeholders, includes 10 focus areas and 22 success statements that help to define what a sustainable port looks like.

### Economic prosperity through trade

A sustainable port:

**Competitive business**

- Continuously improves efficiency and reliability, providing exceptional customer service
- Is profitable, delivering lasting value locally and nationally
- Reinforces innovation, diversity, resilience and adaptability

**Effective workforce**

- Maintains a skilled and productive workforce to meet current and future needs
- Provides an attractive work environment and rewarding career choices

**Strategic investment and asset management**

- Optimizes the use of land and infrastructure assets
- Anticipates and delivers infrastructure to meet capacity needs in a timely way

### Healthy environment

A sustainable port:

**Healthy ecosystems**

- Takes a holistic approach to protecting and improving air, land, and water quality to promote biodiversity and human health
- Champions coordinated management programs to protect habitats and species

**Climate action**

- Is a leader among ports in energy conservation and alternative energy to minimize greenhouse gas emissions
- Protects its assets against potential impacts of climate change

**Responsible practices**

- Improves the environmental, social, and economic performance of infrastructure through design, construction and operational practices
- Supports responsible practices throughout the global supply chain

### Thriving communities

A sustainable port:

**Good neighbour**

- Proactively considers effects on communities in planning and managing operations
- Identifies and responds to community interests and issues

**Community connections**

- Strengthens national, regional, and local prosperity, delivering regional benefits
- Engages communities and inspires pride in Canada as a trading nation

**Indigenous relationships**

- Respects First Nations' traditional territories and value traditional knowledge
- Embraces and celebrates Indigenous culture and history
- Understands and considers contemporary interests and aspirations

**Safety and security**

- Upholds safety and security to protect port users and neighbouring communities
- Promotes a culture of emergency preparedness that supports rapid restoration of essential community services and business activities

## Sustainability policy

To ensure that sustainability remains at the core of our work, we implemented a new corporate sustainability policy in 2022, which:

- Defines the port authority's sustainability commitments
- Clarifies governance and responsibilities for sustainability performance
- Supports the integration of sustainability into business planning, decision-making, and operations
- Strengthens the port authority's ability to achieve its sustainability vision

Our sustainability policy includes the following 10 commitments:

- Establish **sustainability goals and targets** that align with, where appropriate, the sustainability commitments of the Government of Canada, the Government of B.C., and the International Maritime Organization
- Develop **strategies and action plans** to achieve sustainability goals and targets
- Integrate sustainability into **business planning, risk management, decision-making, and operations**, and ensure policies, plans, programs, and projects align with our vision and sustainability goals
- Facilitate a **culture of sustainability** within the port authority and establish mechanisms to support cross-functional collaboration on sustainability
- **Lead by example** in port authority operations and practices, and focus efforts in areas where we can make the greatest progress towards our vision
- Be **transparent and accountable** in our approach, including producing a regular sustainability report for internal and external audiences that is in line with best practices
- **Raise awareness** of the port authority's sustainability objectives and priorities with employees, contractors, and customers
- **Facilitate and lead collaboration** with industry, government, Indigenous groups, and other stakeholders to build understanding of and address sustainability challenges, and to **advance shared sustainability objectives**
- **Incorporate Indigenous knowledge and interests** into strategic planning, decision-making, and the work that we do
- **Support innovation** to achieve sustainability goals, including facilitating the testing, demonstration, and adoption of innovative practices and technologies

## Embedding sustainability

We are working to integrate sustainability into all aspects of our business and to advance towards our vision.

Since 2016, we have collaborated with the Embedding Project, a global public-benefit research project that helps companies embed sustainability across their operations and decision-making. We are an active member of their peer-to-peer network, comprised of sustainability leaders from across North America and South Africa, and have worked with the Embedding Project team to pilot and apply new tools and resources to strengthen our sustainability leadership.

In 2021, we used the Embedding Project's Radar process to facilitate internal materiality conversations to prioritize where we need to focus our efforts to accelerate progress towards our vision. This Radar process provided a structured systems approach to explore sustainability risks and opportunities—helping us better understand impacts, manage strategic risk, and identify the biggest levers for change. Through this process, we identified four priority sustainability topics where strategic focus can manage systemic risk and grow long-term value, helping us achieve our vision for the Port of Vancouver to be the world's most sustainable port. These topics are:

- Climate action
- Healthy ecosystems
- Relationships with Indigenous peoples
- Community well-being, focused on reducing noise and addressing air quality impacts

In 2023, we will continue to work to integrate sustainability and advance our leadership, focusing on:

- Implementing our sustainability policy across the organization and supporting business units in integrating sustainability into the work that they do
- Identifying strategic actions to accelerate sustainability leadership at the Port of Vancouver
- Continuing to collaborate internally and externally to advance our sustainability goals

© 2023 Vancouver Fraser Port Authority

## Collaboration

The Vancouver Fraser Port Authority engages and collaborates with a wide variety of groups with an interest in the Port of Vancouver. These interests range from providing services and building infrastructure that enables trade, to understanding and addressing issues that impact port activities. We take an inclusive approach to identifying stakeholders and interested groups, and we focus our efforts on understanding and responding to their interests. Examples of collaboration and of our efforts to respond to stakeholder interests and manage impacts can be found throughout this report.

In our role as a Canada Port Authority, we lease the federal lands within our jurisdiction to independent tenants and terminal operators who handle trade through the port, and we maintain and advance infrastructure to support marine, terminal, rail, and road operations.

Operations and activity at the port are complex and include many organizations beyond the port authority. The federal government sets trade policy and decides what goods and commodities Canada trades. Private terminal operators manage loading and unloading cargo through the port terminals. Shipping lines operate the large commercial vessels that call at the port, and railways and trucking companies deliver goods by land to and from the port. Shippers such as retailers, resource companies, and freight forwarders contract and pay for the movement of goods.

Groups that we regularly engage and collaborate with include:

| Group | Description | Collaboration |
|---|---|---|
| Terminal operators | Terminal operators manage the day-to-day operations of the 29 major terminals at the port, providing berths and cargo-handling services to ocean-going vessels trading across five major business sectors | We work with terminal operators to develop trade opportunities, enhance cargo movement, promote continuous environmental improvement, and minimize impacts on communities through regular outreach, working groups, and consultation activities |
| Other tenants | In addition to terminal operators, other tenants lease land from the port authority and operate a variety of commercial interests ranging from marine construction and fishing to recreational marinas and container transload facilities | We work with tenants to ensure uses required for a full-service port are provided while supporting opportunities to sustain and grow their businesses |
| Marine carriers | Marine carriers operate ocean-going ships that carry cargo to and from the port | We work with marine carriers to optimize ship arrivals and anchorage use, and to ensure actions are taken to keep the port safe, reliable, and efficient; collaboration includes meetings and working groups |
| Major shippers | Major shippers are the importers and exporters who ship goods through the port | We work with major importers and exporters to understand their business and supply-chain needs, and to facilitate gateway capacity development |
| Service providers | Service providers provide a vast array of services that facilitate the handling of goods, including transloading, rail, trucking, warehousing, distribution, and marine services | We collaborate with service providers to develop short- and long-term strategies to enable fluid cargo movement, to promote efficient and reliable service, and to address supply-chain challenges |
| Labour | Thousands of workers keep the port operational and the supply chain moving. In general, the British Columbia Maritime Employers Association (BCMEA) oversees the training and recruitment of workers belonging to the International Longshore and Warehouse Union (ILWU) as well as the daily dispatch of longshore labour to port terminals. Many other unions and employers are also involved in the gateway system. | We engage with the unions and associations that represent the thousands of workers at the port on matters of mutual interest |
| Industry associations | Industry associations represent port users as well as related or impacted industries such as shipping, tourism, and agriculture | We work with industry associations on matters of mutual interest and advocacy |
| Indigenous peoples | The elected chiefs and councils, hereditary chiefs, staff, and community members of Indigenous groups with traditional territories and treaty lands within port authority jurisdiction, as well as other Indigenous groups across British Columbia and Canada | We regularly engage with Indigenous groups to develop a better understanding of their diverse interests and concerns, and to create deeper and more meaningful relationships; we are working to improve communication and increase opportunities for Indigenous groups to contribute to project planning and to receive benefits from projects that move forward |
| Federal and provincial governments | The elected and non-elected officials and staff of the governments of Canada, British Columbia, and other provinces across the country | We work with provincial and federal governments and agencies to ensure port activities are aligned with Canada's trade objectives; to ensure activities are conducted in a safe and environmentally responsible manner; to pursue funding opportunities to increase gateway efficiency, capacity, and sustainability; and to advocate for and develop policy and regulations |
| Local and regional governments | The elected and non-elected officials and staff of the 16 local municipal governments that border the Port of Vancouver, the regional Metro Vancouver government, and other local governments across Canada | We work with local and regional governments to facilitate open communication, share ideas, resolve issues, and build productive, long-term relationships through ongoing executive outreach, meetings, briefings, and roundtables |
| Communities | Communities include the general public and community organizations and groups within our 16 neighbouring municipalities | We engage with port communities to better understand their concerns and aspirations, and to build strong relationships through regular meetings with community liaison committees, community relations activities, our community feedback process, community events, and our community investment program |
| Non-governmental organizations and academic partners | Non-governmental organizations and academic partners are organizations, academic institutions, and individuals that focus on issues of mutual interest | We engage with non-governmental organizations and academic partners through meetings, sponsorships, and consultation activities to share knowledge and collaborate on matters of shared interest |
| Port authority employees | Employees include permanent, temporary, bargaining unit members, and non-bargaining unit individuals employed by the port authority | We engage employees through a variety of employee engagement initiatives, programs, surveys, events, and trainings to strengthen workplace culture, employee experience, and performance |
| Port authorities | Port authorities include Canadian and international ports | We engage with other port authorities in Canada and around the world to share information and best practices, and to collaborate on matters of shared interest |

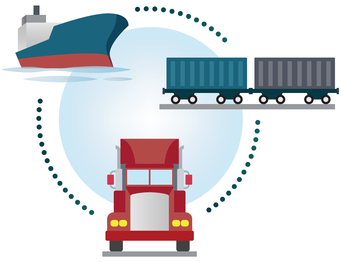
© 2023 Vancouver Fraser Port Authority

## About the Port of Vancouver

The port of Vancouver is Canada's largest port, and third largest in North America in terms of annual tonnes of cargo. Positioned on the southwest coast of British Columbia, the port is home to 29 major marine terminals and more than 1,000 tenants, and is served by three Class 1 railroads. It offers a full range of facilities and services to the domestic and international shipping community.

The port authority's jurisdiction includes 16,000 hectares of water, more than 1,500 hectares of land, and hundreds of kilometres of shoreline. It borders 16 municipalities and intersects the asserted and established territories and treaty lands of more than 35 Coast Salish Indigenous groups.

## Moving goods at the Port of Vancouver



The Port of Vancouver is the most diversified cargo-handling port in North America, with terminals moving goods across five different business sectors. Goods arrive and depart by sea on ships owned and operated by global shipping companies, and supported by tugboats, shipyards, shipping agents, and freight forwarders. Cargo terminals are operated and managed by independent third-party operators.

Railways and trucking companies move goods to and from terminals by land. Goods are sorted, stored, and transferred by companies at facilities and warehouses, and inspected by the Canada Border Services Agency at the terminal or at facilities across the region.

## Business sectors

### *Container*

Shipping containers are standard and cost-effective option to move cargo such as consumer goods, grain, lumber and steel

### *Automobiles*

As the most efficient gateway for Canadian-destined automobiles from Asia, the Port of Vancouver receives nearly 100% of all Asian-manufactured imports destined for the Canadian market, and serves more than a dozen of the world's top auto manufacturers

### *Breakbulk*

The Port of Vancouver serves as the Pacific Northwest's major consolidation centre for breakbulk cargo such as forest products, steel, and machinery

### *Bulk*

Dry and liquid bulk cargo such as grain and petroleum account for approximately two-thirds of our annual tonnage

### *Cruise*

Vancouver has been a leading homeport for cruises to Alaska for more than 35 years, and is the only homeport to offer both one-way and round-trip itineraries through Canada's scenic Inside Passage

## 2022 Port of Vancouver key facts

***141.4 million metric***
tonnes of cargo were traded with more than 170 countries

***$840 million***
of export and import cargo moved through the port each day

***2,834***
ship calls visited the port

***89%***
of the port's total volume served Canadian markets

***307***
cruise ships visited the port with 810,000 cruise passengers

Port of Vancouver-related activity generated
***$11.9 billion****
in GDP across Canada

***3.6 million***
containers (twenty-foot equivalent units) moved through the port

Port of Vancouver-related activity generated
***$24.2 billion****
in economic output

***The top 5***
trading partners were China, Japan, South Korea, India and United States

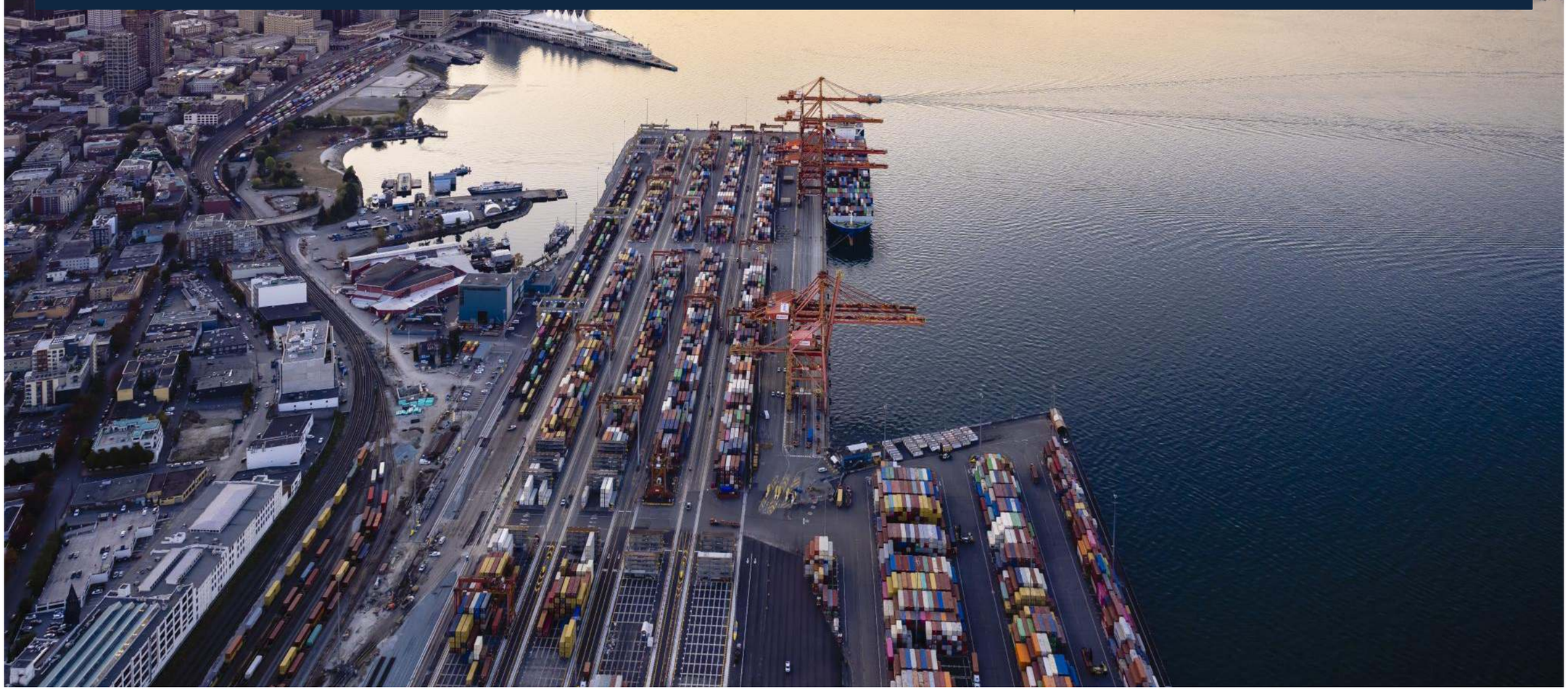
***The bulk sector***
produced the largest cargo volume

*From 2016 Port of Vancouver Economic Impact Study

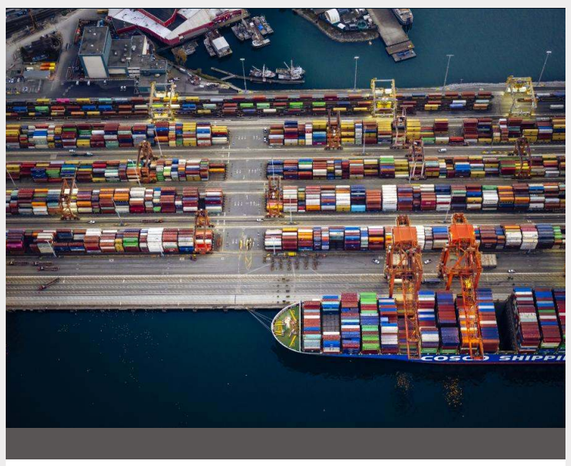
© 2023 Vancouver Fraser Port Authority

# Economic prosperity through trade

A sustainable port delivers economic prosperity through trade by focusing on competitive business, an effective workforce, and strategic investment and asset management.

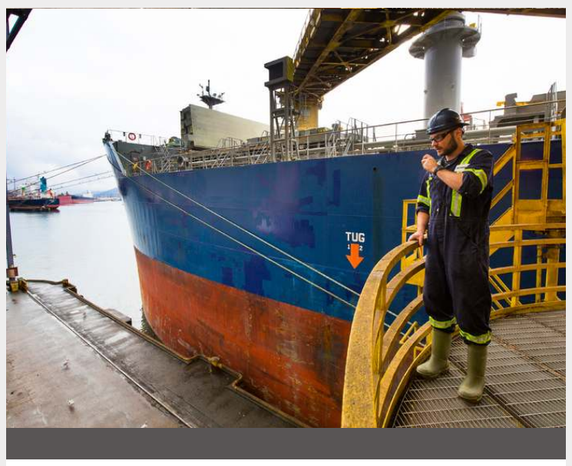


## Discover more



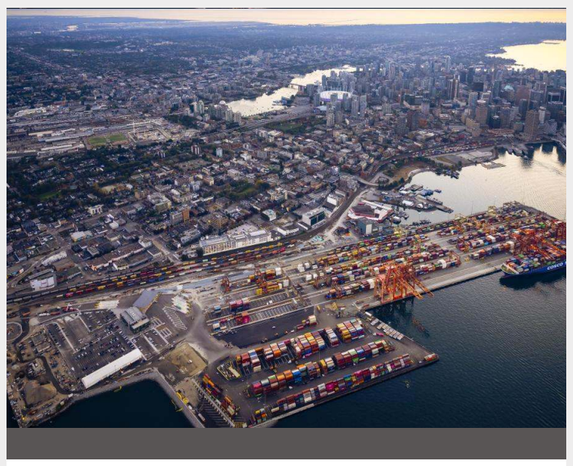
Competitive business >

Supply chain efficiency and resilience



Effective workforce >

Worker health, safety, and wellness
Diversity, equity, and inclusion



Strategic investment and asset management >

Land use and supply
Trade-enabling infrastructure

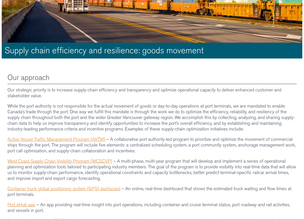
© 2023 Vancouver Fraser Port Authority

## Competitive business

Canada's economic prosperity relies on the ability to import and export goods and resources to and from global markets efficiently and reliably. The Port of Vancouver's gateway is Canada's busiest port, handling 142.6 million tonnes of cargo in 2022. It is also home to the country's busiest container port, with 3.3 million TEU (20-foot equivalent units) container units. Exports and imports from Canada's gateway are responsible for $113.0 billion in GDP for Canada. Within the Lower Mainland region, port-related activities contribute 40% of the GDP and 27% of jobs.

The port competes with other major ports on North America's west coast for international trade and for investment in capacity. The safe, efficient, and competitive movement of goods through the port is critical to the economic prosperity of the region, province, and country. Supply chain partners such as carriers and service providers, warehouse and transportation operators, labour, and longshore unions—to achieve competitive cost-effective operations and exchange supply-chain data and information. This collaboration is essential to facilitate Canada's trade and to meet the growing needs of Canadian businesses and consumers.

Supply-chain disruptions caused by extreme weather events, fluctuations in transportation costs, and logistics delays due to congestion can impact the movement of goods, reduce economic activity, and diminish competitiveness, affecting the cost of, and access to goods for Canadians. An efficient and reliable supply chain is essential for retaining and attracting business worldwide, and for enabling continued investment in operational and infrastructure improvements.



Supply chain efficiency and resilience: goods movement

## Our approach

Our strategic priority is to increase supply-chain efficiency and transparency and optimize operational capacity to deliver enhanced customer and stakeholder value.

While the port authority is not responsible for the actual movement of goods or day-to-day operations at port terminals, we are mandated to enable Canada's trade through the port. One way we fulfill this mandate is through the work we do to optimize the efficiency, reliability, and resiliency of the supply chain throughout both the port and the wider Greater Vancouver gateway region. We accomplish this by collecting, analyzing, and sharing supply-chain data to help us improve transparency and identify opportunities to increase the ports overall efficiency, and by establishing and maintaining industry-leading performance criteria and incentive programs. Examples of these supply-chain optimization initiatives include:

Active Vessel Traffic Management Program (AVTM) – A collaborative port-authority-led program to prioritize and optimize the movement of commercial ships through the port. The program will include five elements: a centralized scheduling system, a port community system, vessel-exchange management work, port call optimization, and supply-chain collaboration and incentives.

West Coast Supply Chain Visibility Program (WCSCVP) – A multi-phase, multi-year program that will develop and implement a series of operational planning and optimization tools tailored to participating industry members. The goal of the program is to provide visibility into real-time data that will allow supply-chain partners to better understand their capacity limitations and capacity bottlenecks, better predict terminal-specific value-added times, and improve import and export cargo forecasting.

Container truck turn time monitoring system (CTTM dashboard) – An online, real-time dashboard that shows the estimated truck waiting and flow times at port terminals.

Port whale app – An app providing real-time insight into port operations, including container and cruise terminal status, port roadway and rail activities, and vessels in port.

Truck Licensing System (TLS) – A set of criteria that all container trucking companies and their vehicles must meet to be eligible to access the federally owned port property.

Container Vessel On-Time Incentive Program – A fee rebate program that rewards container shipping line operators for schedule adherence.

**Disruptions and congestion—keeping Canada's largest port resilient in a time of strained global supply chains**

Reliable access to both goods and markets was a key issue in 2022, as consumers and businesses grappled with the impacts of disruptions and congestion throughout the global supply chain. For the Port of Vancouver, these challenges were the result of two years of unprecedented pressure that began in 2020 when pandemic-related shutdowns and unexpected and scattered surges in consumer spending overwhelmed trans-Pacific supply chains.

Then, in 2021, British Columbia experienced a series of extreme weather events that resulted in the loss of several weeks of rail capacity. In the summer, wildfires in the BC interior caused damage to rail infrastructure, resulting in a significant backlog of trains for rail companies to process. These issues were further exacerbated by atmospheric flooding in November 2021, which washed out roads and rail lines and disrupted that rail corridor for a prolonged period. Although the port was able to keep cargo flowing, the resulting backlogs continued into 2022 and were further exacerbated by significant congestion at inland rail yards and warehouses in Toronto and Montreal, which resulted in increased delays in the fall of 2022.

The cumulative impacts of these layered supply-chain challenges were reflected in the Port of Vancouver's year rating in the Container Port Performance Index (CPPI) released by the World Bank. The CPPI is a benchmark developed to identify gaps and opportunities for improvement in container ports around the world. However, even with floods and fires cutting off the port from the rest of the country, it still ranked ahead of the other leading west coast ports of Los Angeles and Long Beach in the 2021 port year rating. Overall, all North American west coast ports were generally in the bottom quarter of the index.

Throughout this time, we remained focused on building capacity, both at the port and throughout the region, to help meet Canada's trade growth, and also to help manage the congestion. Efforts to build capacity provides some flexibility to absorb surges and backlogs or trade volumes. As an immediate measure to ease the backlog, we worked with the federal government to open a temporary storage site for empty shipping containers to reduce congestion at container terminals. We also continued our work on longer-term solutions by advancing sustainable rail and port infrastructure projects around the Lower Mainland. With Canada's west coast container trade on course to run out of capacity by the end of the decade, we continued to advance work on the Roberts Bank Terminal 2 project. Although we expected a delay in Delta Port and terminal development, congestion of the region's critically low intermodal land supply, which is needed for the external off-dock supply-chain services that allow Canada's largest port to function efficiently for Canada, meant that we also purchased industrial land for future development.

While 2022 flooding in the region did not impact any of the port's infrastructure, we're working to be better prepared for both the long-term challenge of sea level rise and the immediate threat of extreme weather events. Climate-change-related extreme files flood mapping, and by leading a variety of other initiatives designed to mitigate and adapt to the impacts of climate change.

## Performance

To enhance the efficiency, reliability, and resiliency of the supply chain throughout both the port and the Greater Vancouver gateway, several port authority-led supply-chain optimization initiatives advanced in 2022:

**Active Vessel Traffic Management Program (AVTM)**

In 2022, we held three phases of engagement and discussions on Indigenous groups, supply-chain partners, members of the public, various levels of government, and community groups:

- Phase one engagement focused on opportunities to increase port efficiency and to help better manage the effects of ship traffic on local communities
- Phase two engagement focused on building awareness about our role and our work to develop an active vessel traffic management system, with opportunities for attendees to share ideas about a new system
- Phase three engagement focused on collecting feedback on a draft exchange code of conduct as well as on our approach to information sharing and compliant monitoring

We also conducted engagement with industry and supply-chain partners, and with various levels of government using a variety of approaches and tools, including: 1) a survey to gather information about current practices and to inform the development of a draft exchange code of conduct and exchange management protocols, including a draft exchange code of conduct; Throughout the design and development of the new active traffic management system, we sought input about the risks and challenges as well as the benefits and opportunities for industry stakeholders. This work included:

- Forming an industry advisory panel comprising industry and supply-chain experts, developed with input and support from industry associations and Transport Canada, to establish the program design and governance
- Holding 55 engagement meetings with key industry stakeholders

Based on the feedback received, in 2023 we plan to:

- Requesting that ship operators follow the same best practices as the ships anchored at the Port of Vancouver when anchored around the Southern Gulf Islands as noted in the Port Information Guide
- Developing a collaboration with industry additional measures to further reduce the impacts of ships at anchor, including enhanced exchange management protocols
- Exploring an on-water service to monitor ships anchored around the Southern Gulf Islands
- Exploring in collaboration with Transport Canada, incentive measures to better manage exchange use, as well as disincentives for long stays at anchorages in the Southern Gulf Islands

In 2023, we will:

- Implement a CDS in the Second Narrows Traffic Control Zone, a busy marine intersection in Burrard Inlet, to help prioritize and sequence commercial ships in and out of the port
- Implement an enhanced exchange code of conduct and assignment protocol
- Develop a vessel arrival framework and a long-term vessel forecasting tool
- Explore alternative mooring infrastructure

**West Coast Supply Chain Visibility Program (WCSCVP)**

Key work focused on the implementation of a data sharing platform to provide program participants with visibility into goods movement throughout the supply chain. In order to set an acquiring direct data from our partners, through we expectated a delay in receiving stakeholder data sharing agreements, we are initiating the development of a comprehensive data governance framework to ensure safe data exchange and a secure data feed.

In 2023, we will:

- Continue stakeholder engagement and workshops to better understand stakeholder concerns
- Finalize the remaining data sharing agreements with supply-chain stakeholders
- Complete the data governance framework
- Implement the remaining stakeholder data feeds
- Continue to identify opportunities to enhance reporting
- Develop a preliminary gateway performance dashboard with key performance indicators developed with industry
- Identify analytics tools

**Tracking**

In 2022, we:

- Outfitted over 1,600 approved Truck Licensing System (TLS) trucks with new GPS units
- Granted access to GPS fleet data to participating trucking companies so they can view their fleet and use the data to increase efficiencies
- Installed additional cameras in key areas such as staging lots and terminal gates to improve visibility of on-site conditions and to enhance security
- At the request of the federal minister of transport, we deferred the implementation of the Rolling Truck Ban Program and conducted two rounds of consultations with the trucking industry, ship owners, industry associations and stakeholders, Indigenous groups, local government, and community organizations to help inform a revised implementation plan
- We celebrated the completion of the Commissioner Street Road and Rail Realignment project by hosting a pop-up station in September with snacks and water for truckers to thank them for their patience as we completed the construction activity for the project

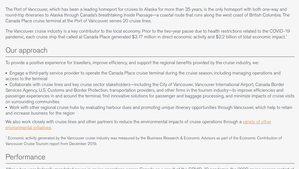
Since 2020, we have also completed infrastructure upgrades to enhance tracking at the port. This has included:

- Completing and opening the Delta Truck Staging facility in the summer of 2021, which is now being used by approximately 150–200 container trucks per day
- Completing the Centennial Road overpass, which eliminated 40 at-grade crossings. Previously the rail switches at the Alberta Grain Terminal or Viterbrin West terminals took between 10 and 45 minutes to complete and occurred three to six times per shift. The new overpass eliminates those delays.

**Intermodal transit time for import rail containers**

Intermodal transit time for import rail containers measures the average time it takes an import rail container, after being unloaded from a vessel, to be ready for pick-up by truck destination at a rail yard in Toronto, Montreal, or Chicago.

As a result of the supply-chain challenges in 2022, 33% of tracked containers reached their destination within the target time. Although this is a 5% increase from the 2021 performance, we expect to achieve several infrastructure projects to increase container capacity; these projects are highlighted in the Infrastructure delivery section of the report.




**Container truck turn time**

Container truck turn time measures the percentage of short-haul container truck trips completed within 60 minutes or less. A truck trip is defined as the time spent picking up or dropping off a container within a designated terminal area. Our target is for 75% of trips to be completed within 60 minutes or less.

In 2022 80% of trips met this target compared to 76% in 2021. In 2023, we will continue to advance several infrastructure projects to increase container capacity; these projects are highlighted in the Infrastructure delivery section of the report.

✓ Independent limited assurance.

**Container terminal dwell time**

Container terminal dwell time measures the percentage of import containers departing a terminal via rail within three days of being unloaded from a vessel. Our target is for 70% of import containers monthly sample received from a third-party data provider, collected at the four container terminals at the Port of Vancouver. We then review the data and manually add missing data where publicly available. Our target is for 70% of import containers to depart the terminal via rail within three days of being unloaded from a vessel. In 2022, tracked supply-chain challenges resulted in 41% of containers meeting the target compared to 51% in 2021.

✓ Independent limited assurance.

Supply chain efficiency and resilience: cruise

The Port of Vancouver, which has been a leading homeport for cruises to Alaska for more than 35 years, is the only homeport with both one-way and round-trip itineraries to Alaska through Canada's breathtaking Inside Passage—a coastal route that runs along the west coast of British Columbia. The Canada Place cruise terminal at the Port of Vancouver serves as the homeport.

The Vancouver cruise industry is a key contributor to the local economy. Prior to the two-year pause due to health restrictions related to the COVID-19 pandemic, each cruise ship that called at Canada Place generated $3.7 million in direct economic activity and $2.2 billion of total economic impact.[1]

## Our approach

To provide a positive experience for travellers, improve efficiency, and support the regional benefits provided by the cruise industry, we:

- Engage a third-party service provider to operate the Canada Place cruise terminal during the cruise season, including managing operations and access to the terminal
- Collaborate with cruise lines and key cruise sector stakeholders—including the City of Vancouver, Vancouver International Airport, Canada Border Services Agency, and Transport Canada—to develop and implement a cruise season plan that includes measures to ensure safety and security and passenger experiences in and around the terminal, find innovative ways to reduce congestion, and minimize impacts of cruise ship visits on surrounding communities
- Work with other regional cruise ports hub by evaluating harbour dues and promoting unique itinerary opportunities through Vancouver, which helps to retain and increase business for the region

We also work closely with cruise lines and other partners to reduce the environmental impacts of cruise operations through a variety of other environmental initiatives.

[1] Economic activity generated by the Vancouver cruise industry was measured by the Business Research & Economic Advisors as part of the Economic Contribution of Vancouver Cruise Tourism report from December 2019.

## Performance

After a two-year federally mandated pause in cruise operations across Canada as a result of the COVID-19 pandemic, the 2022 cruise season restart at the Port of Vancouver included a number of key accomplishments:

- A gradual increase of occupancy levels for ships throughout the season, resulting in an average of approximately 70% for the year
- A total guest count of more than 816,000 passenger visits in Vancouver, compared to approximately 1.1 million in 2019
- A record 307 cruise ship visits, an increase of 8% compared to 2019
- 100% of ships connected to shoreside power for the entire visit
- Shore power connections resulted in an estimated reduction of more than 5,000 tonnes of greenhouse gas emissions, up 27% compared to 3,606 tonnes of emissions saved in 2019
- We joined Seattle, Los Angeles, and the Port of Seattle, the City and Borough of Juneau, and industry partners in signing a new commitment to explore the feasibility of the world's first cruise-fed green corridor to reduce greenhouse gas emissions

In 2023 we will:

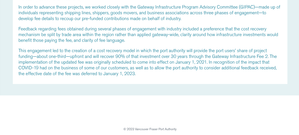
- Welcome an estimated 331 cruise ship visits to Vancouver
- Leverage technology to enhance cruise passenger processing and efficiencies
- Explore opportunities to expand cruise capacity to meet anticipated demand

**Preparing for the return of cruise to Vancouver**

In March 2020, as part of its COVID-19 response, the Government of Canada prohibited cruise ships from operating in Canadian waters for a period of two years. This was a decision based by public health regulations established by Transport Canada and the Public Health Agency of Canada, who were responsible for monitoring and advising on the evolving pandemic situations. Ultimately, two consecutive cruise seasons were affected by the health and safety of Canadians and of visitors.

The cruise industry is a critical economic driver in the Metro Vancouver region, with many local businesses and jobs relying on business generated by visiting cruise ships and passengers. For context, in 2019, cruise activity stimulated $3.77 million in direct economic activity for each ship that calls at the Canada Place terminal, and $2.2 billion of total economic impact.

During the 2020–2021 pause, we worked with industry, communities, and all levels of government to enable a safe and healthy operation, and to ensure we were prepared to safely welcome cruise ships back to Vancouver when the federal prohibition was lifted in November 2021. Following Transport Canada's public health plan, we established an enhanced health and safety framework to ensure the well-being of our employees, contractors, and the public. In addition, we worked to optimize our world-class cruise terminal to ensure a safe experience for everyone travelling through Vancouver. This work, which started in 2019, included reconfiguring approximately 10,000 square feet of terminal space to expand passenger processing areas, improving queue management, and installing 40 new additional check-in counters, all of which allow for more physical distancing.



Customer and tenant engagement

Users and operators of the port—terminals, tenants, shipping lines, and shippers—move goods through the port. We work with these stakeholders to enhance our understanding of what is required to keep the port competitive and goods moving efficiently. To accomplish this, we:

- Engage with customers around the world, to maintain connections, provide port updates, and answer questions
- Involve port tenants and key customers in foundational program workshops and outreach initiatives to ensure their needs and perspectives are considered and reflected in our supply-chain and trade-enabling infrastructure work
- Maintain an office in Shanghai, China to conduct trade meetings with key customers, governments, and trade agencies in foreign markets
- Conduct an annual customer survey which allows customers to evaluate their working relationship with the port authority and to provide feedback on concerns, challenges and other areas of interest
- Involve our customers in supply-chain optimization, which brings together industry stakeholders and other leaders from across the Greater Vancouver gateway to explore key challenges affecting the region

## Performance

In 2022, we:

- Engaged with customers based locally, across Canada, in the US, and in Asia through in-person and virtual engagements to capture feedback, share insights, and build understanding to support informed decision-making
- Created a customer vessel lineup report to provide container carriers and shippers with more visibility into container dwell times
- Hosted a supply-chain optimization workshop with port partners, the federal government, and other stakeholders to develop a collaboration framework and a roadmap for the future
- Hosted an annual customer survey in 2022 showed a decrease in overall service satisfaction, while overall engagement remained consistent with previous years. Some of the key opportunities to increase customer satisfaction identified in the results include providing more:
  - Regularly scheduled in-person meetings
  - Straightforward and timely communications
  - Continuity through port authority personnel changes

Our customer engagement work will prioritize industry recovery and supply-chain optimization efforts in 2023, including:

- Sharing program updates; engaging and working with industry, Indigenous groups, and communities to co-develop a collaborative AVTM system; and inviting suggestions for continual improvement as we begin rolling out the system
- Continuing to seek feedback on measures to further minimize community impacts from commercial ship traffic
- Acting on stakeholder feedback as we advance the AVTM Program
- Investigating the feasibility of shoreline shipping within our supply chain

**Port fees—collaboratively funding a more efficient gateway**

Unlike many other ports around the world, we receive revenues from terminal and tenant leases and port user fees, rather than tax dollars. Our fees are mandated under the Canada Marine Act to be fair and reasonable and they are designed to ensure that the port is competitive and that the port authority is financially self-sufficient. These fees, which are amended regularly to reflect changes in port use, are used to cover the costs associated with harbour operations, safety, security, and cleanliness. They are also invested into important infrastructure throughout the port and gateway.

These vital infrastructure upgrades have kept the port's efficiency and capacity—benefiting customers, terminals, and exporters. Currently, the port authority is working with industry and government to deliver $1.13 billion in transportation infrastructure projects focused on improving road and rail links to the port. These projects are critical to enhancing port competitiveness, unlocking new trade capacity and increasing supply-chain resiliency.

In order to advance these projects, we worked closely with the Gateway Infrastructure Program Advisory Committee (GIPAC)—made up of individuals representing shipping lines, shippers, goods movers, and business associations across three phases of engagement—to develop fee details to recoup our pre-funded contribution made on behalf of industry.

Feedback regarding fees obtained during several phases of engagement with industry included a preference that the cost recovery mechanism be uptake by trade area within the region rather than applied gateway-wide, clarify around how infrastructure investments would benefit those paying the fee, and clarity of fee language.

This engagement led to the creation of a cost recovery model in which the port authority will provide the port users' share of project funding—about one-third—upfront and will recover 90% of that investment over 20 years through the Gateway Infrastructure Fee. The implementation of the updated fee was originally scheduled to come into effect on January 1, 2023. However, the impacts of the pandemic on COVID-19 had on the business of some of our customers, as well as to allow the port authority to consider additional feedback received, the effective date of the fee was deferred to January 1, 2023.

© 2022 Vancouver Fraser Port Authority

# Effective workforce

Operations at the Port of Vancouver rely on an effective and skilled workforce to enable the safe, efficient, and reliable movement of goods through the port. This workforce at the port, predominantly employed by companies other than the port authority, undertakes a wide range of jobs, including piloting vessels; unloading and loading ocean carriers; operating cranes, trucks, and trains; and working in administration offices. The rights of these workers are protected by law under the *Canada Labour Code* and the *Canadian Human Rights Act*.

A significant portion of the port workforce is unionized. The British Columbia Maritime Employers Association (BCMEA) represents shipowners and agents, stevedores, and terminal operators on Canada's west coast, and oversees the recruitment, training, and daily dispatch to terminals of workers belonging to the International Longshore and Warehouse Union (ILWU) Canada. The BCMEA and the ILWU Canada negotiate collective agreements that set wages, working conditions, and benefits for longshore workers.

More than 70% of port authority employees are part of the ILWU 517 bargaining unit. Their compensation structure and working hours are also outlined through a collective agreement. These collective agreements are critical to ensuring labour stability, preventing disruptions to port operations, and making the port attractive to international trading partners.

At the port authority, we want to be a leading employer. Although we do not control or oversee employment practices across the port workforce, we strive to lead by example through our own employment practices. We rely on an effective and specialized workforce to deliver our mandate, and we recognize that a safe, healthy, and inclusive workplace, which enhances employee well-being and engagement, is crucial to attracting and retaining talent and enhancing performance.

## Worker health, safety, and wellness

A safe and healthy working environment is a fundamental principle and right at work[1]. At the port authority, we are committed to incorporating health, safety, and wellness into our daily activities. The majority of port authority employees' work is desk-based, either at our Canada Place or Oceanic Plaza offices, or at home as part of our Flexible and Remote Work Program.

Across the broader port, the industrial nature of port operations can expose workers to potential safety hazards. Various jobs require the use of heavy machinery or high-voltage electricity, working at heights, or working in confined spaces. The continuous nature of port operations also requires shift work, including working at night. Port authority tenants have their own health and safety management systems, which are required to abide by applicable legislation and regulations.

Seafarers are typically onboard a ship 24 hours a day, seven days a week, and can be vulnerable to poor working conditions, which in some instances could constitute forced labour, due to excessive overtime and restriction on freedom of movement.

[1] International Labour organization's A safe and healthy working environment is a fundamental principle and right at work https://www.ilo.org/wcmsp5/groups/public/---ed_dialogue/---lab_admin/documents/publication/wcms_850673.pdf

### Our approach

Within the port authority itself, our health and safety policy outlines our health and safety objectives, as well as our organizational responsibilities. Our comprehensive health and safety program supports a safe work culture and identifies potential issues to prevent personal injury to, or illness of, port authority personnel and contractors. The program includes:

- Health and safety training and resources that cover various safety topics identified in the port authority-specific Hazard Prevention Program
- Ergonomic assessments, recommendations, and accommodations to create safe and efficient workplace environments
- Safe work procedures and risk management tools
- Resources to manage and mitigate against fatigue-related hazards
- Information and guidance on preventing the transmission of COVID-19 and other communicable diseases
- Workplace Hazardous Materials Information Systems (WHMIS) classification for all chemical products used in our workplace
- A safety committee to advise the port authority on work organization and practices for safety
- An occupational health and safety policy committee to advise on, assist with, and make recommendations on policy and procedures
- Proactive work as part of our regular work site safety inspection program, including auditing, monthly focus topics, and reporting
- Support for and promotion of mental well-being by providing access to professional counselling, virtual fitness coaches, nutritional support, and naturopathic services through our Employee and Family Assistance Program
- An emergency response plan that outlines our response to an incident or emergency event

Find further information about our health and safety management approach here.

As the port authority, we take steps to maximize the safety performance of port authority-led infrastructure projects by:

- Including a safety pre-qualification process as a requirement of our procurement processes for contractors working on relevant projects led by the port authority
- Oversight for port authority-led projects via site inspections and audits
- Review incident reports to find opportunities to increase safety in and around infrastructure projects managed by the port authority

We also work closely with the Seafarer Welfare Board and service providers to help take care of the health and well-being of visiting seafarers. Through this partnership, we:

- Lease two buildings for $1 to act as local welfare centres where seafarers can rest, connect with family, and socialize while in port
- Raise funds through employee fundraising and corporate donation campaigns
- Continually seek out opportunities to support seafarers; for example, in 2021, we donated five portable Wi-Fi units with a four year-subscription to provide free internet access onboard vessels to help seafarers easily connect with their loved ones and to support seafarer mental health and well-being
- Collaborated with the Port of Vancouver Seafarer Welfare Board, several industry partners, and health authorities to deliver over 2,200 COVID vaccinations to seafarers from around the world onboard their vessels and dockside
- Developed guidelines, in collaboration with several industry partners and regulatory agencies, for effecting safe shore leave for seafarers based on national and provincial public health policies, and international standards

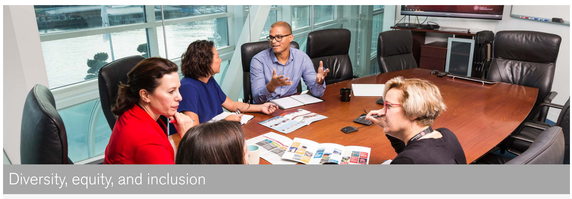
### Performance

In 2022, we:

- Completed updated departmental risk assessments as part of our hazard prevention program, and promoted health and safety via quarterly departmental health and safety meetings
- Launched the optional Flexible and Remote Work Program to enhance employee work-life balance and well-being by allowing them to combine the advantages of in-office work with the advantages of flexible and remote work
- Worked with the International Longshore Workers Union Local 517 to create pathways to permanent employment by converting certain term positions to permanent
- Promoted employee health and wellness by holding weekly Zumba classes during the summer, promoting cycling to work during the regional Bike to Work Week challenge, running programming during North American Occupational Safety and Health Week, and offering webinars on various wellness and mental health topics including preventing burnout and managing stress
- Completed an audit of our contractor safety framework, which sets out requirements to ensure that work performed by contractors and their procurement of equipment, materials, or goods is controlled to reduce the risk of harm to port authority and contractor personnel, the public, the environment, and the port authority's business interests

Last year, the most common injuries for port authority employees and port-led infrastructure project contractors were the result of slips, trips, and falls. Health and safety data for port authority employees and contractors is located in the corporate performance data section of this report.

In addition to continuing to offer wellness and mental health webinars and other health and safety resources to employees, our focus in 2023 will be on further embedding processes for contractor safety.



## Diversity, equity, and inclusion

The global maritime industry and the port workforce has historically had a low representation of women and other diverse groups. Jobs on the waterfront are industrial in nature and have a male-dominated culture, where conditions exist for potential bullying, harassment, and discrimination. Creating a safe and inclusive work environment to support a diverse workforce and bringing together a wide range of skills, experiences, and perspectives can enhance the port's overall performance and increase employee engagement.

### Our approach

We're on a journey to be a leader in diversity, equity, and inclusion and to foster an open, safe, and inclusive workplace environment. Our board-level respect in the workplace policy incorporates the requirements of the *Canadian Human Rights Act* and the Canada Labour Code and clarifies prohibited conduct related to discrimination, harassment, and violence. This policy is implemented through education and awareness, with guidance from a respectful workplace committee, comprised both of union members and exempt employees.

Although the port authority does not control or oversee the employment practices across the greater port community, we strive to lead by example through our own practices. Our work in this area is focused on:

- Hiring with a goal to exceed the labour market availability of the four designated groups identified by the federal government's *Employment Equity Act*: women, Indigenous peoples, people with disabilities, and visible minorities
- Building strategic partnerships with diverse communities to help support the creation of an inclusive, diverse, and supportive work environment at the port authority
- Leading initiatives to help us better understand and address diversity gaps within the organization, with a goal of developing a more focused approach to embedding diversity, equity, and inclusion at a strategic level
- Working with the International Longshore and Warehouse Union Local 517 to advance diversity at the port authority and to lead by example to the larger port community
- Helping to champion accessible and inclusive workplaces throughout the province through president and CEO Robin Silvester's role as co-chair with Presidents Group
- Providing an exceptional employee experience, with high employee engagement

To meet our obligations under Canada's Employment Equity Program, we track and report our progress in employing women, visible minorities, people with disabilities, and Indigenous peoples. This information can be found in the corporate performance data section of report.

### Performance

In 2022, we:

- Completed an exempt compensation review and developed an exempt job evaluation system that is gender-neutral
- Became members of Women's Business Enterprise, the Canadian Aboriginal and Minority Supplier Council, and the Canadian Council of Aboriginal Business to support suppliers who promote diversity and accessibility through our project procurement process
- Created and filled new relationship advisor roles at the port authority for both Musqueam Indian Band and Tsawwassen First Nation to help ensure we meet commitments laid out in the Musqueam – Vancouver Fraser Port Authority Relationship Agreement and Tsawwassen – Vancouver Fraser Port Authority Relationship Agreement
- Collaborated with the ILWU 517 to transition a participant from our accessibility internship program into a permanent position
- Worked with the CNIB (Canadian National Institute for the Blind) to hire for a new role through our accessibility internship program
- Hosted a speaker from Presidents Group to give a presentation to employees about disability awareness
- Participated in the Canadian Chamber of Commerce's Black Indigenous People of Colour (BIPOC) Leadership and Inclusion Committee to learn more about inclusion initiatives and best practices

Further data on the diversity of the port authority's workforce can be found in the corporate performance data section of this report.

In 2023, we will focus on:

- Drafting a new equity plan—required under the *Employment Equity Act*—that identifies areas of improvement within four designated groups: women, people with disabilities, Indigenous peoples, and visible minorities
- Developing an accessibility plan—required under the *Accessible Canada Act*—to create a barrier-free environment for people with disabilities
- Advancing our recruitment efforts to hire and retain more employees from Indigenous groups and people with disabilities
- Working toward achieving Rick Hansen Gold accessibility standards at our Canada Place and Oceanic Plaza offices
- Developing a pay equity plan—required under the *Pay Equity Act*—and working collaboratively with the ILWU 517 to ensure that related legislation is incorporated into the collective agreement and job evaluation
- Exploring opportunities to increase education and awareness around diversity, equity, and inclusion for port authority employees

**Supporting seafarers' right and well-being**

Canada is one of approximately 100 countries to have ratified the Maritime Labour Convention, which is a comprehensive labour standard that sets out seafarers' rights to decent working conditions and helps create conditions for fair competition for shipowners. The enforcement of these standards is carried out by Transport Canada, which carries out ship inspections to assess conditions onboard and detains ships that violate these conditions. Transport Canada inspects approximately 25–30% of all ships that visit the port and prioritizes these using a risk-based system.

As the federal agency responsible for the stewardship of the Port of Vancouver, part of our role as a Canada Port Authority is to work with a variety of safety, security, and emergency response organizations to make sure the port is safe for everyone. However, we have limited visibility of the labour practices related to the production of goods traded through the port, and we do not determine what goods Canada trades—the federal government makes those decisions.

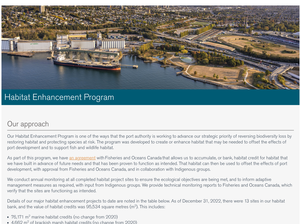
While our jurisdiction over these issues is limited, we work to support seafarer welfare whenever possible. As essential workers, seafarers experienced significant impacts as a result of COVID-19 restrictions on their movement for crew changes and shore leave, leading to increased isolation for vessel crews. To help mitigate these impacts, we sponsored the Port of Vancouver Seafarer Welfare Committee, which created guidelines for effecting safe shore leave for seafarers and helped facilitate a COVID-19 vaccination program for seafarers when in port. Through the Association of Canadian Port Authorities (ACPA), we also joined more than 850 companies and organizations in signing the Neptune Declaration of Seafarer Wellbeing and Crew Change to help alleviate the effects of COVID-19 on the marine workforce.

© 2023 Vancouver Fraser Port Authority

# Strategic investment and asset management

The demand for Canada trade is forecasted to grow over the long term, with throughput at the Port of Vancouver expected to follow this trend. The capacity growth is driven by an increase in demand for the region's trade by incumbents and new and emerging customers. As a Canada Trade Enterprise, our strategic investment and asset management plan must be flexible and responsive to the evolving demand for our customers' trade. We must also be the prosperity of the Canadian economy of the of the region we do this is by anticipating the position and availability of adequate industrial land in the region and by ensuring we have the right infrastructure in place to support the movement of goods and people. Our strategic investment and asset management plan must be flexible and responsive to the evolving demand for our customers' trade.

The biggest challenge in supporting trade growth through the Port of Vancouver is the limited supply of industrial land in the Lower Mainland, which is the highest industrial market in Canada. Industrial land is the key factor for attracting investments and creating jobs and economic growth. Industrial land is also the key factor for the movement of goods and people. Industrial land is also the key factor for the movement of goods and people. Industrial land is also the key factor for the movement of goods and people



# Habitat Enhancement Program

## Our approach

Our Habitat Enhancement Program is one of the ways that the port authority is working to advance our strategic priority of reversing biodiversity loss by restoring habitat and protecting species at risk. The program was developed to create or enhance habitat that may be needed by offset the effects of port development and to support fish and wildlife habitat.

As part of this program, we have an agreement with Fisheries and Oceans Canada that allows us to accumulate, or bank, habitat credit for habitat that we have built in advance of future needs and that has been proven to function as intended. That habitat can then be used to offset the effects of port development, with approval from Fisheries and Oceans Canada, and in collaboration with Indigenous groups.

We conduct annual monitoring at all completed habitat project sites to ensure the ecological objectives are being met, and to inform adaptive management measures as required, with input from Indigenous groups. We provide technical monitoring reports to Fisheries and Oceans Canada, which verify that the sites are functioning as intended.

Details of our completed habitat enhancement projects to date are noted in the table below. As of December 31, 2022, there were 13 sites in our habitat bank, and the value of habitat credits was 95,534 square metres ($m^2$). This includes:

- 76,171 $m^2$ marine habitat credits (no change from 2020)
- 6,692 $m^2$ brackish marsh habitat credits (no change from 2020)
- 14,701 $m^2$ freshwater habitat credits (no change from 2020)

| Major habitat enhancement projects | Location | Year of completion | Habitat type | Habitat added or withdrawn (m $^2$) |
|---|---|---|---|---|
| Westshore Park Tidal Marsh | Fraser River North Arm | 1993 | Brackish habitat, tidal marsh | +3,181 |
| River-front Park Tidal Marsh | Fraser River North Arm | 1993 | Brackish habitat, tidal marsh | +1,481 |
| Timberland Basin Habitat | Fraser River | 1993 | Freshwater habitat, tidal marsh, tidal mudflat | +3,003 |
| Salt Marsh Restoration | Roberts Bank, Boundary Bank | 2014 | Marine habitat, salt marsh | +92,992 |
| Glenrose Tidal Marsh Project | Fraser River | 2014 | Freshwater habitat, tidal marsh | +10,778 |
| New Brighton Park Shoreline Habitat Restoration Project | Burrard Inlet, Vancouver | 2017 | Marine habitat, salt marsh, tidal channel, marine riparian | +9,872 |
| Maplewood Marine Restoration Project | Burrard Inlet, North Vancouver | In progress | Marine habitat, rock reef | +3,307 |

## Performance

In 2022, we:

- Won an Innovation in Sustainability Award from Engineers and Geoscientists BC for the Maplewood Marine Restoration Project
- Conducted annual monitoring efforts at the Maplewood Marine Restoration Project in collaboration with Musqueam, Squamish, and Tsleil-Waututh Nations, which verified that the site is meeting the performance criteria established by Fisheries and Oceans Canada
- Conducted annual monitoring efforts at habitat enhancement sites to assess and ensure ecological productivity
- Installed permanent protective fencing around the wetland area at New Brighton Park to prevent physical disruption of the sensitive marsh/riparian area
- Installed 10 chokeber and swallow nest boxes across New Brighton Park to support biodiversity of the habitat, in collaboration with Nature Vancouver, the Vancouver Board of Parks and Recreation, and Cascade Bird Box

Focus for 2023:

- Continue to annually monitor habitat sites, using adaptive management as required, with input from Indigenous Nations
- Continue to engage with Indigenous groups, municipalities, environmental groups, and the general public on the performance of our habitat sites

### Habitat enhancement projects

#### Maplewood Marine Restoration Project

The Maplewood Marine Restoration Project was completed in 2001 and has restored approximately 5 hectares of low-density marine habitat—a result of historical industrial activity—into higher-density marine habitat for fish, birds, and other wildlife. The site is located in the Lynn Valley area of North Vancouver on the North Shore of Burrard Inlet, approximately 2 kilometres east of the Ironworkers Memorial Bridge, and was identified by the Tsleil-Waututh Nation as a restoration priority.

The project included creating a 1.5-hectare estiguree bed by planting approximately 150,000 estiguree shoots. A major portion of this project is being used to offset the Centerm Expansion Project, as determined and approved by Fisheries and Oceans Canada.

| 2022 activities | 2023 focus | Major impacts at a glance (actual or anticipated) |
|---|---|---|
| Completed first formal year of the annual effectiveness monitoring program, in collaboration with Musqueam, Squamish, and Tsleil-Waututh Nations<br>Confirmed that site is being colonized by a variety of marine organisms and vegetation, and is on track to meet its performance criteria as established by Fisheries and Oceans Canada | Conducted second year of annual effectiveness monitoring program in summer 2023 in collaboration with Musqueam, Squamish, and Tsleil-Waututh Nations | High-value marine habitat that supports fish, birds, crabs, and other aquatic species within Burrard Inlet<br>Established marine plants like estiguree that provide refuge and nursery habitat for juvenile fish<br>An increase in various kelp species and an increase in the diversity of fish and wildlife in the basin |

#### New Brighton Park

The New Brighton Park Shoreline Habitat Restoration Project was completed in 2017, in partnership with the Vancouver Board of Parks and Recreation and in collaboration with Musqueam Indian Band, Squamish Nation, and Tsleil-Waututh Nation. This project, which provides high-value habitat for fish and wildlife, restored tidal conditions to an area that had been infilled in the 1960s.

| 2022 activities | 2023 focus | Major impacts at a glance (actual or anticipated) |
|---|---|---|
| Conducted fifth year of annual monitoring program, which verified that the site is meeting biophysical objectives<br>Installed permanent protective fencing around the wetland area to prevent dogs and the public from trampling the sensitive marsh/riparian area<br>Installed 10 chokeber and swallow nest boxes across New Brighton Park to support biodiversity of the habitat, in collaboration with Nature Vancouver, the Vancouver Board of Parks and Recreation, and Cascade Bird Box | Continue with the annual monitoring program at the wetland site, including adaptive management as required, with input from Indigenous Nations | High-value marine aquatic habitat that supports fish and wildlife within Burrard Inlet |

# Offsetting projects for the Roberts Bank Terminal 2 Project

## Our approach

As a part of the environmental assessment process for the Roberts Bank Terminal 2 project, we committed to project conditions designed to reduce and offset potential effects of the project on local ecosystems, both during the construction and operation of the terminal. Key components of our approach include:

- Working with Indigenous groups to build 66 hectares of new fish habitat, including intertidal marshes and estiguree, to offset potential effects of the terminal, three habitats are important for key species such as chinook salmon and Dungeness crab
- Developing and implementing mitigation measures for key species of interest and concern, such as the southern resident killer whales, salmon, eelgrass, and western sandpiper
- Developing environmental management plans to reduce effects on the environment and the local community during construction; for example, we would avoid in-water activities during times of the year when important species like juvenile salmon are present in Roberts Bank
- Committing to monitor species of interest and concern to evaluate project-related effects and the success of mitigation measures, making adjustments as necessary
- Committing to develop a fund to support the recovery of chinook salmon, a key food source for southern resident killer whales

## Performance

In 2022 we:

- Fulfilled the Impact Assessment Agency of Canada's request for more information about our proposed habitat offsetting and mitigation measures for Roberts Bank Terminal 2
- Continued to design seven different off-site habitat offsetting projects, in collaboration with stakeholders and Indigenous groups
- Consulted with Indigenous groups and engaged with key stakeholders and government agencies to gather feedback on our approach to offsetting and mitigation
- Continued to develop species-specific mitigation measures for important species in Roberts Bank, such as the Dungeness crab and the western sandpiper

Focus in 2023:

To offset the potential impacts of the Roberts Bank Terminal 2 project, we have proposed a number of on-site and off-site offsetting projects that would collectively build 66 hectares of fish habitat, including intertidal marshes and estiguree, to support key species. This includes:

#### On-site Offsetting

Proposed on-site offsetting involves habitat enhancement and includes intertidal marsh (12.5 to 13.5 ha), shallow subtidal native eelgrass (9 to 10 ha), and subtidal rock reef (2 to 4 ha).

| 2022 activities | 2023 focus | Major impacts at a glance (actual or anticipated) |
|---|---|---|
| Further design development of marsh and estiguree habitat components, in consultation with Indigenous groups<br>Long-term monitoring effectiveness planning | Technical studies on feasibility of adding kelp habitat component<br>FNA application development and consultation<br>Long-term monitoring effectiveness planning | Provides habitat for juvenile salmon and Dungeness crab<br>With kelp habitat addition, could provide canopy benefits for fish such as juvenile salmon, and spawning habitat for herring |

#### South Causeway Estiguree Project

The South Causeway Estiguree Project consists of two sites located on Roberts Bank, south of the BC Ferries Tsawwassen terminal and causeway near Delta, BC.

Project involves transforming 3.5 ha to 4.5 ha of low-wave deep subtidal soft-bottom habitat into two high-value shallow subtidal estiguree beds

| 2022 activities | 2023 focus | Major impacts at a glance (actual or anticipated) |
|---|---|---|
| Liaising with project stakeholders, including BC Ferries and Indigenous groups<br>Obtaining HER permit amendment and extension<br>Long-term monitoring effectiveness planning | FNA application development and consultation<br>Initiation of other permitting<br>Planning for Indigenous group procurement | Restoring habitat (altered by past activities associated with dredging for the nearby ferry terminal causeway) that may have previously been suitable for estiguree<br>This enhancement project will benefit species of cultural importance and priority to Indigenous groups (e.g., chum and chinook salmon species like chinook and chum, and Dungeness crab)<br>In addition, Nations have noted the importance of eelgrass habitat for herring, particularly as spawning habitat |

#### Westham Island Canoe Pass Tidal Marsh Project

The Westham Island Canoe Pass Tidal Marsh Project is located in Canoe Pass, near the south side of Westham Island in Delta, BC.

The project involves converting 4.0 to 4.5 ha of lower-value intertidal sand flat into an expanded high-value intertidal marsh habitat.

| 2022 activities | 2023 focus | Major impacts at a glance (actual or anticipated) |
|---|---|---|
| Engagement session and site visit with Delta Farmers Institute, Musqueam Indian Band, and other Indigenous groups<br>Further technical analysis in response to feedback received<br>Advanced land tenure approvals with the province, including receipt of Section 17<br>Biofilm site assessment and reporting<br>Long-term monitoring effectiveness planning | FNA application development and consultation<br>Initiation of other permitting<br>Planning for Indigenous group procurement | The Westham Island Canoe Pass Tidal Marsh Project is expected to increase the productivity of Canoe Pass and provide high-quality habitat at a prime location for volunteer rearing juvenile salmon (particularly chinook and chum)<br>This enhancement project will benefit species of cultural importance and priority to Indigenous groups |

#### Tilbury Island Peninsula Enhancement Project

The Tilbury Island Peninsula Enhancement Project is located in the Tilbury Island area of Delta, B.C., in the south arm of the Fraser River

Habitat enhancement is proposed through the development of 3 to 4 hectares of brackish marsh and off-channel habitat; enhancements would focus on an area of lower-value unvegetated intertidal flat to the east (upstream) of a peninsula and causeway located at the upstream end of Tilbury Island

| 2022 activities | 2023 focus | Major impacts at a glance (actual or anticipated) |
|---|---|---|
| Biofilm site assessment and reporting<br>Liaison with City of Delta representatives and Indigenous groups on project and shared interests<br>Advanced land tenure approvals with the province, including receipt of Section 17<br>Long-term monitoring effectiveness planning | FNA application development and consultation<br>Initiation of other permitting<br>Planning for Indigenous group procurement | The project is located in an area representing an important stopping point for estuarine-rearing juvenile salmon as they acclimate to ocean-rearing salinity while out-migrating from the Fraser River to the marine environment<br>This enhancement project will benefit species of cultural importance and priority to Indigenous groups (e.g., chum and chinook salmon species like chinook and chum)<br>Identified by Musqueam Indian Band, Tsawwassen First Nation, and Cowichan Tribes as a priority for habitat restoration and enhancement and put forward as a Musqueam priority INBF2 offsetting project<br>Musqueam expressed this location as being important for juvenile salmon, noting that ongoing juvenile salmon rearing areas in this area of the Fraser River; Musqueam also noted the importance of the area for cultural use |

#### South Arm Jetty Tidal Marsh Project

The South Arm Jetty Tidal Marsh Project is located 3 kilometres downstream of Steveston, B.C.

The proposed offsetting project involves habitat enhancement through converting 30 to 40 hectares of lower-value sand flat into high-value brackish intertidal marsh containing tidal channels.

| 2022 activities | 2023 focus | Major impacts at a glance (actual or anticipated) |
|---|---|---|
| Monthly engagement meetings with the City of Richmond and Indigenous groups<br>Advanced land tenure approval process with the province, including receipt of Section 17<br>Long-term monitoring effectiveness planning | FNA application development and consultation<br>Initiation of other permitting<br>Planning for Indigenous group procurement | The South Arm Jetty Tidal Marsh Project is expected to improve the overall productivity of the area and provide important benefits to high-risk species, including estuarine-rearing juvenile salmon<br>This enhancement project will benefit species of cultural importance and priority to Indigenous groups (e.g., chum and chinook salmon)<br>Opportunity for habitat restoration through the removal of piles, logs, and other debris<br>Beneficial reuse of Fraser River dredged material<br>Planting of native marsh vegetation, including culturally important Indigenous group preferences for the select provider<br>Musqueam has indicated that the project contributes to a network of interconnected habitats, including estuarine and nearshore, as well as fish of different life histories and life stages in the Fraser River (e.g., the provision of enhanced rearing opportunities for juvenile chinook salmon outmigrating from the Fraser River) |

#### Finn Slough Enhancement Project

The Finn Slough Enhancement Project is located near the junction of Dyke Road and No. 4 Road on the south shore of Richmond, BC, in the south arm of the Fraser River

The project would enhance approximately 0.5 to 1.0 hectare through the creation of intertidal habitat; this would be done specifically through natural expansion of existing marsh including removing accumulated logs, improving fish habitat provision and access and tidal circulation by improving the upstream connection of Finn Slough with the south arm of the Fraser River

| 2022 activities | 2023 focus | Major impacts at a glance (actual or anticipated) |
|---|---|---|
| Technical site visit to inform design considerations<br>Collaborative site visit with Musqueam First Nation and Finn Slough Heritage Society<br>Monthly engagement meetings with the City of Richmond<br>Consultation with Indigenous groups, and engagement with stakeholders, e.g. Finn Slough Heritage Society<br>Advanced land tenure approval process with the province, including receipt of Section 17<br>Long-term monitoring effectiveness planning | FNA application development and consultation<br>Initiation of other permitting<br>Planning for Indigenous group procurement | The proposed activities will benefit species of cultural importance and priority to Indigenous groups, in particular, all Pacific salmon species and populations, especially juvenile salmon rearing and migration as they migrate through the Fraser River<br>Brought forward as a Musqueam priority project and is "an important part of Musqueam's vision for stewardship of the area to rehabilitate the slough. The long-term intent of the project is to re-establish habitat in its natural location and state to be productive for salmonids, especially juveniles on their egress" |

#### Semiahmoo Bay-Little Campbell River Enhancement Project

The Semiahmoo Bay-Little Campbell River Enhancement Project is located around Semiahmoo Bay First Nation Reserve in Surrey, B.C., 1 kilometre north of the Canada-US border.

Various intertidal habitat enhancement and restoration opportunities (1 to 3 hectares in total) are being advanced near the mouth of the Little Campbell River to benefit fish and wildlife — including the removal of derelict wood structures (e.g., piles), and construction of marsh bench fish channels, large-woody debris complexes, tidal salt marsh habitat, and forage fish spawning habitat.

| 2022 activities | 2023 focus | Major impacts at a glance (actual or anticipated) |
|---|---|---|
| Collaborative site visits with Semiahmoo First Nation and other Indigenous groups<br>Engagement with Indigenous Services Canada<br>Biofilm site assessment and reporting<br>Long-term monitoring effectiveness planning | Advancing land tenure arrangements with Semiahmoo, Indigenous Services Canada, and BNSF Railway<br>FNA application development and consultation with Semiahmoo First Nation<br>Initiation of other permitting | Addresses Semiahmoo interest in increasing fish habitat along the shoreline<br>In addition to providing benefits to fish and other wildlife, the project is expected to provide important cultural and community benefits to Semiahmoo First Nation<br>Investigative and design work has been and will continue to be undertaken in partnership with the Nation |

#### Tsawwassen Marshland Project

The Tsawwassen Marshland Project is a collaborative project between the port authority and Tsawwassen First Nation. Components include:

Expanding the marshlands seaward of the outer dike fronting the TFN community to restore the historical extent of the marsh

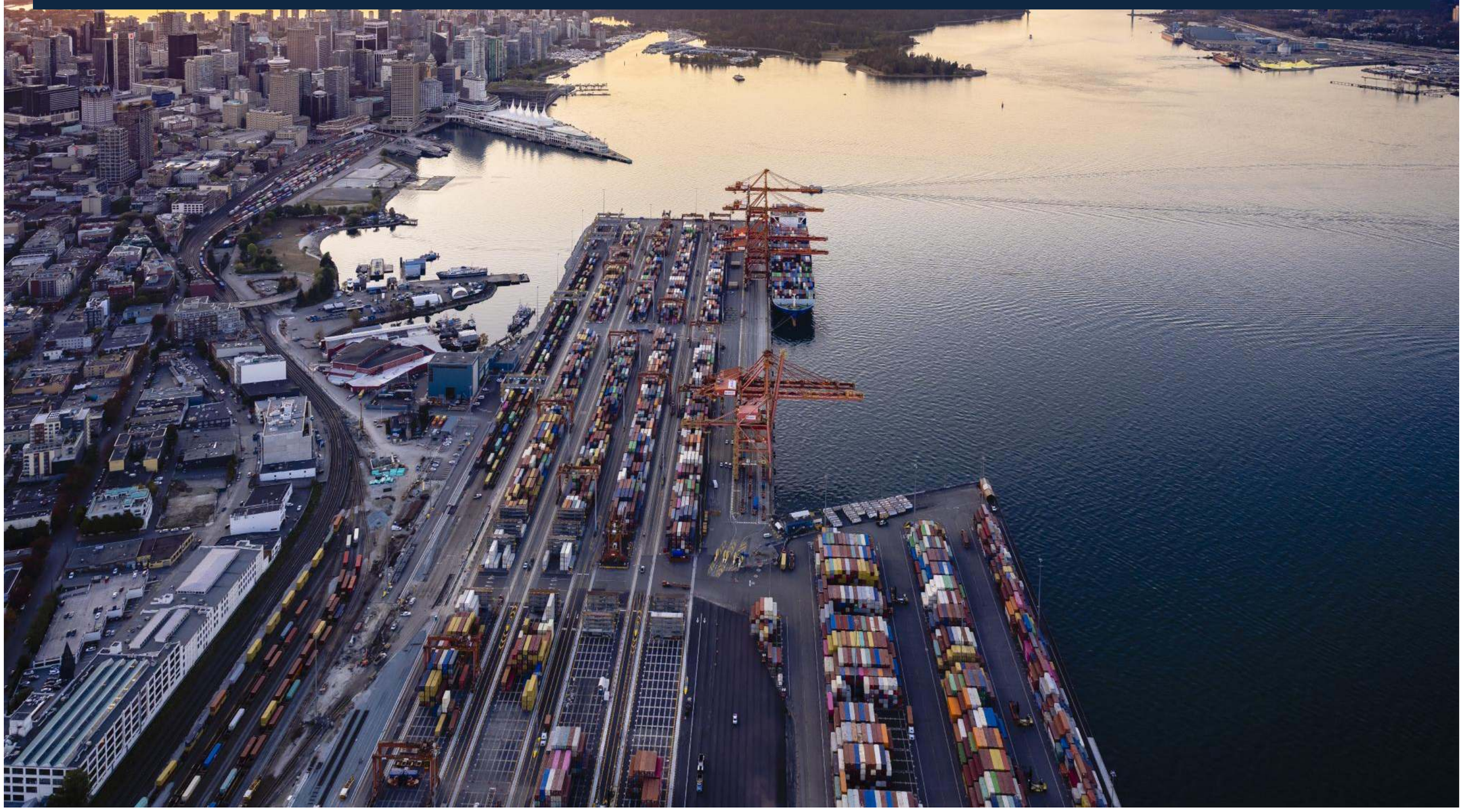
Increase fish habitat value and utilization by enhancing tidal channel habitat in the southern reaches of the marshlands; this entails channel modification and/or large woody debris placement

| 2022 activities | 2023 focus | Major impacts at a glance (actual or anticipated) |
|---|---|---|
| Collaborated and advanced design development with Tsawwassen First Nation | Supporting TFN community consultation on the project<br>FNA application development and consultation<br>Advancing land tenure arrangements with TFN and the province | Increasing fish habitat value and provide a range of additional ecological benefits and/or TFN community benefits |

© 2023 Vancouver Fraser Port Authority

# Healthy environment

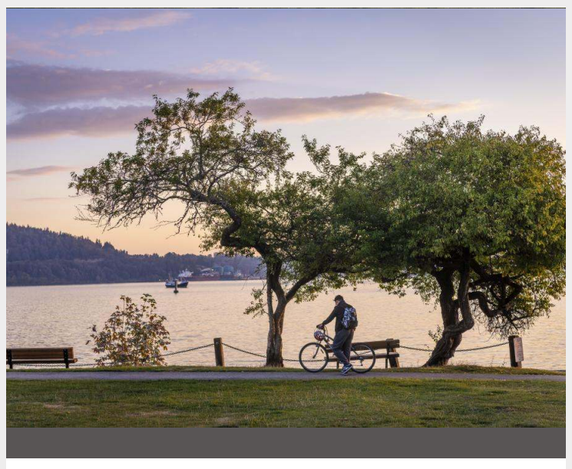
A sustainable port maintains a healthy environment, focusing on healthy ecosystems, climate action, and responsible practices.



## Discover more

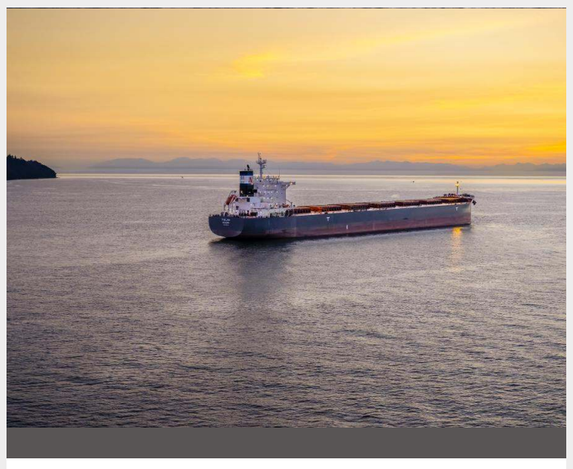
Healthy ecosystems >

Biodiversity



Climate action >

Air quality and greenhouse gas emissions
Climate adaptation



Responsible practices >

© 2023 Vancouver Fraser Port Authority

# Healthy ecosystems

We work to maintain healthy ecosystems within our jurisdiction with a focus on supporting biodiversity, protecting species at risk, and maintaining water quality. From supporting local food and water systems to enhancing climate resilience, healthy ecosystems provide essential ecological, economic, and cultural benefits. Ecosystems are threatened by declining biodiversity levels, which reduces their resilience, diminishes their productivity, and limits their ability to support diverse life forms.

Globally, biodiversity loss is occurring at an unprecedented pace, with species going extinct tens to hundreds of times faster than the natural extinction rate[1]. Biodiversity loss is caused by habitat destruction and degradation, invasive species, deforestation, and climate change impacts such as rising sea levels, increased temperatures, ocean acidification, and changes in seasonal precipitation. The United Nations Global Biodiversity Framework, adopted at COP 15 in December 2022, provides a framework to address biodiversity loss, restore ecosystems, and protect Indigenous rights.

The Port of Vancouver operates in a region with the greatest biodiversity of any province or territory in Canada, as well as one of the highest numbers of species at risk[2]. Within our jurisdiction are two national wildlife areas, five provincial wildlife management areas, three designated rockfish conservation areas, and designated critical habitat for southern resident killer whales. Port-related activities, including marine traffic, planned and unplanned discharges from ships, dredging, terminal operations, and infrastructure development can affect biodiversity by:

- Reducing water quality through pollution from stormwater runoff and spills and discharges from ships, including greywater and wash water from ship exhaust gas cleaning systems (scrubbers)
- Reducing the health and abundance of aquatic and terrestrial species through habitat loss, degradation and fragmentation, introduction of invasive species, underwater noise and vibration, collisions with ships, contaminated soil or groundwater, and terrestrial noise and light
- Reducing soil quality through spills on land

We lead and support a suite of programs and initiatives to reduce and mitigate these impacts and to support ecosystem health.

There are currently over 35 federally listed at-risk species that are, or that are likely to be, present within our jurisdiction. Under the federal *Species at Risk Act*, species identified as at risk are legally protected from disturbance on federal lands. The designation of critical habitat for these species, and the listing of new species, has the potential to create constraints on port operations and development. Some of these at-risk species, such as southern resident killer whales, also have significant cultural and spiritual importance to local Indigenous groups.

[1] United Nations Environment Programme, Making Peace with Nature, page 69, 2021
https://wedocs.unep.org/xmlui/bitstream/handle/20.500.11822/34948/MPN.pdf
[2] FACETS Journal, Protecting biodiversity in British Columbia, page 151, 2019
https://www.facetsjournal.com/doi/pdf/10.1139/facets-2018-0042

### Project and Environmental Review process

A key component of our management approach to maintaining healthy ecosystems is our Project and Environmental Review (PER) process, which is also one of the tools we use to fulfill our environmental stewardship obligations under the *Canada Marine Act* and the *Impact Assessment Act*.

Before project proponents can conduct physical works or activities on port authority-managed lands and waters, we require them to first obtain a permit. We review project permit applications to determine the potential for environmental impacts, considering any residual adverse effects of a project in terms of magnitude, geographic extent, duration, frequency, and reversibility.

We will not authorize or allow a proposed project to proceed if it is likely to result in significant adverse environmental effects, which we assess based on guidance from the Government of Canada. If a project is approved, our permit will include conditions designed to avoid or mitigate potential impacts. Where necessary, we work closely with permit holders to resolve instances of non-compliance with project permit conditions, such as by issuing stop work orders to cease certain activities or correction orders to rectify an incidence of non-compliance.

In 2022, we:

- Completed 157 project and environmental reviews, which includes 156 approved permits and one permit application that was not approved
- Conducted 12 preliminary project reviews, whereby we provide project proponents with a list of information and studies required for their permit application
- Conducted 454 desktop compliance reviews of self-reports, environmental monitoring reports, and independent monitoring reports, as well as 12 compliance-related site visits
- Issued and resolved one notice of non-compliance to a permit holder who had not met the requirement for an environmental monitor to be present during activities that could affect fish and fish habitat

## Biodiversity

### Our approach

The port authority's Environment Policy commits us to operating in an environmentally sustainable manner to fulfill our mandate as a Canada Port Authority and to advance our vision. We lead and support a wide range of programs to reduce and mitigate the impacts of port operations on the environment and help protect air, land, and water within and around our jurisdiction. In particular, we focus our efforts on managing and reducing impacts that can negatively affect biodiversity, and on advancing our strategic priority to reverse biodiversity loss by restoring habitat and protecting species at risk. Our approach includes:

- Taking action to reduce the impacts of underwater noise on at-risk species through our Enhancing Cetacean Habitat and Observation (ECHO) Program, EcoAction Program, and Project and Environmental Review (PER) process
- Identifying and understanding the critical habitat of federally listed at-risk species that are likely to be present within our jurisdiction, such as the southern resident killer whale, barn owl, and little brown bat
- Through our PER process, reviewing proposed projects to assess potential impacts on water quality and biodiversity, and applying permit conditions to mitigate impacts
- Minimizing the introduction and spread of invasive species throughout our jurisdiction by setting PER permit conditions and conducting treatment programs for invasive plants, in collaboration with government
- Conducting terrestrial noise monitoring and underwater noise monitoring
- Conducting site visits and desktop reviews to confirm compliance with environmental mitigation permit conditions through our compliance, monitoring, and enforcement program
- Managing and remediating contaminated sites through our contaminated sites management program
- Undertaking habitat conservation, enhancement, and restoration efforts, in collaboration with Indigenous communities, as part of our Habitat Enhancement Program
- Restricting the discharge of blackwater, greywater, and scrubber wash water from ships within the Vancouver Fraser Port Authority's jurisdiction through our Port Information Guide protocols
- Reporting marine pollution spills to the Canadian Coast Guard, per the *National Oil Spill Response and Preparedness Regime*

### Performance

In 2022 we:

- Began an ecosystem monitoring program in Burrard Inlet, collecting a comprehensive dataset on water quality indicators, in collaboration with Tsleil-Waututh Nation
- Implemented one of the first bans by a port authority in Canada on the discharge of scrubber wash water while ships are at berth or at anchor within the Port of Vancouver
- Began updating our stormwater management guidelines to provide our tenants with best practices for the development of stormwater management plans and with suggestions on green technologies to consider for stormwater treatment and management, such as bioswales and green roofs
- Through our ECHO Program, coordinated underwater noise reduction measures for at-risk whales across nearly 80 nautical miles of the Salish Sea, encouraging ship operators to slow down or stay distanced through the critical habitat of at-risk whales, with a record-breaking participation rate of 86% of ship transits
- Completed a preliminary wetland inventory to identify and classify wetlands or potential wetlands within our jurisdiction that may have value as habitat for fish and wildlife
- Began mapping natural assets in and around the port authority's jurisdiction—such as forests, estuaries, parks, eelgrass, and wetlands—to inform the development of the port authority's first biodiversity strategy and to identify potential areas for habitat enhancement
- Concluded our juvenile white sturgeon habitat use study, which assesses the geographic distribution of juvenile salmon in and around our jurisdiction, in partnership with the Fraser River Sturgeon Conservation Society and the provincial Ministry of Forests, Lands, Natural Resource Operations and Rural Development

In 2023, we will:

- Continue development of our first biodiversity strategy to help reverse biodiversity loss and guide our approach to restoring habitat and protecting at-risk species
- Conduct a habitat assessment to gain knowledge on the current extent, abundance, and distribution of at-risk species within our jurisdiction and to guide the development of mitigation measures
- Continue annual sampling and reporting efforts in Burrard Inlet as part of our ecosystem monitoring program, in collaboration with Tsleil-Waututh Nation
- Use the findings of our juvenile white sturgeon habitat use study to develop management approaches and tools for mitigating project impacts on juvenile white sturgeon
- Publish our new stormwater management guidelines for tenants
- Continue to work with regional stakeholders and Indigenous communities to create and enhance habitat to support at-risk species, fish and wildlife habitat through our Habitat Enhancement Program

**Monitoring the ecosystem in Burrard Inlet**

The port authority is working to develop an ecosystem monitoring program for Burrard Inlet, with a focus on tracking and reporting key ecosystem health indicators, such as water and sediment quality, in collaboration with Tsleil-Waututh Nation and Metro Vancouver. The long-term goal of this program is to gather information on the state of the Burrard Inlet ecosystem to guide development of future policies, programs, and initiatives by the port authority.

In 2022, the port authority and partners continued to gather water samples as part of a 16-month field sampling program in Burrard Inlet. Field samples were retrieved from across six sampling locations in the inlet and are currently being compiled and analyzed to assess the state of five ecosystem health indicators (water quality, sediment, benthic invertebrates, plankton, and trophic state). Annual sampling and reporting are anticipated to continue for at least the next five years.

**Banning scrubber wash water discharge at the Port of Vancouver**

Scrubber wash water is the byproduct of exhaust gas cleaning systems, commonly known as "scrubbers". Scrubbers are used by ship operators to remove sulphur and other contaminants from ships' fuel exhaust, in compliance with the International Maritime Organization's 2020 regulation limiting sulphur content in marine fuel. When scrubber wash water is released into the marine environment, it can have toxic impacts on marine life due to the presence of pollutants such as metals, hydrocarbons, and sulphurous and nitrous acids, which can accumulate in the food web and negatively impact the health of marine ecosystems.

Following engagement with shipping associations, Indigenous communities, and government, we became one of the first port authorities in Canada to introduce restrictions on the discharge of scrubber wash water on March 1, 2022. The new restrictions prohibit ships from discharging scrubber wash water while they are at berth or at anchor at the Port of Vancouver. These restrictions were introduced based on a third-party study that showed that the discharge of scrubber wash water could result in levels of certain contaminants that exceed thresholds set for the protection of aquatic life.

In addition to restricting the discharge of scrubber wash water while ships are at berth or at anchor, the port authority plans to implement two additional phases of restrictions on scrubbers at the Port of Vancouver. The second phase of restrictions will prohibit the discharge of scrubber wash water in all waters within the port authority's jurisdiction, while the third phase will require the use of lower sulphur or alternative fuels, effectively prohibiting the use of scrubber systems for the betterment of water and air quality. The details of these additional restrictions will be determined following further engagement with industry, government, and Indigenous groups on the environmental impacts and safety considerations related to scrubber use.

© 2023 Vancouver Fraser Port Authority

# Climate action

Greenhouse gas emissions from human activities have caused a 1.1°C rise in global temperatures since pre-industrial times, and without a dramatic reduction in emissions, global warming could rise to as much as 4.4°C over the next century[1]. The impacts of climate change—such as extreme storms, severe flooding, mudslides, heat waves, and wildfires—are already being experienced locally and globally, and the more the planet warms, the more severe the changes to our Climate system will be. Failure to take action on climate change and extreme weather are identified as the most severe risks globally over the next 10 years[2], and climate change is the most significant risk to our business in 10°C above pre-industrial levels is expected to negatively affect on the environment, biodiversity, human health, and the economy[3].

Port-related activities are a significant source of air emissions, which contribute to climate change and negatively affect air quality and human health. The ships, trucks, trains, and cargo-handling equipment that operate in and from the Port of Vancouver are primarily powered by fossil fuels, in particular diesel and marine bunker fuel. The combustion of these fuels emits greenhouse gas emissions and black carbon, which contribute to climate change and emit air contaminants that have negative impacts on human health and the environment. Port-related emissions are a significant contributor to regional air quality and health problems, and can harm wildlife, crops, and natural habitats through water and soil pollution. Air quality in the Georgia Basin-Puget Sound region is generally good, although higher concentrations of air pollutants can be found near emission sources such as major transportation corridors, which can lead to disproportionate impacts on nearby communities and workers[4].

Climate change impacts, such as sea level rise and extreme weather events, pose a significant threat to coastal cities, ecosystems, ports, and trade-enabling infrastructure. Metro Vancouver projections show that by 2050 this Lower Mainland region will experience more frequent and severe extreme weather events[5]. Current modeling suggests the region's sea level will rise 1.1 metre by 2100[6], with Vancouver ranked as one of the most at-risk cities in the world in terms of losses from coastal flooding, with an estimated annual loss of $1.6 billion Canadian dollars[7]. Extreme weather and flooding events could damage port infrastructure and regional transportation corridors that are essential for enabling Canadian trade.

Increasing energy efficiency, advancing electrification of port-related activities, and adopting low-emission fuels and technologies within the port are essential measures to support emissions, slow the pace of warming, and improve air quality. However, even with effective climate action, it is essential to plan and prepare for the physical impacts of climate change to avoid trade disruptions and to minimize impacts on coastal communities and ecosystems.

[1] United Nations, Climate Action Fact Sheet, Jargon: Temperature Rise, 2020
https://unfccc.int/sites/default/files/resource/Climate-Glossary.pdf

[2] World Economic Forum, Global risk report, page 19, 2020
https://www.weforum.org/reports/the-global-risks-report-2020

[3] Intergovernmental Panel on Climate Change, Fifth Assessment Report (AR5) Synthesis Report: Climate Change 2014 Synthesis Report, page 13, Summary for policymakers, 2018
https://www.ipcc.ch/site/assets/uploads/2018/02/ar5_synthesis_spm_approved_1003.pdf

[4] Metro Vancouver, Caring for the Air, 2021
https://www.metrovancouver.org/services/air-quality/PublicAirQualityReport/Caring-for-the-Air-2021.pdf

[5] Metro Vancouver, Climate Projections for Metro Vancouver, page 19, 2018
https://www.metrovancouver.org/services/regional-planning/PublicationsAndMaps/Publications/ClimateProjectionsFullReportAccessible.pdf

[6] Province of British Columbia, Sea level rise adaptation primer, page 13, 2013
https://www2.gov.bc.ca/assets/gov/environment/climate-change/adaptation/sea-level-rise/sea-level-rise-adaptation-primer.pdf

[7] Natural Future fiscal losses in major coastal cities, 2013
https://www.naturalfuture.net/articles/losses.htm

## Air quality and greenhouse gas emissions

### Our approach

Our strategic priority is to facilitate the transition to net-zero emissions for the Port of Vancouver by 2050. Together with the port authorities of Seattle and Los Angeles, we are leading the development of a framework for ports to achieve net-zero emissions. We are also supporting our business partners by 2050 to protect our quality of life and communities and fulfill our shared responsibility to help limit global temperature rise to 1.5° Celsius. This cross-border strategy guides our management approach to climate action and air quality, which we achieve through environmental programs and initiatives, outlined in the tables below, and through collaborations with other ports, industry partners, and stakeholders.

Achieving our emissions reduction goals will require new levels of collaboration with government and industry. We have identified three areas where this collaboration is needed:

- Increasing equipment efficiency and encouraging the transition to lower-emission fuels
  - Management or support initiatives that promote a transition to the market uptake of zero-emission diesel engines with advanced emission controls that can reduce air pollutants by up to 90%
  - Promote the use of lower-emission fuels such as renewable diesel, biodiesel, natural gas, and renewable natural gas
- Facilitating delivery of the infrastructure needed to support low- and zero-emissions technologies
  - Work with industry and government partners, the utility sector, and utility and energy companies to plan for the increased electrical capacity and energy infrastructure needed to enable low- and zero-emissions fuels and technologies such as battery electric powered equipment, heavy-duty charging facilities, equipment shore power, and the use of hydrogen technology
- Promoting early adoption of low- and zero-emission technologies through testing and demonstrations
  - Support demonstration projects for low- and zero-emission equipment and technologies and programs that accelerate technology readiness and leverage broader adoption

To lead by example through our own practices, we have committed to reduce our corporate greenhouse gas (GHG) emissions by 40% by 2030, from a 2010 baseline, and to achieve net-zero emissions by 2050.

### Performance

In 2022, we advanced a suite of environmental programs and initiatives, which are outlined together with our planned actions for 2023 in the tables below.

Planning and monitoring:

**Port emissions inventory** ^

Every five years, we prepare a detailed inventory of port-related air emissions to identify trends and prioritize emission reduction efforts; this inventory covers the primary sources of air emissions at the port: marine, rail, on-road vehicles, non-road equipment, and administrative operations.

| 2022 progress | 2023 planned actions |
|---|---|
| We engaged tenants and port users to obtain, compile, and analyze activity data to produce the 2020 emissions inventory. | Compile and publish the 2020 port emissions inventory. |

**Air quality monitoring** ^

We collaborate with regional government Metro Vancouver and other partners to monitor and continually improve understanding of the impact of port activities on local air quality.

| 2022 progress | 2023 planned actions |
|---|---|
| We continued working with partners to launch the Strathcona Air Quality Study, a two-year study to measure and assess air quality in the Strathcona neighbourhood of Vancouver and to identify potential opportunities for improvement. | Install the remaining five air quality monitors in the Strathcona area.<br>Issue quarterly reports on the data received from the air monitoring network. |

**Climate and Air Quality Action Plan** ^

Together with stakeholders, we are developing a plan to inform our efforts to facilitate a zero-emission port by 2050.

| 2022 progress | 2023 planned actions |
|---|---|
| We began engaging with external stakeholders across the region to gather input on emission reduction strategies for the port. | Continue to engage with stakeholders throughout the year and, by the end of 2023, publish a report outlining the input. |

Marine:

**EcoAction Program** ^

We offer the operators of the cleanest and greatest port fleets for meeting environmental beat practices.

| 2022 progress | 2023 planned actions |
|---|---|
| Completed stakeholder consultation on updates to our EcoAction Program, which better incentivizes connection to shore power facilities and the use of alternative low-carbon fuels.<br>Provided $1.0M in EcoAction Program incentives to shipping lines for taking measures to reduce their environmental footprint. | Launch a new EcoAction Program with updated and quarter ships providing shore power to port berths to ships that connect to shore power, use low-emission fuels, or have a 'quiet ship' notation. |

**Shore Power** ^

We offer shore power connections at the Cascadia shore power terminal and the Centerm and Deltaport container terminals, which reduces emissions by allowing ships to connect to the hydroelectric grid while at berth.

| 2022 progress | 2023 planned actions |
|---|---|
| Completed the installation of a new shore power facility at the Centerm container terminal.<br>Enabled 152 shore power connections, preventing nearly 6,000 metric tonnes of greenhouse gas emissions. | Continue developing plans for expansion of shore power facilities for other container and cruise berths, with the goal of enabling shore power at all cruise berths equipped with shore power by 2030. |

**Alternative marine fuels** ^

We are working to facilitate the use of alternative marine fuels such as biofuels, hydrotreated natural gas (LNG), methanol, ammonia, and hydrogen that reduce emissions from ships.

| 2022 progress | 2023 planned actions |
|---|---|
| Participated in development of international best practices for the safe use of alternative marine fuels.<br>Participated in industry studies to improve understanding of alternative marine fuels, including biofuels, synthetic LNG, methanol, ammonia, and hydrogen. | Continue working with industry to improve understanding of alternative marine fuels and to assess the feasibility of the use of these fuels in the Port of Vancouver. |

Terminals and tenants:

**Truck Licensing System (TLS)** ^

We maintain minimum environmental performance requirements for container trucks accessing the port.

| 2022 progress | 2023 planned actions |
|---|---|
| Engaged with stakeholders on proposed changes to the Binding Truck Age Program, a component of the TLS, and delivered the program to allow for truck owner-operators to source program compliant trucks. | We will assess how best to achieve the objectives of the Truck Licensing System. |

**Non-Road Diesel Emission Program** ^

We promote the greener use of off-road equipment in fleeter of new, cleaner diesel equipment with modern emission controls through a combination of fees and rebates that reduce air pollutants by up to 90%.

| 2022 progress | 2023 planned actions |
|---|---|
| Completed our first round of equipment rebates and proposed changes to the program to incorporate new tier and restrictions on Tier 2 and Tier 3 equipment that have limited controls, or no controls, on air emissions. | Implement new fees and rebates for Tier 2 and Tier 3 engines to encourage the adoption of cleaner, higher-emitting equipment, in favour of equipment that meets Tier 4 engine standards or higher. |

**Climate Smart** ^

We partner with Climate Smart to create port-specific training, peer networking, and a reporting program for tenants that offers certification of their GHG measurement and reductions.

| 2022 progress | 2023 planned actions |
|---|---|
| Provided funding to seven tenants to participate in the Climate Smart initiative, and facilitated continuation of the peer network to reduce GHG emissions. | In light of changes to the Climate Smart service offering, which is managed by a third party, we will be reviewing options for continuing to facilitate learning and peer-to-peer exchanges regarding GHG measurements and reductions. |

**Energy action** ^

In partnership with the regional electricity company, BC Hydro, we help port tenants access financial incentives to advance energy conservation measures and shore electrification opportunities.

| 2022 progress | 2023 planned actions |
|---|---|
| Continued to assess the electrification of port activities as the electrical grid evolved with BC Hydro to plan upgrades needed to enable adoption of battery-electric technologies in heavy-duty transportation. | Continue to facilitate discussions between customers and plan for the future of electrification at the port, including expansion of shore power facilities and development of cargo charging infrastructure for heavy-duty applications. |

**Testing low- and zero-emission technologies at the Port of Vancouver**

Towards the port authority's goal to phase out all port-related emissions by 2050, the port authority and the Province of British Columbia have committed $3 million in funding to support the port community's transition to low- and zero-emission energy through the Low-Emission Technology Centre. Through this initiative, the port authority is leading a collaborative approach to testing and demonstrating new fuels and to build the foundation of various low- and zero-emission fuels and technologies at the Port of Vancouver.

In 2020, through the Low-Emission Technology Initiative, the port authority and the province funded the testing of 100% renewable diesel on a terminal tractor operated by Hillman and on one of the port authority's patrol boats—making the port authority the first federal agency in Canada to run a vessel on 100% renewable diesel. Renewable diesel is one of various low-emission fuels and technologies that the Port of Vancouver as an alternative to traditional fossil fuels, as it can result in up to 80% less net greenhouse gas emissions than regular diesel on a life-cycle basis. (Port Canada, a partner in the project, found the renewable diesel to be a viable option for decarbonizing the port.)

In 2020, the port authority will continue to collaborate with its partners across the port community as well as fuel and technology suppliers, to test low-emission technologies and fuels. The Low-Emission Technology Initiative will particularly plans to procure two zero-emission battery-electric powered container trucks for testing by the Lower Mainland container trucking community.

**Liquefied natural gas as a marine fuel**

Currently, liquefied natural gas (LNG) is the only commercially scalable alternative to oil-based marine fuels. While several alternative fuels and propulsion technologies—such as hydrogen fuel cells, batteries, and biofuels—exist for smaller vessels, their use in large ocean-going ships far deep-sea shipping is limited. LNG is a fossil fuel and is not a long-term solution for decarbonizing the port, but it is a viable infrastructure. As a result, over the last decade, the global shipping industry has increasingly adopted LNG as a "transition fuel" to reduce air quality and climate-change-related emissions while zero-emission marine fuels are being developed for wider adoption.



While natural gas is considered cleaner than other fossil fuels, it is primarily composed of methane, which is a potent GHG with a global warming potential 84 times greater than that of CO2 over 20 years. As such, bunker or "bained" emissions that occur during the production, distribution, storage, or combustion of LNG (other than those needed to be "methane slip") can have a significant negative impact on the climate.

The potential impacts of methane emissions can be reduced by sourcing LNG from jurisdictions with strong emissions management regulations—such as British Columbia—and by using engines with near-zero methane slip. Under these circumstances, LNG can reduce greenhouse gas emissions by up to 25% compared to other fossil fuels and reduce other emissions such as nitrogen oxides and particulate matter, and virtually eliminate sulphur oxide emissions, all on a life-cycle basis.

In light of the potential emissions reduction benefits of LNG, as well as its growing adoption by the global marine shipping industry, the port authority is working to facilitate the responsible use of LNG as a marine fuel, while also working to facilitate the trial and adoption of other low- and zero-emission marine fuels to ensure our goal of phasing out port-related emissions by 2050.

**Port-related air emissions**

Total greenhouse gas emissions—including carbon dioxide, methane, and nitrous oxide measured in tonnes of carbon dioxide equivalent (tCO2e)—are increasing with growth in trade through the port. This is primarily due to a lack of government regulation and voluntary industry investment to reduce GHG emissions in heavy-duty transportation and the shipping industry. The intensity of port-related greenhouse gas emissions—measured as tonnes of CO2 per tonne of cargo—has decreased since 2010 and is expected to further decline, as port improvements in engine and equipment efficiency.

We prepare an inventory of port-related air emissions every five years, with the timing coordinated to the regional air emissions inventory prepared by Metro Vancouver. We are currently in the process of finalizing the 2020 port-related emissions inventory, which will be published in 2023, and will provide a comparative analysis and breakdown of emission trends from 2010 to 2020, as well as a forecast to 2030. The following provides preliminary information on the 2020 air emissions inventory for indicative purposes. The 2020 inventory has been prepared in line with the 2010 baseline and methodology with exceptions.

The port emissions inventory estimates air emissions from port sources, including all on-road, non-road, rail, and marine activities, as well as administrative activities. The port authority's own operations, such as its administrative activities, are a small source of GHG emissions, contributing approximately 1% to the Electric Port. The following table provides a breakdown of energy, GHG emissions, and air pollutants by source category.

**Port emissions inventory: energy and air emissions by source category (2020)**

| Source | Energy (GJ) | GHG (tCO2e) | Air pollutants, smog (tonnes) |
|---|---|---|---|
| Marine | 9,929,056 | 680,085 | 13,890 |
| On-road vehicles | 2,556,777 | 164,227 | 1,495 |
| Rail | 2,161,051 | 154,299 | 2,248 |
| Cargo-handling equipment | 3,210,458 | 79,927 | 1,014 |
| Administrative facilities | 145,600 | 15,176 | 26 |
| **Total** | **18,002,942** | **1,093,714** | **18,777** |

**Port-related greenhouse gas emissions by source**

**Port-related air pollutant emissions by source**

*Air pollutants include sulphur oxides, nitrogen oxides, fine particulate matter, volatile organic compound, carbon monoxide and ammonia. Greenhouse gases include carbon dioxide, methane and nitrous oxide expressed as carbon dioxide equivalents.*

**Collaboration to advance climate action**

Collaboration is essential to making progress on climate action and to protect air quality in addition to advancing our own environmental programs and initiatives, we collaborate with other partners, industry and stakeholders to reduce greenhouse gas and air quality emissions. A full list of our collaborative efforts to reduce air emissions can be found here. Notable collaborations in 2022 include:

**Pacific Northwest to Alaska Green Corridor**

The Pacific Northwest to Alaska Green Corridor is a collaborative effort by ports, governments, global cruise lines, and non-government organizations (NGOs) to explore the creation of a coastal-to-coastal green corridor between Alaska and Washington. A green corridor is defined as a shipping route where low and zero greenhouse gas emission solutions are demonstrated and supported through collaboration across sectors to accelerate maritime decarbonization.

Project partners include the Port of Seattle, the Biosphere of Juneau, Sitka, and Haines in Alaska, the Municipality of Skagway, the Greater Victoria Harbour Authority, the Port of Vancouver, Port Metro Vancouver, the Port of Prince Rupert, Port Alberni, Port Coquitlam, Fraser-wide partners Princess Cruises, Holland America, Carnival, Norwegian, Royal Caribbean, and Celebrity, and the Cruise Lines International Association.

In 2022, we worked with partners to:

- Explore the feasibility of a green corridor in the Pacific Northwest of North America, including further defining the scope and application of the green corridor concept
- Assess the emission reduction efforts that are already underway and determine what low- and zero-emission technologies and ships may be feasible to test as part of the green corridor initiative
- Work collaboratively to define the governance structures, terms, and frameworks needed to guide this regional effort.

**World Ports Climate Action Program**

The World Ports Climate Action Program (WPCAP) is a collaboration of 10 global ports working to accelerate the decarbonization of ports and shipping. Participating ports include Antwerp, Bremen, Gothenburg, Hamburg, Los Angeles, Long Beach, New York & New Jersey, Rotterdam, Valencia, Vancouver, and Yokohama.

The collaborative's efforts are advanced through five working groups focused on policy, the efficiency of the ship/port interface, power to ships at berth (shore power), sustainable low-carbon marine fuels, and decarbonizing cargo-handling facilities.

In 2022, we:

- Participated on the sustainable low-carbon marine fuels working group, where we provided input on the Port Readiness Level – Alternative Fuels for Ships framework, which is a tool that ports can use to assess their readiness to adopt alternative fuels
- Provided input on the future focus and direction for the leadership of the World Ports Climate Action Program
- Hosted the WPCAP ports in Vancouver during the WPA World Conference, and provided a tour of shore power facilities to facilitate exchange of information and learning among participants.

**International Association of Ports and Harbors**

We are an active participant on the International Association of Ports and Harbors (IAPH) Climate and Energy Committee and Clean Marine Fuels Work Group. Our participation is focused on advancing the clean energy transition and providing input to the global maritime policymaking body the International Maritime Organization.

In 2022, we:

- Hosted a technical committee meeting of the Climate and Energy Committee
- Participated in the Clean Marine Fuels Work Group, where we work with ports from across the world to establish safe and efficient bunker practices for the use of low- and zero-emission marine fuels
- Hosted the IAPH World Ports Conference in Vancouver, which brought together hundreds of port stakeholders from across the world

**Corporate emissions**

Since 2010, we have purchased carbon offsets to maintain the carbon neutrality of port authority operations. In 2018, we began accounting for GHG emissions from our subsidiary, Canada Place Corporation (CPC), within our corporate emissions inventory; however, we have not purchased carbon offsets for CPC emissions since 2018. We have been carbon neutral since 2010 and have met our 2020 carbon neutrality commitment by purchasing carbon distribution to hot water distribution. In 2022, we started feeding the use of 100% renewable diesel in one of the port authority harbour patrol vessels in partnership with Shell. We will continue to assess opportunities for emission reductions in port authority and CPC operations, including our approach to carbon offsets.

**Corporate greenhouse gas emissions by scope**

More information about our corporate emissions inventory is provided in the corporate performance data section of this report.

## Climate adaptation

Climate change impacts, such as sea level rise and extreme weather events, pose a significant threat to ecosystems, to coastal cities, and to port infrastructure and trade-enabling infrastructure. Metro Vancouver projections show that by 2050 this Lower Mainland region will experience more frequent and severe extreme weather events[1]. Current modeling suggests the region's sea level will rise 1.1 metre by 2100[2], with Vancouver ranked as one of the most at-risk cities in the world in terms of losses from coastal flooding, with an estimated annual loss of $1.6 billion Canadian dollars[3]. Extreme weather and flooding events could damage port infrastructure and regional transportation corridors that are essential for enabling Canadian trade.

### Our approach

Our strategic priority is to improve the Port of Vancouver's resilience to climate change. To better understand risks and prepare for impacts, we are working to identify and assess climate risks and vulnerabilities, and to create a climate adaptation plan identifying actions to improve port resiliency, with a focus on sea level rise and severe weather events.

Key components of our management approach include:

- Developing flood maps for our jurisdiction that model scenarios of sea level rise, and of their flooding from heavy rains and melting snow, known as fluvial
- Growing awareness of climate risk, participating in regional and provincial climate adaptation initiatives, and promoting collaboration on adaptation planning with government, local municipalities, Indigenous groups, industry, and non-government organizations
- Engaging tenants and port users to increase awareness of climate risks and encourage climate action and adaptation planning

### Performance

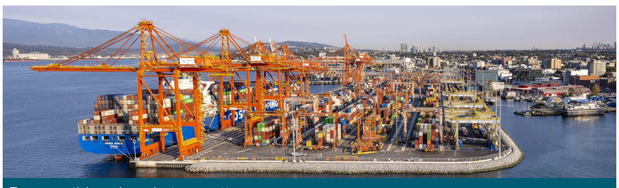
In 2022 we:

- Completed a study to better understand the vulnerability of port authority assets to fluvial risk along the Fraser River
- Convened an internal Freshet Task Force to monitor and respond to Fraser River flood risk during freshet season
- Participated in supply chain resiliency initiatives and workshops to help recover from the 2021 flooding and to prepare for future events
- Facilitated collaboration through our interdepartmental Climate Adaptation Team to advance climate adaptation initiatives across planning, ecosystems management, operations, infrastructure, and emergency management

In 2023, we will continue to build our understanding of climate risks and vulnerabilities, and advance our climate adaptation planning to enhance port resiliency.

## Responsible practices

As a Canada Port Authority, our mandate is to enable Canada's trade through the Port of Vancouver while protecting the environment and considering local communities. Given the global nature of ports and shipping activities, collaboration is essential to making progress on our sustainability goals. Our vision is for the Port of Vancouver to be the world's most sustainable port, and we are committed to leading by example through our own practices and collaborating with international ports, government, industry, and environmental organizations to promote responsible practices that advance sustainability throughout the port, the maritime industry, and the global supply chain.



# Responsible value chain practices

## Our approach

We work to advance sustainability both within the Port of Vancouver and throughout global supply chains through a wide range of regional and international collaborations:

- Working with ports from across the world to promote climate action through initiatives such as the Northwest Ports Clean Air Strategy; the Pacific Northwest to Alaska Green Corridor Initiative; and the International Association of Ports and Harbors Climate and Energy Committee
- Actively participating in initiatives focused on advancing sustainable shipping, such as through the World Ports Climate Action Program, Blue Sky Maritime Coalition, the Sustainable Shipping Initiative, Sea-LNG, and The Society for Gas as a Marine Fuel
- Working with industry partners and other ports to drive sustainable infrastructure practices, such as through the West Coast Maritime Envision working group, which shares best practices for sustainable infrastructure development
- Leading by example through our own practices, for example, using the Envision and LEED frameworks to inform port-led infrastructure development, and participating in Green Marine, an environmental certification program for the North American marine industry
- Collaborating regionally with government, the marine transportation industry, Indigenous communities, and environmental groups to better understand and manage the impacts of commercial shipping on at-risk whales through the port authority-led ECHO Program
- Working with port tenants to promote sustainable practices, such as by facilitating training for measuring and reducing carbon through Climate Smart, and by supporting participation in Green Marine

**Who decides what moves through the port?**

As a Canada Port Authority, our mandate is to facilitate Canada's trade by ensuring goods are moved safely and responsibly through the Port of Vancouver. Just as airport authorities do not set immigration policy, Canadian port authorities do not have the legal authority to decide what goods Canada trades. Stakeholders have expressed concerns about the social and environmental impacts of certain products, such as coal and oil, that are shipped through the Port of Vancouver. We recognize the importance of these concerns, but do not have the legal authority to determine which resources are traded in Canada — that is determined by the federal government. In 2021, the Government of Canada announced its intention to limit further development of thermal coal mines and to phase out the export of thermal coal by 2030, although regulation has not yet been enacted. Learn more about who decides what moves through the Port of Vancouver here.

## Performance

In 2022, we:

- Achieved the highest rating for seven of the eight Green Marine performance indicators, including environmental leadership, underwater noise, greenhouse gas emissions and air pollutants, community impacts, spill prevention, aquatic invasive species, and community relations
- Won a Envision Platinum Award from the Institute for Sustainable Infrastructure for the Centerm Expansion Project and the South Shore Access Project
- Monitored the use of Envision and LEED frameworks by tenants through our Project and Environmental Review process
- Provided funding for seven tenants to participate in the Climate Smart Initiative
- Hosted two breakfast sessions with port terminal environmental managers to share best practices for sustainability and environmental management

### Climate Smart

We partner with Climate Smart, a Vancouver-based social enterprise, to provide training for port tenants to help them measure and reduce greenhouse gas emissions. In 2022, the following port tenants participated in this training:

- BA Blacktop
- Fraser River Pile and Dredge
- JJM Construction
- Neptune Bulk Terminals
- Pacific Coast Terminals
- Pacific Pilotage Authority Canada
- Western Stevedoring Company

### Green Marine

Green Marine is an environmental certification program designed to promote environmental best practices across the North American marine industry. We have been a Green Marine member since 2012 and participate on the West Coast Advisory Committee and on various working groups to develop new indicators.

To receive certification as a Green Marine member, we annually evaluate our environmental performance on 149 criteria across eight key performance categories, including greenhouse gas emissions, community impacts, waste management, and underwater noise. Our self-evaluation is then verified by an accredited external verifier every two years.

For the 2022 calendar year, we achieved the highest rating (5 out of 5, or Pass) for seven of the eight performance indicators. A level 5 demonstrates excellence and leadership within the performance indicator. Our scores are shown below:

| | Rating |
|---|---|
| Aquatic invasive species | Pass |
| Greenhouse gasses and air pollutants | 5 |
| Spill prevention | 5 |
| Community impacts | 5 |
| Environmental leadership | 5 |
| Waste management | 3 |
| Community relations | 5 |
| Underwater noise | 5 |

At the end of 2022, 44% of all major terminal operators at the Port of Vancouver (13 of 29) have joined Green Marine—an increase of two additional members since 2020. Participating terminal operators include: GCT Deltaport, GCT Vanterm, Westridge Terminal, Neptune Bulk Terminals, Pacific Coast Terminals, Seaspan Shipyard, West Coast Reduction, Western Stevedoring (Lynnterm), Westshore Terminals, G3, the CERES-managed Canada Place Cruise Terminal, and Tymac Launch Service. Shipowner participants include the BC Ferries Fleet Maintenance Unit, North Arm Transportation, SAAM Towage, and Seaspan ULC.

### Blue Circle Awards

Our Blue Circle Awards recognize shipping lines with the greatest fleet-wide participation in our EcoAction Program, and terminal operators and other tenants participating in our Energy Action initiative. Our 2022 Blue Circle Award winners were:

- BC Ferries
- CMA CGM
- Evergreen Line
- Fednav Ltd.
- G2 Ocean Shipping Canada Limited
- Hapag-Lloyd
- HMM
- MOL Chemical Tankers Pte. Ltd.
- North Arm Transportation
- ONE - Ocean Network Express
- Pacific Basin Shipping (Canada) Ltd.
- SAAM Towage Canada
- Seaspan ULC
- Westwood Shipping Lines
- Yang Ming

On-site Energy Management Assessment workshops were paused during the COVID-19 pandemic and are planned to resume in 2023. As such, we unfortunately were not able to consider terminal operators for a Blue Circle Award in 2022. We look forward to relaunching these workshops and reconnecting with port terminal operators in the years ahead.

**Record-breaking participation rates to protect at-risk whales**

In 2022, the port authority-led Enhancing Cetacean Habitat and Observation (ECHO) Program celebrated record-breaking participation rates by the marine transportation industry in its voluntary underwater noise reduction initiatives to support the recovery of southern resident killer whales—an iconic at-risk whale population that is of significant cultural and spiritual importance to Indigenous peoples.

Since 2014, the ECHO Program has brought together partners and advisors from across Canadian and U.S. government agencies, the marine transportation industry, Indigenous communities, and environmental organizations to jointly develop and implement threat reduction measures to support the recovery of at-risk whales off the coasts of British Columbia and Washington state.

During the ECHO Program's 2022 seasonal measures, ship operators from more than 100 marine transportation organizations slowed down or stayed distanced on a record-breaking 86%* of all ship transits through key areas of southern resident killer whale critical habitat at Swiftsure Bank, Haro Strait, Boundary Pass, and the Strait of Juan de Fuca. As a result of these measures, underwater sound intensity was reduced by up to nearly 50% in Haro Strait and Boundary Pass. Learn more about the ECHO Program's 2022 underwater noise reduction measures in the 2022 annual report.

*The cumulative participation rate is calculated by dividing the total number of participating ship transits (5,763) by the total number of ship transits (6,696) through the ECHO Program's slowdown and lateral displacement areas.

**Underwater noise reduction initiatives**

| Initiative | Participation rate | | | | Reduction in ambient noise | | | |
|---|---|---|---|---|---|---|---|---|
| | 2019 | 2020 | 2021 | 2022 | 2019 | 2020 | 2021 | 2022 |
| Voluntary vessel slowdown in Haro Strait | 82% | 91% | 90% | 93% | 3.0 dB[1] | 2.6 dB[1] | 3.7 dB[1] | 2.7 dB[1] |
| Voluntary vessel slowdown in Boundary Pass | 82% | 91% | 90% | 93% | 3.5 dB[2] | 2.8 dB[2] | 3.2 dB[2] | 2.8 dB[2] |
| Voluntary lateral displacement of tug traffic in Straight of Juan de Fuca | 76% | 82% | 88% | 97% | ~4–7 dB | ~5 dB | ~4–7dB | ~4–7 dB[4] |
| Voluntary vessel slowdown in Swiftsure Bank - outbound | N/A | 82% | 81% | 82% | N/A | ~2 dB | N/A | ~3.1 dB[3] |
| Voluntary vessel slowdown in Swiftsure Bank - inbound trial | N/A | N/A | N/A | 82% | N/A | N/A | N/A | 2.2 dB[3] |

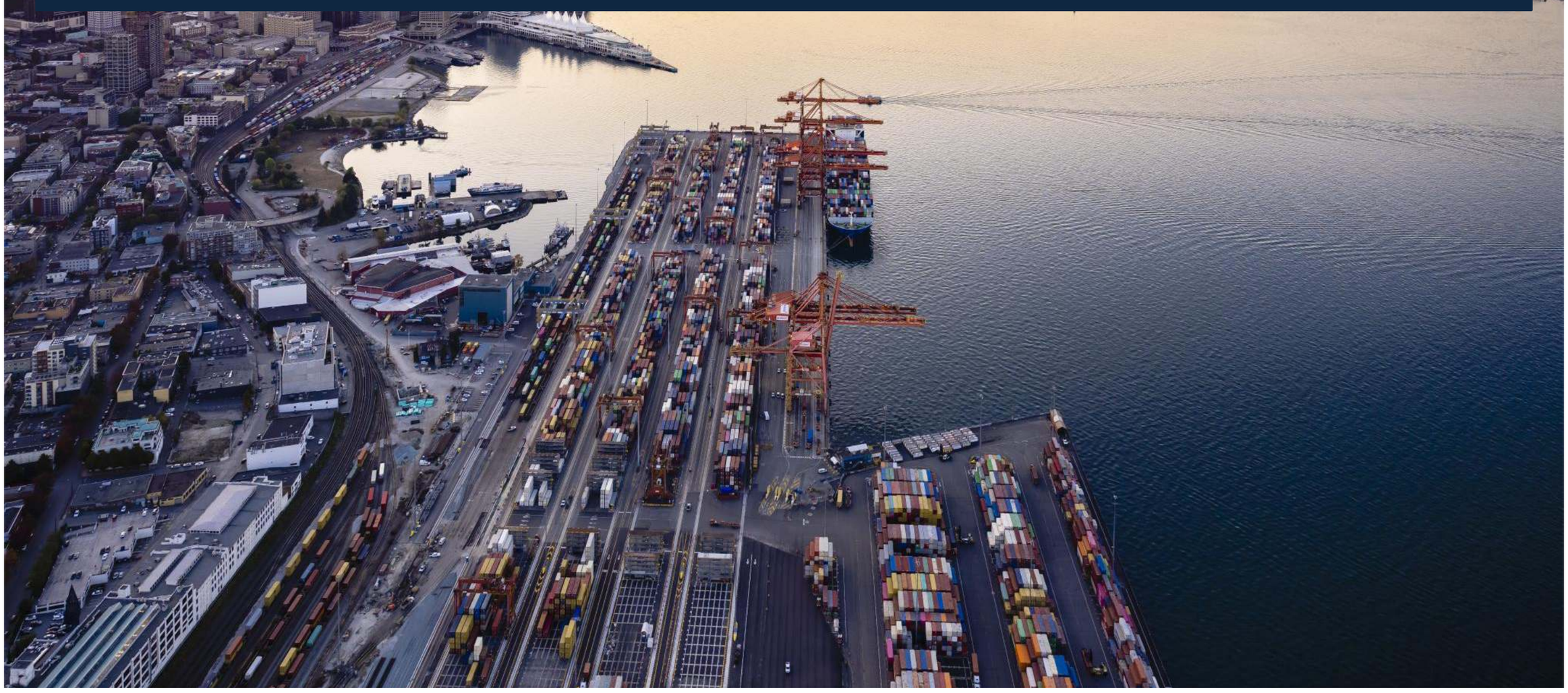
*Note: Reduction in ambient noise is measured in decibels (dB), a logarithmic unit used to measure underwater sound.*

[1]Median reduction in broadband ambient noise measured during slowdown trial at Lime Kiln hydrophone, Haro Strait.
[2]Median reduction in broadband ambient noise measured during slowdown at Boundary Pass
[3]Modelled average reduction in broadband ambient noise during the slowdown, compared to baseline data from July 2019
[4]Estimated noise reduction per tug transit, based on measurements from previous years.

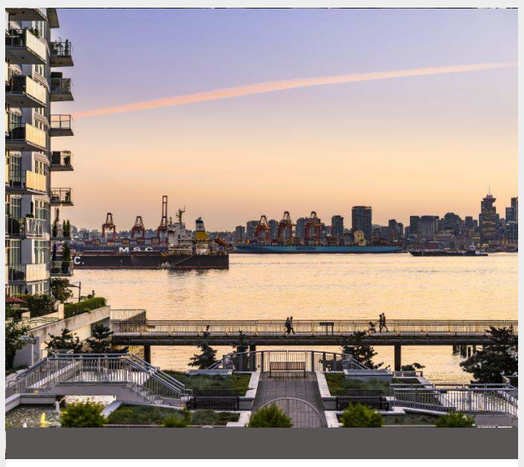
© 2023 Vancouver Fraser Port Authority

# Thriving Communities

A sustainable port contributes to thriving communities by working proactively to be a good neighbour, inspiring community connections, fostering Indigenous relationships, and upholding safety and security.

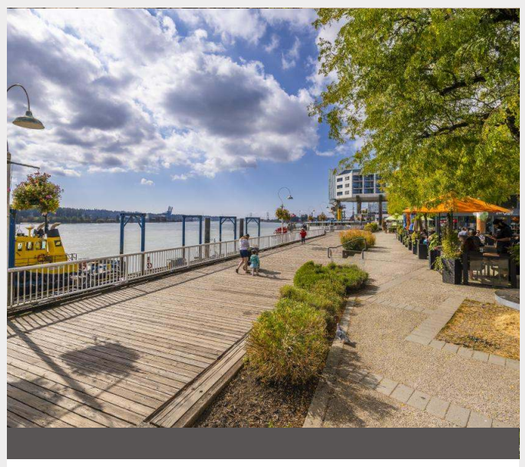


## Discover more



### Good neighbour >

Community relationships
Community concerns, including noise and nuisance



### Community connections >

Community benefits

### Indigenous relationships >

Indigenous rights and reconciliation

### Safety and security >

Safety, security, and emergency preparedness

© 2023 Vancouver Fraser Port Authority

## Good neighbour

The Port of Vancouver operates 24 hours a day, seven days a week in a densely populated urban area in Metro Vancouver with over 2.5 million residents—and this population is expected to grow by over 35,000 people per year[1]. The port borders 16 municipalities and intersects the traditional territories and treaty lands of more than 35 Coast Salish Indigenous groups.

While port operations help keep Canadians and Canadian businesses connected to the global marketplace and create meaningful employment opportunities for families across Canada, these activities can also impact communities and their well-being through noise, light pollution, dust, odour, road congestion, air pollutants, diesel particulate matter, and restricted community access to water in certain areas.

As a Canada Port Authority, we manage federal lands and waters on behalf of Canadians and in support of national trade objectives. We do this by leasing federal lands that make up the Port of Vancouver to independent terminal operators who handle trade, and by providing marine, road, and other infrastructure to support port growth and function. At the same time, we don't have direct control over the activities at port terminals, or those carried out by tenants, or by rail and ship operators. Certain impacts from port operations can be avoided or mitigated with the implementation of technological or operational improvements, such as the elimination of rail crossings with audible safety signals adjacent to communities. However, as the intensity of port operations continues to increase to meet Canada's growing trade demands, the likelihood for these disturbances experienced by local communities may also increase.

Public trust and support for port operations and growth are dependent on strong relationships with local communities. We do this by reaching out to neighbouring communities, responding to concerns, and mitigating the impacts of port activities on these communities.

[1] Metro Vancouver, Metro 2050 Regional Growth Strategy, 2022
www.publitas.com/metro-vancouver/metro-2050-the-regional-growth-strategy/page/1

## Community relationships

We maintain public trust in the port authority and public support for port operations by connecting with local communities and governments through working groups, formal consultation programs, information sessions, presentations to councils, and events.

### Our approach

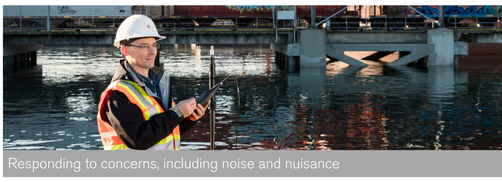
To build productive working relationships with neighbouring communities, we coordinate and implement proactive community outreach activities, including:

- Maintaining four community liaison committees across the Lower Mainland, bringing together municipal, industry, and Indigenous and community partners to facilitate ongoing communication about port-related operations and impacts
- Operating the Delta Community Office to respond to inquiries and to host free presentations, events, and tours to educate the public on port operations
- Offering a virtual and in-person education program designed to support Grade 4 to 6 curriculum guidelines, as outlined by British Columbia's Ministry of Education and Child Care, to increase awareness about the importance of trade and the role of the Port of Vancouver
- Engaging municipal, provincial, and federal governments regularly to strengthen communications and build productive working relationships
- Providing public engagement sessions to give community members a meaningful opportunity to learn about infrastructure projects and to gather feedback on project designs

### Performance

As COVID-19 restrictions imposed by B.C's Provincial Health Officer gradually lifted in 2022, the port authority adjusted and enhanced our engagement efforts accordingly. We accomplished this by hosting:

- Multiple community liaison committee meetings to discuss key topics, including port authority and tenant-led infrastructure projects, rail operations and activities, and environmental programs
- 32 free public tours conducted by the Delta Community Office between May and December
- Public engagement sessions on infrastructure, marine, and terminal improvement projects such as the Annacis Auto Terminal Optimization Project, Portside Blundell Road Improvements Project, Pitt Meadows Road and Rail Improvements Project, and Active Vessel Traffic Management Program
- The third annual World Maritime Day at the Port of Vancouver to celebrate the maritime industry and local port community



## Responding to concerns, including noise and nuisance

Proactively considering possible effects of growing port operations on local communities helps to ensure that Canadians today, and in the future, will enjoy the benefits of trade, an improved quality of life, and a healthy ecosystem. To help consider local interests and concerns, community feedback relating to noise and other nuisances is collected and addressed.

### Our approach

While we are not involved in operations at port terminals, we work with tenants and port users to mitigate the impacts of port activities on surrounding communities. We also work with communities to seek input on port-related projects. Click here to see a table showing the potential impacts of port activities on the surrounding community, and the port authority's approach to mitigating and managing those effects. Further information about our approach to managing potential environmental impacts is discussed in the climate action and healthy ecosystems sections of this report.

**Community feedback**

We gather community feedback through a dedicated phone line, email, online feedback forms, and annual surveys, and then work with port users to minimize the impacts of port activities on surrounding communities when possible. Our community feedback protocol is based on guiding principles that promote accessibility and responsiveness to the public. When comments, questions, and complaints are received, the port authority actively works to provide a response back within five to ten business days, according to the urgency and complexity of the inquiry. However, our average response time in 2022 was two to three business days.

**Noise monitoring**

Our noise monitoring program is designed to better understand the source and intensity of port-related noises, which can originate from ships, truck and rail movements, construction, and terminal operations. While noise cannot completely be eliminated due to operational requirements, our noise monitoring program, featuring a network of 11 permanent noise monitoring stations, allows us to better identify and track noise trends within our jurisdiction and to work with port users to minimize disturbances.

### Performance

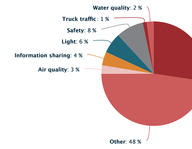
**Community feedback**

In 2022, we improved our community feedback process by redesigning and implementing new technology to address public inquiries, based on industry best practices. This technology allows every email, web form, and voicemail to be tracked so we can monitor and improve efficiency in responding to all inquiries.

Throughout the year, we received 2,065 completed web forms, phone calls, or emails, which ranged from positive comments and general information requests to concerns and complaints relating to noise from vessels, rail operations, and terminals.

The most common complaint continues to be noise from ships at anchor in Burrard Inlet and in the Southern Gulf Islands, similar to what we saw in 2021. To help address these complaints, the port authority introduced an anchorage code of conduct in the Port Information Guide on February 15, 2023, which is intended to minimize impacts on local communities and the environment that are caused by the presence of ships at anchor. This code of conduct applies to all ships anchored at the Port of Vancouver and is strongly recommended for ships calling at anchorages managed under the interim protocol, including around the Southern Gulf Islands. More information about southern B.C. anchorages can be found below.

**Inquiries and complaints received through community feedback line (2022)**




Other represents all inquiries that were not related to air quality, water quality, noise, light, safety, truck traffic, and information sharing. Examples include questions about cruise, recreational boating, careers, the community investment program, and Canada Place.

**Noise monitoring**
In 2022, we:

- Continued our ambient noise monitoring throughout the network of stations around the port, with real-time data publicly available online
- Engaged with concerned members of the community to deploy mobile monitors to assess noise at specific locations within our jurisdiction
- Assessed potential noise impacts from projects on port lands and incorporated conditions for mitigation measures as appropriate
- Continued to offer incentives through our EcoAction Program to vessels with an Environmental Ship Index noise score (meaning they are actively measuring and monitoring the ship's terrestrial noise)

In 2023, we will continue to publish an annual report assessing the data and results obtained from the network of permanent noise monitors for the previous year. We are also working with partners to better understand ship noise at anchor and options for mitigation.

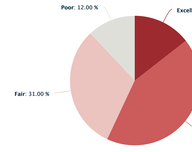
**Noise-related complaints (2022)**

| Noise source | # of complaints | % of total complaints |
|---|---|---|
| Terminal/tenant | 44 | 5.48% |
| Ship | 175 | 21.79% |
| Rail | 1 | 0.12% |

**Annual survey**

We conduct an online annual community survey to assess the public's opinion of the port and the port authority as a good neighbour. Survey results are based on a sample of between 1,000 to 1,300 residents each year across 16 neighbouring communities in Metro Vancouver.

**Public opinion of the port as a good neighbour**




The survey was conducted by an independent firm on behalf of the Vancouver Fraser Port Authority. Results are based on the responses to two questions: how do you rate the port on identifying and responding to community interests and issues, and how do you rate the port on proactively considering the effects on communities in planning and managing operations.

**Increasing use of southern B.C. anchorages**

While the Southern Gulf Islands are traditionally known for their quiet ocean views, large commercial ships are frequently seen at anchor. To help manage, prioritize, and optimize commercial ship traffic within the Port of Vancouver and in southern British Columbia, the Vancouver Fraser Port Authority is developing a new active vessel traffic management system. The system aims to enhance marine safety and improve the efficiency of goods movements to and from the Port of Vancouver to help mitigate the environmental and social impacts of commercial ship traffic and to potentially reduce the need for and use of anchorages in the region.

There are currently 33 commercial vessel anchorages in the Southern Gulf Islands area that extends from Race Rocks, Haro Strait, and Boundary Pass in the south to Gabriola Island in the north, bounded to the east and west by the Strait of Georgia and Vancouver Island. These anchorages are located in deep water and can accommodate larger ships. Historically, most of the commercial ships that anchor in the Southern Gulf Islands have been bulk carriers for grain, with some coal, potash, and sulphur, and on rare occasions, container ships.

The use of these anchorages has increased in recent years due to supply-chain congestion created by Canada's growing trade demands, weather-related delays, COVID-19, and the increasing size of ships bound for the Port of Vancouver. While the port authority is primarily responsible for the assignment and management of anchorages within the boundaries of the Port of Vancouver, we are also assigning commercial ships to southern B.C. anchorages around the Gulf Islands under Transport Canada's Interim Protocol for the Use of Southern B.C. Anchorages when the port's anchorages and terminals are full.

Ships at anchor emit noise and light, which can disrupt the quiet nature that surrounds them, as well as nearby communities, and can negatively impact marine life and ecosystems. When anchored ships generate disturbances such as light and elevated noise, members of the public are encouraged to submit feedback through an online feedback form. We then respond by contacting the ship's agent and requesting corrective action where possible; we also log the complaint and advise Transport Canada. In 2022, we received 1,336 concerns and complaints pertaining to light and noise related to ships anchored in the Southern Gulf Islands through the community feedback line and web form, which is approximately 169% more than the previous year. This year-over-year growth in complaints is due to the increased number of ships that were required to anchor for extended periods of time throughout the year.

In 2022, to help us understand the impacts of anchored ships on local residents, we held virtual and in-person engagement sessions with Indigenous groups, community members, local government, and industry stakeholders, as part of the Active Vessel Traffic Management Program. The sessions focused primarily on two proposed mechanisms—the development of a set of guidelines for ships at anchor and the port authority's approach to information sharing and complaint resolution—aimed at mitigating impacts of ships on local communities and the environment.

Using the feedback gathered, on February 15, 2023, we introduced an anchorage code of conduct in the Port Information Guide that applies to all ships anchored at the Port of Vancouver and is strongly recommended for ships calling at anchorages managed under the interim protocol, including around the Southern Gulf Islands. Following the implementation of these guidelines, the port authority will now ask ship captains to review and agree to the recommended practices and procedures, such as time limits to conduct outside maintenance and limiting the use of deck lights.

© 2023 Vancouver Fraser Port Authority

## Community connections

The Port of Vancouver plays a vital economic role in Canada by connecting consumers and businesses with roughly 170 trading economies. Not only does port activity contribute to the local economy through jobs and wages, but it is also essential for communities across the country whose prosperity depends on the import and export of goods and resources. Canadians purchase a broad range of goods made in other countries, including clothing, electronics, engine parts, and more. Similarly, Canada's natural resources and agricultural products such as forestry, grain, and mining products are highly sought after by other countries. These exports also create jobs in farming, logging, mining, and many other trade-related jobs for hundreds of thousands of Canadians.

Home to 29 major terminals, the port handles $1 of every $3 of Canada's trade in goods outside of North America. Enabling the trade of approximately $275 billion in goods to and from the Canada annually, port activities sustain 115,300 jobs, $7 billion in wages, and $11.9 billion in GDP across Canada. Research also indicates that jobs across Canada related to the port paid an average of $67,900 per year, well above the average annual Canadian wage of $50,000.

Located on the southwest coast of British Columbia, the Port of Vancouver borders 16 municipalities across the Lower Mainland and intersects the traditional territories and treaty lands of over 35 Coast Salish Indigenous groups. Supporting, celebrating, and fostering community connections with local communities—through local employment, tax revenues, and community investments—helps to share economic benefits of port operations and build thriving communities.

## Community benefits

### Our approach

Ongoing operations and activities at the Port of Vancouver—which includes the daily work of terminals, supply-chain operators, and other tenants that move goods—contribute to government revenues by providing tax dollars to all levels of government that help support critical community services. Additionally, the port authority provides an annual stipend to the federal government and payments to local governments—in lieu of taxes—on port property not currently leased.

As part of our vision to make the Port of Vancouver the world's most sustainable port, we also invest in our surrounding communities by supporting, sponsoring, and donating to important initiatives. We dedicate up to 1% of our net income to our community investment program, which is based on three key pillars: thriving communities, healthy environment, and education. This program allows us to:

- Collaborate with community groups and environmental organizations to support conservation efforts and address environmental risks of port-related activity
- Provide scholarships and bursaries to students furthering a career in port-related disciplines
- Sponsor local community events such as large public events and arts and culture initiatives that are either free or that provide low-cost ways to attend or participate

Given the number of requests received annually and the number of communities that we serve, not all applications result in funding. We work to accommodate as many applications as possible that meet the necessary requirements.

### Performance

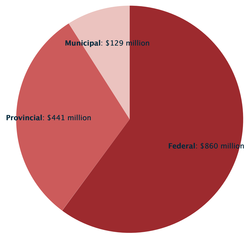
**Local, regional, and national economic benefits**

Port operations provide significant contributions to government revenues, as well as jobs locally and nationally. Our contributions to municipalities support critical community services and contribute to high-paying jobs.

**Port of Vancouver-related activity supports and contributes 115,300 direct, indirect and induced jobs across Canada***

**Port of Vancouver-related activity generated $11.9 billion in GDP across Canada***

**Tax revenues from Port of Vancouver-related activity* (2016, $ million)**




*From 2016 Port of Vancouver Economic Impact Study

**Jobs and property taxes from port-related business per community**

■ Direct jobs from Port of Vancouver-related business by municipality from the 2016 Port of Vancouver Economic Impact Study.

■ Total 2022 municipal, regional, and provincial property taxes paid by the port authority and our tenants. Note: this does not include tax contributions from other Port of Vancouver-related businesses and activities.

Tax contributions are estimates based on available tax rate and associated information at time of publishing.
There are no port authority-managed lands in the City of Langley; therefore, there are no direct tax contributions or payments in lieu of taxes from the port authority or tenants.

**Community investment**

In 2022, we supported 65 community organizations, events, and institutions with a total of $804,935 through our community investment program. Some of the initiatives supported through the community investment program include:

- Fraser River Discovery Centre: We contributed towards the Musqueam Indian Band and the Fraser River Discovery Centre Society's development of the Fraser River Discovery Centre as xʷtaləm̓, a Place of Learning, about Indigenous heritage and teachings of the Fraser River
- Sturgeon Bank Sediment Enhancement Pilot Project: Designed to deliver new sediment to the Fraser River estuary foreshore, the Sturgeon Bank Sediment Enhancement Pilot Project led by Ducks Unlimited Canada is aimed at restoring tidal marsh fish habitat and building marsh resilience to keep pace with rising seas
- Indigenous Home Instruction for Parents of Pre-school Youngsters (H.I.P.P.Y.) Program: We provided funding to the Indigenous H.I.P.P.Y. Program, a three-year educational and empowerment program informed by the needs of urban Indigenous mothers of young children living in low-income and socially isolated households in East Vancouver
- Community contributions were also provided to the Raincoast Conservation Foundation's Healthy Waters Program, Ridge Meadows Rivers Day, The Writers' Exchange, Boundary Bay Airshow, and other events, programs, and initiatives.

In addition to our programs, port tenants, terminal operators, and port users also make community investments in the region.

**Local Channel Dredging Contribution Program**

Dredging is the removal of sediment to create deep-water ship berths and to maintain navigation and safety. The port authority regularly dredges the main channel of the Fraser River for commercial shipping.

While dredging of smaller, secondary channels is not a formal responsibility of the port authority, we created the one-time Local Channel Dredging Contribution Program in 2009 as a community effort to help meet the needs of local recreational boaters, fishers, and residents.

In 2022, we conducted local channel dredging at:

- The entrance to Gunderson Slough in North Delta
- The Moray Channel in Richmond

In 2023, we have set aside $1 million to complete the program, with the dredging of Ladner Harbour in Delta.

**Roberts Bank Terminal 2 Project community investment program for Delta**

With the approval of the Roberts Bank Terminal 2 Project in April 2023, the port authority will implement a $6 million community investment program for Delta organizations and students. The first phase of funding will launch in late 2023.

The community investment program will include three components: a community fund, community grants, and an education fund. For the $3.5 million community fund, organizations that support the Delta community may apply for a maximum of $25,000 per intake period. As part of the $2 million community grants component, organizations that serve the Delta community will be invited to submit grant proposals for a minimum of $50,000 and will be selected based on a matrix of factors. Lastly, the $500,000 education fund will be made available to Grade 12 students pursuing post-secondary training or education, which will be administered through the Delta School District. Learn more about the community program here.

© 2023 Vancouver Fraser Port Authority

# Indigenous relationships

Indigenous peoples in Canada—First Nations, Métis, and Inuit peoples—have unique histories, languages, cultural practices, and spiritual beliefs, as well as an inherent connection to the lands and waterways where they have existed for generations. For thousands of years, the Coast Salish peoples have lived and prospered in the Vancouver area, with complex systems for trade and commerce in the Salish Sea, Burrard Inlet, and Fraser River. These practices were established long before settlers arrived and began to recognize this area as an ideal trading region.

Indigenous peoples have unique rights that are enshrined in Canada's constitution. The United Nations Declaration on the Rights of Indigenous Peoples provides an international framework to protect the individual and collective rights of Indigenous peoples. The declaration has been adopted by the Government of Canada and the Government of British Columbia as a framework for reconciliation and the *United Nations Declaration on the Rights of Indigenous Peoples Act* provides a road map for the government and Indigenous peoples to work together to fully implement the declaration.

The port authority manages lands and waters that intersect the traditional territories and treaty lands of more than 35 Coast Salish Indigenous groups. Port operations and infrastructure development can provide economic opportunities and benefits for Indigenous peoples through employment, business opportunities and community investment. However, port operations may also impact Indigenous peoples' cultural, spiritual, and economic ties to their lands and waters, the natural environment, and cultural heritage sites.

The port authority recognizes the importance of the *United Nations Declaration on the Rights of Indigenous Peoples Act* and is committed to aligning with the Principles Respecting the Government of Canada's Relationship with Indigenous Peoples with our mandate provided in the *Canada Marine Act*. Incorporating traditional knowledge and interests and building meaningful and productive relationships with neighbouring Indigenous peoples is essential in advancing common interests and building a mutually beneficial future that advances reconciliation.

## Indigenous rights and reconciliation

Reconciliation is a journey of education and action to improve relationships between Indigenous and non-Indigenous people. To progress towards reconciliation, it is essential that we build renewed relationships with Indigenous peoples based on the recognition of rights, respect, and partnership.

### Our approach

Respecting and considering the rights, culture, and history of Indigenous peoples is essential to building strong and productive relationships and to mitigating negative effects that port-related activities may have on Indigenous groups. To do this, we:

- Focus our Indigenous relations work on consultation and community engagement practices through a distinctions-based approach that recognizes each Indigenous group's unique interests, rights, and priorities
- Provide opportunities for Indigenous groups to contribute to project planning through consultation, environmental assessment, monitoring, cultural recognition through aspects like art installations, and other participation opportunities
- Provide benefits from port authority development such as employment, training, and procurement opportunities
- Hold workshops and various learning opportunities for port authority employees to learn about reconciliation and the diverse history of Indigenous peoples in Canada

#### Indigenous consultation

We conduct Indigenous consultation when operations or developments have the potential to adversely impact asserted or established Indigenous or treaty rights. This includes undertaking consultation as a component of the port authority's Project and Environmental Review process, as well as for port authority-led infrastructure projects, which allows us to identify and address concerns.

Our consultation approach is based on Canada's Aboriginal Consultation and Accommodation: Guidelines for Federal Officials to Fulfill the Duty to Consult, as well as the following guiding principles:

- Provide clear, accessible, and transparent information while respecting the privacy of all parties
- Respect that our perspectives may be based on different world views
- Seek Indigenous perspectives during the consultation process, be open to understanding the interests and knowledge of Indigenous groups, and strive to incorporate them into our work
- Build strong working relationships between Indigenous groups and the port authority to allow for meaningful dialogue

We also recognize the importance of the United Nations Declaration of the Rights of Indigenous Peoples (UNDRIP) and are committed to aligning with the Principles Respecting the Government of Canada's Relationship with Indigenous Peoples within its mandate provided for in the *Canada Marine Act*.

### Performance

In 2022, we worked to deepen our mutually respectful and meaningful relationships with local Indigenous groups by taking steps that go beyond the duty to consult as outlined in Canada's Aboriginal Consultation and Accommodation: Guidelines for Federal Officials to Fulfill the Duty to Consult, as well as the port authority's own guiding principles.

To do this, we:

- Advanced and aligned with Indigenous groups' aspirations and interests throughout the development of policies and programs, such as through engagement with Indigenous groups as part of the port authority-led Active Vessel Traffic Management Program
- Identified new ways to improve the participation of Indigenous groups throughout the consultation process by addressing capacity issues and strengthening relationships with referral staff
- Improved our procurement process by incorporating Indigenous participation requirements—including subcontracting opportunities, and employment and training components—into the evaluation matrix for projects within the Greater Vancouver Gateway Program
- Provided educational funding to initiatives like Indspire's Building Brighter Futures: Bursaries, Scholarships and Awards Program, which financially supports First Nations, Inuit, and Métis students
- Progressed several environmental and economic initiatives, including the:
  - Maplewood Marine Restoration Project: Collaborated with Musqueam Indian Band, Squamish Nation, and Tsleil-Waututh Nation on the development of the five-year effectiveness monitoring approach to manage the success of the site, as part of the Maplewood Marine Restoration Project
  - Roberts Bank Terminal 2 Project: Work included regular virtual multi-Nation workshops, one-on-one meetings and site visits with Indigenous groups, as well as Indigenous group participation in fieldwork employment and procurement opportunities. The port authority:
    - Consulted with 46 Indigenous groups based on proximity and interests and as directed by the Impact Assessment Agency of Canada; this consultation will continue throughout the federal review and permitting of the project and into construction and operation
    - Sought agreements with 27 of these groups and signed mutual benefit agreements with 26, based on proximity and interests. The 26 Indigenous groups have provided consent for Roberts Bank Terminal 2. Each agreement reflects the priorities as identified by the community, and provide opportunities for environmental, cultural, and economic initiatives associated with the project.
    - Integrated key Indigenous knowledge, as well as feedback from Indigenous groups, into project design, mitigation measures, offsetting plans, environmental management plans, draft federal conditions, the port authority's response to the minister's information requests, and follow-up program elements. Examples of collaboration and integration of feedback from Indigenous groups include:
      - Musqueam traditional fishing knowledge supported data validation for a eulachon hydroacoustic pilot study to test methods for detecting eulachon during project construction
      - Tsawwassen First Nation iterative guidance was obtained for field study design for a juvenile Dungeness crab follow-up program, and participation of Tsawwassen First Nation members for vessel services and field technician positions
      - Continued to develop offsetting projects identified as priorities by Indigenous groups such as at Westham Island, Tilbury Island, and Semiahmoo, including Indigenous-led archaeology work
- Held two workshops, various learning opportunities, and an ongoing Indigenous book club for port authority employees to learn about the diverse history of Indigenous peoples in Canada, the harm that has been done, and how to embed actions of reconciliation into our work

In 2023, we are continuing to develop mutually respectful and meaningful relationships with Indigenous groups, identify aligned aspirations and interests, and advance priority areas where mutually beneficial opportunities exist.

#### Celebrating Indigenous peoples in Canada

July 1, 2022 marked the 36th annual Canada Day event at Canada Place, which has traditionally been the largest Canada Day celebration outside Ottawa. It also marked the beginning of a new direction for the event, which is now named Canada Together at Canada Place. We planned the event collaboratively with representatives from the Musqueam, Squamish, and Tsleil-Waututh Nations. From the programming to the name and the theme itself, we carefully considered the details of the day to focus on Canada's cultural diversity and the importance of advancing reconciliation with Indigenous peoples.

#### Landmark relationship agreements with Tsawwassen First Nation and Musqueam Indian Band

Walking on the path of reconciliation means strengthening our relationships with Indigenous groups whose traditional territories and treaty lands intersect with the Port of Vancouver. This work requires us to better our understanding of, and respect for, Indigenous rights, traditions, cultures, and perspectives, while also addressing the unique challenges that Indigenous groups continue to face.

To meet this need, the port authority set out to negotiate and sign relationship agreements with four core Nations in the Lower Mainland, including Tsawwassen First Nation, Musqueam Indian Band, Squamish Nation, and Tsleil-Waututh Nation. These agreements represent formalized partnerships and help to create long-term, meaningful relationships that support a strong shared future marked by mutual respect and reconciliation.

On October 2, 2021, Tsawwassen First Nation and the port authority signed a landmark relationship agreement that reflected a joint commitment to act as partners in protecting Tsawwassen lands, upholding treaty rights, and advancing the collective goals of environmental stewardship. The agreement also represented a promise to work together in a manner that reflects mutual respect, and ensures that the parties are treated equally.

Shortly thereafter, on November 5, 2021, the port authority signed a historic multi-faceted, long-term relationship agreement with Musqueam Indian Band. This agreement reframed the working relationship between Musqueam and the port authority and was designed to allow both parties to move towards a more productive and collaborative shared future.

In 2022, the port authority continued implementing components of each existing relationship agreement with Tsawwassen First Nation and Musqueam. The implementation of these agreements will continue in 2023, alongside the port authority's work to develop additional relationship agreements with Squamish Nation and Tsleil-Waututh Nation.

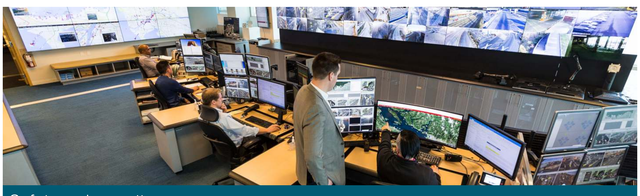
© 2023 Vancouver Fraser Port Authority

# Safety, security, and emergency preparedness

Port operations are complex by nature, involving heavy equipment, industrial processes, and the dynamic movement of goods between ships, trains, and trucks. Ports can also become targets for intentional damage to property and other security threats that can potentially harm workers, port users, and surrounding communities. As a result, collaboration, coordination, training, and information-sharing among a variety of partners is critical to ensuring that the impacts of a safety and security threat or an emergency can be mitigated efficiently and effectively.

Threats to the safety and security of port-related activities can disrupt the flow of trade and have the potential to physically harm workers and port users, as well as the surrounding communities and the environment. Threats include navigational hazards, damage to port infrastructure, cyberattacks, extreme weather events, major spills, and the improper handling, storage, or transportation of hazardous substances.

As Metro Vancouver's population continues to grow, the type and frequency of disruptions—whether accidental or intentional, large or small—have the potential to increase and can result in greater, far-reaching impacts on the supply chain, affecting producers, consumers, shippers, and tenants, as well as other ports globally. These impacts can also affect the port authority's ability to optimize operational capacity and deliver enhanced customer and stakeholder value.



## Safety and security

Maintaining a focus on safety and security is imperative for a sustainable port. This work involves monitoring the safety and security of activities within the port authority's jurisdiction and playing a supporting role in the case of emergency response.

### Our approach

The port authority's safety practices and procedures are based on Section 61 of the *Canada Marine Act* and are designed to promote the safe and efficient movement of goods through the Port of Vancouver and to alleviate supply-chain disruptions throughout the Vancouver gateway. While the port authority is primarily responsible for the safety and security of the public, vessels, and infrastructure located within the port's jurisdiction, we also play a situational awareness role for any disruptions across the broader gateway.

As a result, our proactive and comprehensive approach to safety and security involves:

- Collaborating with Public Safety Canada, Transport Canada, and other federal and provincial departments and agencies to align information and resources to respond to incidents and to recover more effectively
- Adhering to the *Maritime Transportation Security Act* and its regulations that provide a legislative framework for the security of marine transportation
- Working with terminal's Marine Facility Security Officers to better understand ongoing risks to port activities
- Providing continuous monitoring through our 24/7 Operations Centre and security patrols
- Developing and conducting security exercises that test elements of coordination, resource availability, response protocols, and communication procedures
- Maintaining the Port Information Guide, a set of practices and procedures for all vessels designed to promote safe and efficient navigation within port waters and to support efforts to protect the marine environment
- Promoting safe boating practices to recreational boaters

While our mandate is to facilitate the safe movement of Canada's trade in a manner that protects the environment and considers local communities, the responsibility for policing the waterfront lies with several agencies, including local police forces, the RCMP, and the Canada Border Services Agency. Find more information on what is being done to fight crime on the waterfront here.

### Performance

**Marine and navigational safety**

Traffic control zones are designated areas of water within the port where specific or unique navigational safety procedures are in place. The current traffic control zone procedures are published in our Port Information Guide.

The Canadian Coast Guard is mandated, although not obligated, to provide aids to navigation—such as buoys, lights, and sensors—in Canadian waters. In certain situations, the port authority collaborates with other agencies to coordinate, fund, and install certain navigational aids that help to make marine traffic through the port's waterways more fluid, efficient, and safer.

In 2022, we installed:

- A current sensor and sector light in the First Narrows Traffic Control Zone (TCZ-1), which provides real-time data to the pilot's portable pilot unit system, helping to support the safe navigation of ships
- New 5-knot speed limit buoys at the eastern end of the Burrard Inlet to more clearly communicate safe speed limits in busy port waterways

In 2023, we will focus on improving marine and navigational safety by coordinating the installation of five new 5-knot speed limit buoys in lower Indian Arm, and range lights on the Second Narrows Bridge and in TCZ-2 near Berry Point located east of the Second Narrows Bridge.

**Safe boating awareness**

The Port of Vancouver is home to a beautiful coastline and waterways that encourage marine recreational activity. While our central responsibility is to keep navigation channels clear for commercial marine traffic, the growing presence of recreational boating—power boats, sailboats, kayaks, canoes, dragon boats, and stand-up paddleboarders —in shared waterways throughout the port can create risks for all port users.

In 2022, our harbour patrol had 1,200 interactions related to safe boating, which included:

- Meeting the public at various boat launching sites to distribute safe boating guides, provide boat safety inspections, and answer questions, in collaboration with the police forces across various jurisdictions, Royal Canadian Marine Search and Rescue, and Canadian Coast Guard Search and Rescue
- Providing deep-sea safety escorts to help commercial ships navigate busy port waterways and to help keep recreational boats out of the way
- Removing abandoned or derelict boats that pose a threat to commercial vessels in transit, to other recreational boats, or to the public, in coordination with Canadian Coast Guard Environmental Response and Vessel of Concern Program
- Updating safe boating maps for public distribution

In 2023, we will work closely with other agencies to create materials aimed at generating a greater level of awareness amongst the public on safe boating practices.

**Cybersecurity**

Cyberattacks, namely attempts to disable technology, steal data, or use a breached computer system to launch additional attacks, place the Port of Vancouver at risk by disrupting business processes, generating a financial loss, enabling unauthorized access to port lands and infrastructure and, ultimately, hindering the port authority's reputation. The prevalence of cyberattacks throughout the world has increased dramatically, requiring the port authority to take a proactive approach to safeguarding systems and data. In addition, while we do not oversee the cybersecurity standards, guidelines, or practices of tenants and terminals, the port authority plays a supporting function by remaining in communication with these external stakeholders if a breach of their systems and technologies occurs.

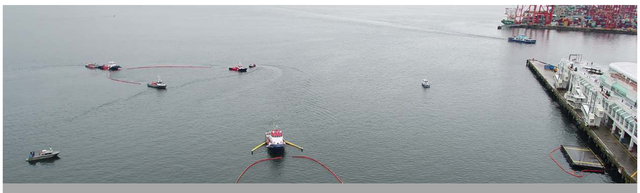
Maintaining strong cybersecurity is an ongoing effort that requires continuous improvement. To improve our cybersecurity capabilities and protect the port authority's information and systems in 2022, we:

- Activated additional cybersecurity controls and infrastructure for timely cyber incident detection
- Updated a cyber incident response plan that outlines the coordinated efforts of response activities in the event of a cyberattack

In 2023, we will continue to optimize our cybersecurity processes and systems to improve our overall security model. To accomplish this, we will adhere to industry standard frameworks, conduct response exercises, and collaborate with industry partners.

**Safety and security incidents**

In 2022, there were no safety and security incidents within our jurisdiction that had the potential to impact the port's ability to facilitate Canada's trade objectives or that required the activation of an emergency operations centre, which includes coordination between multiple jurisdictions and stakeholders.



## Emergency preparedness

Being prepared for any emergency that may arise means regularly reviewing, testing, and enhancing response protocols, and collaborating with first responders, communities, and industry stakeholders. These proactive actions help to minimize the risk that an emergency may disrupt port operations or pose a safety risk to local communities or the environment.

### Our approach

An emergency can be defined as present or imminent events that require prompt coordination of actions to protect the health or welfare of people and limit damage to the environment. These types of events range from fires and protests to collisions between recreational boaters and commercial ships. While the port authority is not a first responder, our objective is to assist and re-establish safe and efficient port operations as quickly as possible following an emergency or a business interruption. To do this, we:

- Follow the Incident Command System and the British Columbia Emergency Management System, which provide a framework for effective and efficient incident management and emergency response
- Participate in emergency response exercises led by external agencies, organizations, and terminals
- Maintain procedures, and have equipment and trained personnel in place, to address a variety of emergencies on land and water
- Collaborate with first responders, communities, and industry stakeholders to coordinate emergency responses
- Co-chair the Marine Emergency Response Coordination Committee with the Canadian Coast Guard to share knowledge and, through planning and practice, continuously enhance understanding of the roles and responsibilities of coordinating emergency response and recovery activities
- Lead a bunkering accreditation program that accredits bunker fuel service providers and supports safe bunkering operations within the port
- Participate in the ongoing maintenance and utilization of the Greater Vancouver Integrated Response Plan (GVIRP), which is the Coast Guard-led spill response plan for the port's jurisdiction

**Oil and fuel spills**

Oil and fuel spills in the marine environment are considered an emergency. In the case of an oil or fuel spill, Canada operates under the National Spill Response Protocol, which specifies that the Canadian Coast Guard is responsible for conducting spill management and response to ship-sourced spills of oil and other pollutants. The Canadian Coast Guard can call on the port authority to participate in an incident response team within our jurisdiction. In this case, we will provide any information gathered through our 24/7 operations centre, our security cameras, or our patrol boats.

In early 2023, there was an oil spill by a container ship at anchorage in English Bay. According to the Canadian Coast Guard, approximately 60 to 100 litres of fuel were released into the water. While the port authority provided an initial inspection of the spill, the Coast Guard worked with the Western Canadian Marine Response Corporation to limit the spread of the spill by deploying a boom, while also monitoring for possible effects on the marine environment.

### Performance

In 2022, we:

- Collaborated with external agencies to prepare for the Exercise Coastal Response led by Emergency Management BC—a large-scale integrated exercise that will test various response and recovery plans related to decision-making, logistics, mass care, strategic communications, and critical infrastructure—taking place in 2023
- Participated in various tabletop exercises to test response plans and identify areas of improvement in the event of an emergency, such as the Exercise Burning Horse—a Westshore Terminals-led exercise focused on locomotive fires
- Accredited two service providers to facilitate the bunkering of ships at the port
- Began to enhance the emergency management port resiliency plan, in collaboration with port stakeholders, that outlines an integrated response approach to port-wide emergency events

© 2023 Vancouver Fraser Port Authority

# Report details

| | |
|---|---|
| **Reporting period** | Sustainability Report: January 1 to December 31, 2022<br>Financial Report: January 1 to December 31, 2022<br>Both reports were published June 6, 2023. |
| **Reporting cycle** | Our Sustainability Report is produced on a biennial basis |
| **Year of last report** | 2020 |
| **Reporting framework** | This report has been prepared in accordance with the Global Reporting Initiative (GRI) Standards for the period January 1 to December 31, 2022.<br>The GRI content index can be found here. |
| **Report scope and boundary** | The Vancouver Fraser Port Authority is an arm's-length federal agency responsible for the shared stewardship of the lands and waters of the Port of Vancouver, with its head office located in Vancouver, B.C. Canada. This report covers topics representing the Vancouver Fraser Port Authority's and Port of Vancouver's most significant economic, environmental, and social impacts, and the approach the port authority is taking to manage and address these impacts. Information about Canada Place Corporation, a subsidiary of the Vancouver Fraser Port Authority, is included where relevant and stated. The port authority's four other subsidiaries are not included due to their limited social and environmental impacts, with the exception of corporate financial data, which is based on consolidated financial statements. |
| **Materiality process** | Material topics represent the Vancouver Fraser Port Authority's and the Port of Vancouver's most significant economic, environmental and social impacts. Our material topics can be found here.<br>Our process to identify, prioritize and disclose material topics is informed by the Global Reporting Initiative (GRI) Standards. Identification of impacts is informed by ongoing stakeholder engagement, including our community liaison panels, our municipal engagement program, and working groups with customers and tenants, as outlined in the collaboration section of this report. We also engage stakeholders on specific issues, projects and initiatives, such as in our scenario planning processes and creation of our Sustainable Port Definition. We continue to build on feedback we have received through a number of stakeholder sustainability report review panels we have facilitated to help us understand impacts, prioritize topics for reporting and improve the quality of our report. These panel reports can be found here.<br>In 2021, we engaged internal stakeholders in a process to identify and prioritize significant sustainability risks and impacts to inform the development and focus of our new Sustainability Policy. This work was supported by the Embedding Project, a global public-benefit research project that helps companies embed social and environmental factors across their operations, and the use of their materiality Radar process. In 2022, we worked with the Embedding Project to further refine this using an updated version of their Radar process to rank the impacts of our direct operations and value chain on over 60 sustainability issues, including impacts on human rights, according to significance. We define a significant negative impact as one where the unmitigated actual or potential negative impacts resulting from our direct operations or our value chain are significant and addressing these impacts would require considerable investment on our part. Significant positive impacts are defined as actual impacts deriving from both our commitment and investment. Topics ranked as significant were prioritized for reporting, aligning with the GRI standard's emphasis on impact. These topics were further tested and refined by the reporting team and validated by senior leadership and the board as part of our content plan development process.<br>For the purposes of reporting, certain significant impacts have been consolidated or categorized into higher level material topics to better align with our activities and management approach. We have made minor changes to to the framing of our material topics since our last report to reflect an impact lens. "Responsible practices" is no longer considered a material topic, but rather the management approach we take to foster collaboration across the supply chain. Related content continues to be included in our reporting. |
| **Restatements of information** | Any restatements of information from previous reports are noted as a footnote in relation to the specific datasets. |
| **Data** | Data relating to port-wide performance is contained in the body of this report. Select data relating to topics within the port authority's direct operational control is located in the body of the report, while the majority can be found in the corporate performance data section.<br>Data is reported in metric system units and Canadian dollars. |
| **Assurance** | The Vancouver Fraser Port Authority engaged KPMG LLP to provide independent, limited assurance on select performance indicators and assertions contained within this report. This engagement was approved by senior management. Assured indicators are denoted by the symbol √ within the report and the GRI content index.<br>KPMG's limited assurance statement can be found here. |
| **Contact** | We welcome your feedback on this report. Please send your comments or questions to information@portvancouver.com. |

© 2023 Vancouver Fraser Port Authority

# GRI Index

| | |
|---|---|
| **Statement of use** | The Vancouver Fraser Port Authority has reported in accordance with the Global Reporting Initiative (GRI) Standards for the period January 1 to December 31, 2020. |
| **GRI 1 used** | GRI 1: Foundation 2021 |
| **Applicable GRI Sector Standard(s)** | No applicable sector standards currently available |

| GRI Standard | Disclosure | Location | Omissions* |
|---|---|---|---|
| **General disclosures** | | | |
| GRI 2: General Disclosures 2021 | | | |
| | 2-1 Organizational details | About the Vancouver Fraser Port Authority<br>About this report<br>Corporate performance data | |
| | 2-2 Entities included in the organization's sustainability reporting | About this report<br>Financial Report | |
| | 2-3 Reporting period, frequency and contact point | About this report<br>Contact us<br>Financial Report | |
| | 2-4 Restatements of information | About this report | |
| | 2-5 External assurance | About this report | |
| | 2-6 Activities, value chain and other business relationships | About the Vancouver Fraser Port Authority<br>About the Port of Vancouver<br>Collaboration | |
| | 2-7 Employees | Corporate performance data – Employee information | |
| | 2-8 Workers who are not employees | Corporate performance data – Employee information | Information on the number of workers who are not employees is not currently tracked. We are reviewing our data collection systems and targeting inclusion in our next report. |
| | 2-9 Governance structure and composition | Governance<br>Governance and leadership | |
| | 2-10 Nomination and selection of the highest governance body | Governance and leadership | |
| | 2-11 Chair of the highest governance body | The Board chair is not an executive of the port authority | |
| | 2-12 Role of the highest governance body in overseeing the management of impacts | Governance<br>Governance and leadership | |
| | 2-13 Delegation of responsibility for managing impacts | Governance<br>Governance and leadership<br>Risk management<br>Senior management report to the governance and sustainability committee and the chair of the governance and external relations committee, who report to the board of directors on an ongoing basis and sustainability impacts at least six times a year at regularly scheduled meetings and at ad hoc meetings as required. | |
| | 2-14 Role of the highest governance body in sustainability reporting | Governance<br>About this report – Materiality process | |
| | 2-15 Conflicts of interest | Governance and leadership<br>Any potential or real conflicts of interest are disclosed to the board annually and at each governance committee meeting. Conflicts of interest are not disclosed externally. | Critical concerns are reported to the board and governance. The number of critical concerns communicated to the board is omitted from this report as it is considered confidential. |
| | 2-16 Communication of critical concerns | Governance and leadership | |
| | 2-17 Collective knowledge of the highest governance body | Governance and leadership | |
| | 2-18 Evaluation of the performance of the highest governance body | Governance and leadership | |
| | 2-19 Remuneration policies | Financial Report<br>Director Remuneration and Expenses | |
| | 2-20 Process to determine remuneration | Financial Report | |
| | 2-21 Annual total compensation ratio | | Information on the total compensation ratio is incomplete. This is under review and we are targeting inclusion in our next report. |
| | 2-22 Statement on sustainable development strategy | Message from the President and CEO | |
| | 2-23 Policy commitments | Governance – Code of ethical conduct<br>Our sustainability approach – Sustainability policy<br>Worker health, safety and wellness – Health and safety policy<br>Diversity, equity and inclusion – Respect in the workplace policy<br>Biodiversity – Environment policy<br>All port authority policies are internal documents and, with the board chair, are not publicly available. | |
| | 2-24 Embedding policy commitments | Governance – Code of ethical conduct<br>Our sustainability approach – Embedding sustainability<br>Effective workforce – Diversity, equity and inclusion – Respect in the workplace policy<br>Worker health, safety and wellness – Health and safety policy and management approach<br>Good neighbour – Community relationships<br>Good neighbour – Community concerns including noise and nuisance<br>Stakeholders are not currently involved in the development or evaluation of our community feedback process. | |
| | 2-26 Mechanisms for seeking advice and raising concerns | Governance | |
| | 2-27 Compliance with laws and regulations | In 2020, there were no significant instances of non-compliance with laws and regulations, fines or monetary sanctions. We have a history of noncompliance with laws and regulations that were paid. | |
| | 2-28 Membership associations | Corporate performance data – Memberships | |
| | 2-29 Approach to stakeholder engagement | Collaboration<br>Strategic investment and asset management – Trade-enabling infrastructure<br>Responsible practices<br>Good neighbour | |
| | 2-30 Collective bargaining agreements | Corporate performance data – Employee information | |
| **Material topics** | | | |
| GRI 3: Material topics 2021 | | | |
| | 3-1 Process to determine material topics | About this report – Materiality process | |
| | 3-2 List of material topics | Report topics | |
| **Topic-specific standards** | | | |
| **Economic performance** | | | |
| GRI 201: Economic performance 2016 | | | |
| | 3-3 Management approach disclosures | Community connections – Community benefits | |
| GRI 201: Economic performance 2016 | | | |
| | 201-1 Direct economic value generated and distributed | Community connections – Community benefits<br>Corporate performance data – Economic value generated and distributed | |
| **Indirect economic impacts** | | | |
| GRI 3: Material topics 2021 | | | |
| | 3-3 Management of material topics | Strategic investment and asset management – Trade-enabling infrastructure | |
| GRI 203: Indirect economic impacts 2016 | | | |
| | 203-1 Infrastructure investments and services supported | Strategic investment and asset management – Trade-enabling infrastructure | |
| Port authority specific | | | |
| | Intermodal transit time for import rail containers | Competitive business – Supply chain efficiency and resilience: goods movement | |
| | Container terminal dwell time (rail) The percentage of import containers departing the terminal via rail within three days of being unloaded from a vessel | Competitive business – Supply chain efficiency and resilience: goods movement | |
| | Container truck turn time The average time a container truck driver spends within a designated terminal area to pick up or drop off a container(s) completed within 60 minutes or less ✓ | Competitive business – Supply chain efficiency and resilience: goods movement | |
| | Habitat bank balance The number of credits available in the port's number of habitat credits withdrawn from the habitat bank. (Habitat credits are created by the port when it has restored the area (m2) of native enhanced.) | Strategic investment and asset management – Trade-enabling infrastructure | |
| **Energy** | | | |
| GRI 3: Material topics 2021 | | | |
| | 3-3 Management of material topics | Climate action – Air quality and greenhouse gas emissions | |
| GRI 302: Energy 2016 | | | |
| | 302-1 Energy consumption within the organization | Corporate performance data – Energy use and greenhouse gas emissions | |
| **Biodiversity** | | | |
| GRI 3: Material topics 2021 | | | |
| | 3-3 Management of material topics | Healthy ecosystems | |
| GRI 304: Biodiversity 2016 | | | |
| | 304-1 Operational sites owned, leased, managed in or adjacent to protected areas and areas of high biodiversity value outside protected areas | Healthy ecosystems – Biodiversity | |
| | 304-2 Significant impacts of activities, products and services on biodiversity ✓ | Strategic investment and asset management – Infrastructure delivery<br>Healthy ecosystems<br>Potential impacts of port activities on ecosystems and species ✓ | |
| **Emissions** | | | |
| GRI 3: Material topics 2021 | | | |
| | 3-3 Management of material topics | Climate action – Air quality and greenhouse gas emissions<br>Corporate performance data – Energy use and greenhouse gas emissions | |
| GRI 305: Emissions 2016 | | | |
| | 305-1 Direct (Scope 1) GHG emissions ✓ | Corporate performance data – Energy use and greenhouse gas emissions | |
| | 305-2 Energy indirect (Scope 2) GHG emissions ✓ | Corporate performance data – Energy use and greenhouse gas emissions | |
| | 305-3 Other indirect (Scope 3) GHG emissions ✓ | Corporate performance data – Energy use and greenhouse gas emissions | |
| Port authority specific | | | |
| | Port-related air emissions (SHGs, NOx, SOx, PM2.5) | Climate action – Air quality and greenhouse gas emissions<br>Air emissions inventory | |
| **Employment practices** | | | |
| GRI 3: Material topics 2021 | | | |
| | 3-3 Management of material topics | Effective workforce<br>Corporate performance data – Employee information | |
| GRI 401: Employment 2016 | | | |
| | 401-1 New employees hires and employee turnover | Corporate performance data – Employee information | |
| Port authority specific | | | |
| | Training spend per employee | Corporate performance data – Employee information | |
| **Occupational health and safety** | | | |
| GRI 3: Material topics 2021 | | | |
| | 3-3 Management of material topics | Effective workforce – Worker health, safety and wellness<br>Corporate performance data – Employee health and safety | |
| GRI 403: Occupational health and safety 2018 | | | |
| | 403-1 Occupational health and safety management system | Effective workforce – Worker health, safety and wellness<br>Corporate performance data – Employee health and safety | |
| | 403-2 Hazard identification, risk assessment, and incident investigation | Effective workforce – Worker health, safety and wellness<br>Corporate performance data – Employee health and safety | |
| | 403-3 Occupational health services | Effective workforce – Worker health, safety and wellness<br>Corporate performance data – Employee health and safety | |
| | 403-4 Worker participation, consultation, and communication on occupational health and safety | Effective workforce – Worker health, safety and wellness<br>Corporate performance data – Employee health and safety | |
| | 403-5 Worker training on occupational health and safety | Effective workforce – Worker health, safety and wellness<br>Corporate performance data – Employee health and safety | |
| | 403-6 Promotion of worker health | Effective workforce – Worker health, safety and wellness<br>Corporate performance data – Employee health and safety | |
| | 403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships | Effective workforce – Worker health, safety and wellness<br>Corporate performance data – Contractor safety incidents | |
| | 403-9 Work-related injuries | Corporate performance data – Employee health and safety<br>Corporate performance data – Contractor safety incidents | |
| **Diversity and equal opportunity** | | | |
| GRI 3: Material topics 2021 | | | |
| | 3-3 Management of material topics | Effective workforce – Diversity, equity and inclusion | |
| GRI 405: Diversity and equal opportunity 2016 | | | |
| | 405-1 Diversity of governance bodies and employees | Corporate performance data – Employee information<br>Corporate performance data – Diversity | |
| **Rights of Indigenous peoples** | | | |
| GRI 3: Material topics 2021 | | | |
| | 3-3 Management of material topics | Indigenous relationships | |
| GRI 411: Rights of Indigenous peoples 2016 | | | |
| | 411-1 Incidents of violations involving rights of Indigenous peoples | | Information on incidents of violations involving rights of Indigenous peoples is unavailable in this report. We are focused on strengthening our relationships with Indigenous groups whose traditional territories are in the port's jurisdiction with the Port of Vancouver. We have signed long-term relationship agreements with the Squamish First Nation and Musqueam Indian Band and are working to implement these agreements, which developing additional agreements. Further information is provided in our Indigenous relationships section of the report |
| **Local communities** | | | |
| GRI 3: Material topics 2021 | | | |
| | 3-3 Management of material topics | Strategic investment and asset management<br>Healthy ecosystems<br>Climate Action<br>Good neighbour<br>Community connections<br>Indigenous relationships | |
| GRI 413: Local communities 2016 | | | |
| | 413-1 Operations with local community engagement, impact assessments, and development programs | Strategic investment and asset management – Infrastructure delivery<br>Community relationships<br>Community benefits<br>Indigenous relationships | |
| | 413-2 Operations with significant actual and potential negative impacts on local communities ✓ | Strategic investment and asset management – Infrastructure delivery<br>Climate action<br>Community relationships<br>Potential impacts of port activities on the surroundings/community ✓ | |
| Port authority specific | | | |
| | Public opinion of the port as a good neighbour | Good neighbour – Responding to community concerns including noise and nuisance | |
| | Number of safety and security incidents | Safety, security and emergency preparedness | |

* The omission column contains information on the reasons for any unmentioned content, the reason, and an explanation

✓ Independently assured indicators

Port authority-specific: These indicators are specific to the Vancouver Fraser Port Authority.

© 2020 Vancouver Fraser Port Authority

**Independent Practitioner's Limited Assurance Report**

To the management of the Vancouver Fraser Port Authority:

We have undertaken a limited assurance engagement on certain key performance indicators of the Vancouver Fraser Port Authority (the "Port of Vancouver"), included in the accompanying Sustainability Report, GRI Content Index and associated information downloads (collectively, "the Report") and as described below, for the year ended December 31, 2022.

**Subject Matter Information and Applicable Criteria**

| Subject Matter Information | Results | Applicable Criteria |
|---|---|---|
| • Direct (Scope 1) greenhouse gas ('GHG') emissions<br>• Energy indirect (Scope 2) GHG emissions<br>• Other indirect (Scope 3) GHG emissions related to:<br>  ○ employee commuting<br>  ○ business travel | • 4,358 $tCO_2e$<br>• 55 $tCO_2e$<br>• 189 $tCO_2e$<br>• 108 $tCO_2e$ | Global Reporting Initiative's Sustainability Reporting Standards ("GRI Standards"):<br>• 305-1<br>• 305-2<br>• 305-3 |
| Significant impacts of activities, products, and services on biodiversity | PDF download available here | GRI Standard 304-2 |
| Operations with significant actual and potential negative impacts on local communities | PDF download available here | GRI Standard 413-2 |
| • Container terminal dwell time (% within three days)<br>• Truck turn time (% in less than 60 minutes) | • 41 %<br>• 80 % | Entity's own internal guidelines and definitions for sustainability reporting |

Other than as described in the preceding paragraph, we did not perform assurance procedures on the remaining information included in the Report, and accordingly, we do not express a conclusion on this information.

The subject matter information, contained within the Report, and denoted by the symbol √, have been determined by management on the basis of the Port of Vancouver's assessment of the material issues contributing to the Port of Vancouver's sustainability performance and most relevant to its stakeholders.

**Management's Responsibility**

Management is responsible for the preparation and presentation of the subject matter information in accordance with the applicable criteria.

There are no mandatory requirements for the preparation and presentation of the subject matter information. As such, the Port of Vancouver applies the applicable criteria, including its own internal reporting guidelines and definitions for sustainability reporting which can be found in the "About this report" section of their Sustainability Reporting website, footnotes and descriptions contained within the Report.

Management is responsible for determining the appropriateness of the use of the applicable criteria.

Management is also responsible for determining the Port of Vancouver's objectives in respect of sustainability performance and reporting, including the identification of stakeholders and material issues.

Management is also response for such internal control as management determines necessary to enable the preparation and presentation of the subject matter information that is free from material misstatement, whether due to fraud or error.

**Practitioner's Responsibilities**

Our responsibility is to express a limited assurance conclusion on the subject matter information based on evidence we have obtained. We conducted our limited assurance engagement in accordance with International Standard on Assurance Engagements ('ISAE') 3000 (Revised) Assurance Engagements other than Audits or Reviews of Historical Financial Information and ISAE 3410 Assurance Engagements on Greenhouse Gas Statements, issued by the International Auditing and Assurance Standards Board. Both ISAE 3000 and ISAE 3410 require that we plan and perform our engagement to obtain limited assurance about whether based on the procedures performed and evidence obtained, any matters have come to our attention to cause us to believe that the subject matter information is materially misstated.

The procedures performed in a limited assurance engagement vary in nature and timing from and are less in extent than for a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed. Accordingly, it is not a guarantee that a limited assurance engagement conducted in accordance with this standard will always detect a matter that causes the practitioner to believe that the subject matter information is materially misstated.

Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the decisions of users of our report.

The nature, timing and extent of procedures performed depends on our professional judgment, including an assessment of the risks of material misstatement, whether due to fraud or error, and involves obtaining evidence about the subject matter information.

Our engagement included assessing the appropriateness of underlying subject matter, the suitability of the criteria used by the Port of Vancouver in preparing the subject matter information in the circumstances of the engagement and evaluating the appropriateness of the methods, policies and procedures, and models used in the preparation of subject matter information and the reasonableness of estimates made by the the Port of Vancouver.

Our engagement also included:

- Inquiries of management to gain an understanding of the Port of Vancouver's processes for determining the material issues for its key stakeholder groups;
- Inquiries with relevant staff at the corporate level as well as third-party service providers to understand the data collection and reporting processes for the subject matter information,
- Where relevant, performing walkthroughs to test the design of internal controls relating to data collection and reporting of the subject matter information;
- Comparing the reported data for the subject matter information to underlying data sources on a sample basis;
- Inquiries regarding key assumptions and the re-performance of calculations on a sample basis;
- Reviewing the presentation of the subject matter information in the Report to determine whether the information presented is consistent with our overall knowledge of, and experience with, the sustainability performance of the Port of Vancouver.

**Practitioner's Independence and Quality Control**

We have complied with the relevant rules of professional conduct/code of ethics applicable to the practice of public accounting and related to assurance engagements, issued by various professional accounting bodies, which are founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

The firm applies Canadian Standard on Quality Control 1, Quality Control for Firms that Perform Audits and Reviews of Financial Statements, and Other Assurance Engagements, and accordingly, maintains a comprehensive system of quality control, including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

**Significant Inherent Limitations**

Historical non-financial information, such as that contained in the Report, is subject to more inherent limitations than historical financial information, given the qualitative characteristics of the underlying subject matter and methods used for determining this information. The absence of a significant body of established practice on which to draw allows for the selection of different but acceptable evaluation techniques, which can result in materially different measurements and can impact comparability. The nature and methods used to determine such information, as described in the applicable criteria, may change over time, and it is important to read the Port of Vancouver's reporting methodology included in the "About this report" section of their Sustainability Reporting website, footnotes and descriptions contained within the Report.

**Conclusion**

Our conclusion has been formed on the basis of, and is subject to, the matters outlined in this report. We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our conclusion. Based on the procedures performed and evidence obtained, no matters have come to our attention to cause us to believe that the Port of Vancouver's subject matter information, as described above and disclosed in the Report, for the year ended December 31, 2022, is not prepared and presented, in all material respects, in accordance with the applicable criteria.

KPMG LLP

**Chartered Professional Accountants**

June 6, 2023

Vancouver, Canada

© 2023 Vancouver Fraser Port Authority

## Corporate performance data

Key corporate performance indicators for the Vancouver Fraser Port Authority are outlined below.

Click this icon throughout this report to adjust how data is presented and to see additional data.

## Economic prosperity through trade

### Employee information

The Vancouver Fraser Port Authority employs a total of 523 employees, including 520 based in Vancouver, B.C.; two at our local community office in Delta, B.C.; and one in our office in Shanghai, China.

Tracking voluntary employee turnover is one way we assess our performance as an employer. It also helps us anticipate our human resource needs. In 2022, our rate of voluntary turnover was 9%, below the national average of 12.4%. The number of employees has increased since the last report and during the current reporting period.

| | 2018 | | | | | | | 2019 | | | | | | | 2020 | | | | | | | 2021 | | | | | | | 2022 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total | Male | Female | Under 30 | 30–50 | 50+ | Total | Male | Female | Under 30 | 30–50 | 50+ | Total | Male | Female | Under 30 | 30–50 | 50+ | Total | Male | Female | Under 30 | 30–50 | 50+ | Total | Male | Female | Under 30 | 30–50 | 50+ |
| **Number of employees** | 350 | 169 | 181 | 23 | 223 | 104 | 375 | 184 | 191 | 25 | 245 | 105 | 411 | 195 | 216 | 23 | 282 | 106 | 450 | 214 | 236 | 23 | 309 | 118 | 523 | 251 | 272 | 28 | 347 | 138 |
| Permanent employees | 313 | 155 | 158 | 11 | 202 | 100 | 339 | 172 | 167 | 16 | 221 | 102 | 384 | 185 | 199 | 18 | 263 | 103 | 417 | 201 | 216 | 15 | 288 | 114 | 467 | 219 | 248 | 26 | 318 | 123 |
| Term employees | 37 | 14 | 23 | 12 | 21 | 4 | 36 | 12 | 24 | 9 | 24 | 3 | 27 | 10 | 17 | 5 | 19 | 3 | 33 | 13 | 20 | 8 | 21 | 4 | 34 | 16 | 18 | 7 | 23 | 4 |
| Full-time | 334 | 168 | 166 | 23 | 209 | 102 | 359 | 183 | 176 | 25 | 232 | 102 | 397 | 194 | 203 | 23 | 269 | 105 | 439 | 213 | 226 | 23 | 300 | 116 | 490 | 233 | 257 | 33 | 333 | 124 |
| Part-time | 16 | 1 | 15 | 0 | 14 | 2 | 16 | 1 | 15 | 0 | 13 | 3 | 14 | 1 | 13 | 0 | 13 | 1 | 11 | 1 | 10 | 0 | 9 | 2 | 11 | 2 | 9 | 0 | 8 | 3 |
| Casual Employee | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 22 | 16 | 6 | 5 | 6 | 11 |
| **New hires** | 61 | 26 | 35 | 14 | 40 | 7 | 52 | 34 | 28 | 11 | 37 | 4 | 61 | 23 | 38 | 11 | 42 | 8 | 61 | 27 | 34 | 11 | 43 | 7 | 96 | 43 | 55 | 15 | 71 | 12 |
| Permanent employees | 32 | 15 | 17 | 6 | 22 | 4 | 38 | 20 | 18 | 8 | 27 | 3 | 43 | 16 | 27 | 6 | 32 | 5 | 42 | 19 | 23 | 3 | 33 | 6 | 78 | 32 | 46 | 12 | 55 | 11 |
| Term employees | 29 | 11 | 18 | 8 | 18 | 3 | 14 | 4 | 10 | 3 | 10 | 1 | 18 | 7 | 11 | 5 | 10 | 3 | 19 | 8 | 11 | 8 | 10 | 1 | 20 | 11 | 9 | 3 | 16 | 1 |
| New employee hire rate | 17% | 15% | 19% | 61% | 18% | 7% | 14% | 13% | 15% | 44% | 15% | 4% | 15% | 12% | 18% | 48% | 15% | 8% | 14% | 13% | 14% | 48% | 14% | 6% | 20% | 18% | 21% | 45% | 21% | 9% |
| **Turnover (voluntary, involuntary, retirees)** | 34 | 17 | 17 | 5 | 15 | 14 | 30 | 7 | 23 | 6 | 15 | 9 | 24 | 12 | 12 | 1 | 17 | 6 | 29 | 12 | 17 | 3 | 20 | 6 | 52 | 26 | 26 | 3 | 36 | 13 |
| Permanent employees | 29 | 14 | 15 | 1 | 14 | 14 | 17 | 4 | 13 | 0 | 10 | 7 | 13 | 8 | 5 | 0 | 9 | 4 | 23 | 9 | 14 | 2 | 15 | 6 | 47 | 23 | 24 | 3 | 32 | 12 |
| Term employees | 5 | 3 | 2 | 4 | 1 | 0 | 13 | 3 | 10 | 6 | 5 | 2 | 11 | 4 | 7 | 1 | 8 | 2 | 6 | 3 | 3 | 1 | 5 | 0 | 5 | 3 | 2 | 0 | 4 | 1 |
| Turnover rate | 10% | 10% | 9% | 22% | 7% | 13% | 8% | 4% | 12% | 24% | 6% | 9% | 6% | 6% | 6% | 4% | 6% | 6% | 6% | 6% | 7% | 13% | 6% | 5% | 10% | 11% | 10% | 9% | 11% | 10% |
| **Voluntary turnover** | 13 | 7 | 6 | 0 | 12 | 1 | 12 | 4 | 8 | 0 | 9 | 3 | 9 | 4 | 5 | 0 | 7 | 2 | 22 | 8 | 14 | 2 | 14 | 6 | 43 | 20 | 23 | 2 | 30 | 11 |
| Voluntary turnover rate | 4% | 5% | 4% | 0% | 6% | 1% | 4% | 3% | 5% | 0% | 4% | 3% | 2% | 3% | 3% | 0% | 3% | 3% | 5% | 4% | 6% | 13% | 5% | 5% | 9% | 9% | 9% | 8% | 9% | 9% |
| **Employees covered by collective bargaining agreements** | 73% | - | - | - | - | - | 73% | - | - | - | - | - | 73% | - | - | - | - | - | 73% | - | - | - | - | - | 70% | - | - | - | - | - |
| **Training spend per employee** | $2,137 | - | - | - | - | - | $1,952 | - | - | - | - | - | $1,851 | - | - | - | - | - | $1,664 | - | - | - | - | - | $1,795 | - | - | - | - | - |

Data is based on employee headcount as of December 31, 2022.
[1] Year employee data is newly reported for 2022 and includes non-guaranteed hourly employees who provide on-call support for operations, harbour patrol and reception services as needed.
[2] Year working conditions and terms of employment for employees not covered by the collective agreement may be influenced by aspects of the collective agreement or work done in collaboration with the union.

### Diversity

To meet our obligations under Canada's Employment Equity Program, we track and report our progress in employing women, visible minorities, people with disabilities, and Indigenous peoples.

Learn more about our approach to enhancing diversity, equity, and inclusion here.

| Employees by indicators of diversity[1] | Non-management[2] | Management[3] | % of VFPA employees |
|---|---|---|---|
| Women | 56% | 40% | 53% |
| Visible minority | 36% | 28% | 34% |
| Persons with a disability | Not disclosed[4] | Not disclosed[4] | 4% |
| Indigenous persons | Not disclosed[4] | Not disclosed[4] | 2% |

[1] Data is based on voluntary self-disclosure in our annual workforce composition survey.
[2] Non-management includes union employees and exempt positions that are not managers, directors, or executives.
[3] Management includes managers, directors, and executive-level employees.
[4] To maintain confidentiality, results of less than 5% are not disclosed.

| Board of directors by indicator of diversity[1] | |
|---|---|
| Women | 27% |
| Men | 73% |

[1] To maintain confidentiality, age group and other diversity indicators are not disclosed.

### Employee health and safety

Our board-level health and safety policy outlines the port authority's health and safety objectives, along with organizational responsibilities. Every port authority employee is required to exercise personal responsibility and commit to safe working practices. We provide training and education programs through a variety of awareness-based education, job specific certifications, specialized third party training, on the job training, and ongoing mentorship and coaching, to provide employees with the tools and know-how to prevent and manage unwanted occurrences.

Our occupational health and safety program is designed to:

- Comply with all applicable laws and regulations
- Prevent accidents, incidents, and occupational health hazards
- Encourage reporting of hazards, safety concerns, and near-miss incidents
- Demonstrate commitment from leadership
- Motivate employees to work responsibly and support each other
- Provide employees with the resources and the training to enable them to perform their jobs in a healthy and safe manner

Learn more about our health and safety approach here.

### Employee safety incidents

| | 2018 | 2019 | 2020 | 2021 | 2022 |
|---|---|---|---|---|---|
| **Incidents by type[1]** | | | | | |
| Number of fatalities | 0 | 0 | 0 | 0 | 0 |
| Number of high-consequence work-related injuries (excluding fatalities)[2] | 0 | 0 | 0 | 0 | 0 |
| Number of disabling injuries[3] | 2 | 1 | 0 | 1 | 1 |
| Number of minor injuries[4] | 1 | 2 | 3 | 1 | 5 |
| Number of other hazardous occurrences[5] | 0 | 0 | 0 | 0 | 0 |
| Number of minor incidents[6] | 7 | 11 | 10 | - | 9 |
| Number of near misses | 40 | 30 | 8 | 2 | 3 |
| Lost time injury rate[7] | 0.7 | 0.4 | 0.0 | 0.3 | 0.3 |
| Recordable work-related injury rate (disabling + minor injuries)[8] | 1.1 | 1.1 | 0.9 | - | 2.1 |
| Total number of hours worked | 540,060 | 561,939 | 691,329 | 714,064 | - |
| **Incidents by location** | | | | | |
| Office (includes reports by office staff off-site) | 7 | 6 | 2 | 1 | 4 |
| Maintenance | 0 | 2 | 2 | 0 | 3 |
| Marine operations | 0 | 1 | 6 | 0 | 1 |
| CPC work locations | 3 | 5 | 3 | 1 | 2 |

[1] All injuries and incidents are self-reported to a first aid attendant or manager and shared with our workplace safety committees. The data is reported annually to Employment and Social Development Canada and the Vancouver Fraser Port Authority Board of Directors, through the human resources compensation and safety committee. Data does not include incidents for contractors working on the port authority office.
[2] A high-consequence work-related injury is an injury that results in a fatality or an injury from which the worker cannot, does not, or is not expected to recover fully to pre-injury health status within six months.
[3] A disabling injury is an employment injury or occupational disease that involves loss of work on the subsequent day after the injury.
[4] A minor injury is an employment injury or occupational disease for which medical treatment is provided, excludes a disabling injury.
[5] Other hazardous occurrences are incidents that involve events such as explosion, fire, revival emergency procedures, loss of consciousness, and malfunctioning of an elevating device.
[6] Minor incidents include first aid, ergonomic assessment, or short disruption of work, but no loss of work time.
[7] Lost-time injury rate is calculated as follows: disabling injury * 200,000 / total # of employee hours worked.
[8] Recordable work-related injury rate is calculated as follows: (disabling injury + minor injury) * 200,000 / total # of employee hours worked.

### Contractor safety incidents[1]

We do not manage or regulate health and safety beyond the port authority's own operations. Our contractor safety framework helps us influence safe outcomes for contracted work. We have oversight for contractor safety performance on port authority-led infrastructure projects through:

- Evaluating a proponent's safety performance during the procurement phase of projects
- Including safety reporting and performance requirements in contract agreements
- Auditing and monitoring safety performance during the project phase
- Monitoring incidents to find opportunities to increase safety in and around port-led infrastructure projects

| | 2018 | 2019 | 2020 | 2021 | 2022 |
|---|---|---|---|---|---|
| **Incidents by type[2]** | | | | | |
| Number of fatalities | 0 | 0 | 0 | 0 | 0 |
| Number of high-consequence work-related injuries (excluding fatalities)[3] | 0 | 0 | 0 | 0 | 0 |
| Number of disabling injuries[4] | 2 | 1 | 0 | 1 | 1 |
| Number of minor injuries[5] | 1 | 5 | 1 | 4 | 1 |
| Number of other hazardous occurrences[6] | 2 | 2 | 0 | 0 | 0 |
| Number of minor incidents[7] | 0 | 5 | 7 | 15 | 5 |
| Number of near misses | 9 | 26 | 13 | 23 | 14 |
| Total number of exposure hours | 84,227 | 220,768 | 608,945 | 721,083 | 388,714 |
| Recordable work-related injury rate (disabling + minor injuries)[8] | 7.12 | 5.44 | 0.32 | 1.37 | 1.03 |

[1] Contractors are defined as individuals working on port authority-led major construction projects (over $100,000 contract value) during the active construction period of a project. Consultants are excluded.
[2] All injuries and incidents are reported to the port authority by project contractors. Data is reported annually to the Vancouver Fraser Port Authority Board of Directors, through the human resources compensation and safety committee.
[3] A high-consequence work-related injury is an injury that results in a fatality or an injury from which the worker cannot, does not, or is not expected to recover fully to pre-injury health status within six months.
[4] A disabling injury is an employment injury or occupational disease that involves loss of work on the subsequent day after the injury.
[5] A minor injury is an employment injury or occupational disease for which medical treatment is provided, excludes a disabling injury.
[6] Other hazardous occurrences are incidents that involve events such as explosion, fire, revival emergency procedures, loss of consciousness, and malfunctioning of an elevating device.
[7] Minor incidents include first aid, ergonomic assessment, or short disruption of work, but no loss of work time.
[8] Recordable work-related injury rate is calculated as follows: (disabling injury + minor injury) * 200,000 / total # of contractor hours worked.

## Healthy environment

### Energy use and greenhouse gas emissions

We have a number of initiatives to reduce our energy use and greenhouse gas (GHG) emissions. Key initiatives and performance highlights include the following:

- In 2022, we started to realize energy savings and GHG emission reductions resulting from the replacement of the steam-based boiler system at Canada Place to a high efficiency hot water boiler system. The new boiler system and related upgrades were completed in 2021 and underwent commissioning and optimization throughout 2022. When fully optimized, we anticipate the new boiler system will reduce associated GHG emissions by up to 40%.
- In 2022, we started a pilot project in partnership with Shell Canada to test the use of renewable natural gas in our harbour patrol boat. The project has been successful and continued into early 2023. Use of 100% renewable diesel significantly reduces GHG emissions, and as the fuel becomes more cost competitive, it will be a viable option to reducing GHG emissions from activities that are difficult to transition to zero-emission technologies, such as marine diesel engines. Learn more about our Low Emission Technology Initiative here.
- We also initiated a hybrid work option allowing staff to work from home part-time subject to operational needs, reducing employee commuting-related emissions. These reductions were complemented by other ongoing initiatives including lighting and temperature controls and a Sort Smart waste management system.

Energy consumption is expressed in gigajoules (GJ). In 2022, while total direct energy use decreased, indirect energy use increased as a result of converting the remaining steam production at the Canada Place base building plant from gas to electric boilers, a key project in achieving our GHG emission reductions target.

Learn more about our approach to managing energy use and GHG emissions here.

### Energy use[1]

| | | 2018 | 2019 | 2020 | 2021 | 2022 |
|---|---|---|---|---|---|---|
| **Direct energy use (GJ)[2]** | **Diesel** | 4,736 | 8,041 | 4,111 | 7,001 | 5,894 |
| | **Gasoline** | 550 | 640 | 450 | 566 | 588 |
| | **Natural Gas** | 93,849 | 93,919 | 75,727 | 84,899 | 77,234 |
| | **Propane** | 73 | 149 | 61 | 83 | 148 |
| | **Total** | **103,321** | **101,750** | **80,429** | **92,551** | **83,865** |
| **Indirect energy use (GJ)[3]** | **Electricity** | 23,112 | 23,034 | 18,363 | 21,694 | 27,153 |
| | **Natural Gas** | 0 | 0 | 0 | 0 | 0 |
| | **Total** | **23,112** | **23,034** | **18,363** | **21,694** | **27,153** |

[1] Our organizational boundary includes Canada Place Corporation (CPC), a subsidiary that manages Canada Place and promotes meeting and cooking services to numerous tenants, including the Fairmont Pacific Rim, the Pan Pacific Hotel, and the World Trade Centre.
[2] Direct energy use includes non-renewable sources. We have restated our 2018 data to align with our current approach to calculating and reporting energy use data. Direct energy use includes natural gas and light fuel oil used to heat buildings and diesel, gasoline, and propane used to fuel port authority-owned marine vessels, fleet vehicles, and non-road equipment. Light fuel oil and diesel have been reported together.
[3] Indirect energy use includes non-renewable and renewable sources, including electricity. We have restated our 2018 data to align with our current approach to calculating and reporting energy use data.

### Greenhouse gas emissions[1]

Our total GHG emissions, which include both port authority emissions and emissions from our subsidiary, Canada Place Corporation (CPC), are shown below, and expressed in tonnes of carbon dioxide equivalent ($tCO_2e$), with carbon dioxide, methane, and nitrous oxide included in the calculation.

| | | 2018 | 2019 | 2020 | 2021 | 2022 | |
|---|---|---|---|---|---|---|---|
| **Scope 1 Direct ($tCO_2e$)** | **Buildings** | 4,966 | 4,948 | 3,781 | 4,517 | 4,006 | |
| | **Marine vessels** | 275 | 264 | 287 | 256 | 294 | |
| | **Fleet vehicles** | 50 | 44 | 38 | 48 | 58 | |
| | **Scope 1 - direct total[2]** | 5,291 | 5,256 | 4,106 | 4,821 | 4,358 | √ |
| **Scope 2 Indirect ($tCO_2e$)** | **Buildings** | 60 | 80 | 45 | 39 | 50 | |
| | **Services** | 6 | 6 | 6 | 5 | 5 | |
| | **Scope 2 - indirect total[3]** | 66 | 86 | 51 | 44 | 55 | √ |
| **Scope 3 Other indirect ($tCO_2e$)** | **Employee commuting[4]** | 535 | 403 | 97 | 102 | 189 | √ |
| | **Business travel[5]** | 198 | 163 | 34 | 14 | 108 | √ |
| | **Paper usage** | 10 | 9 | 0 | 0 | 1 | |
| | **Waste** | 6 | 7 | 2 | 1 | 1 | |
| | **Scope 3 - other indirect total[6]** | 749 | 582 | 133 | 117 | 299 | |
| **Total emissions** | | **6,106** | **5,924** | **4,290** | **4,982** | **4,712** | |
| **% Total emissions offset[7]** | | **24%** | **20%** | **18%** | **15%** | **21%** | |

[1] Our corporate GHG emissions are calculated in accordance with GPI, SASB, and SASB, which are based on the GHG Protocol developed by the World Resource Institute and the World Business Council on Sustainable Development. We apply the operational control approach for establishing organizational boundaries and report on Scope 1, Scope 2, and Scope 3 emissions as defined below. Emission factors were referenced from 2020 ICI, Best Practice Methodology for Quantifying Greenhouse Gas Emissions, B.C. Ministry of Environment, Environment Canada's National Inventory Report 1990–2020: Greenhouse Gas Sources and Sinks in Canada. To account for B.C.'s Renewable and Low Carbon Fuel Requirements Regulation, a biogenic emission factor of 0.5 was applied to diesel and gasoline. We have restated our 2018 data to align with our current approach to calculating and reporting energy use data. We have restated our 2019 and 2020 data to reflect a change in our Scope 3 business travel emissions baseline to not included within the report as it was established prior to the inclusion of our subsidiary CPC, within our corporate emissions boundary. We are working to recalculate our 2013 baseline to include CPC emissions and plan to disclose this in our next sustainability report. The baseline recalculation policy is not included in the report, as it is currently being developed.
[2] Scope 1 emissions include fuel consumption for marine vessels and fleet vehicles, including the 7,870 litres of hydrogenation-derived renewable diesel (HDRD) used by our harbour patrol vessel as part of the renewable diesel pilot project, and natural gas consumption for the port authority office, the CPC boiler, and maintenance buildings. Fuel consumption for marine vessels and fleet vehicles is based on capacity revenue or estimated using total fuel purchases divided by an average fuel price for the year. Natural gas consumption used in the CPC boiler and for the maintenance buildings are based on utility invoices. Scope 1 emissions exclude natural gas usage by CPC's tenants, which are separately sub-metered and accounted.
[3] Scope 2 emissions include electricity used at the port authority office, maintenance buildings, for services such as lighting and pumps, and at CPC facilities, excluding electricity consumption by CPC's tenants that is separately sub-metered and accounted. It also includes electricity consumed to provide HVAC services to CPC tenants. Scope 2 emissions are calculated based on consumption per utility invoices.
[4] Employee commuting data is estimated by counting the number of cars in the port authority head office parking lot and averaging the counts to determine the number of employees driving. The mode of transportation for those employees not driving is estimated based on results of an employee survey from 2019. Commuting distance is determined by calculating the average distance from the port authority head office to employees' postal codes. Prior to 2019, an assumption was made that all survey non-respondents drove to work. In 2019, we changed our methodology to collect physical counts of cars in parking lots.
[5] Annual business travel activity has been captured through direct invoice data, internal data tracking, and human resources information.
[6] Scope 3 emissions include employee commuting, business travel, paper usage, and waste.
[7] In 2018, following changes to the management structure, we began reporting GHG emissions from our subsidiary, Canada Place Corporation (CPC), within our sustainability report; however, we have not purchased carbon offsets for CPC operations. Since 2010, port authority operations, excluding CPC, are carbon neutral through the purchase of carbon offsets. We continue to assess opportunities for emissions reductions in port authority and CPC operations including our approach to carbon offsets.

√ Independent limited assurance.

## Thriving communities

As a port authority, we generate and distribute economic value to communities and government, locally and nationally.

Our economic value generated and distributed metrics are captured in our Financial Report.

### Memberships

We support and participate in industry-related organizations, and our executive leadership team plays a significant role. Robin Silvester, our president and CEO, is a vice-president representing North America at the International Association of Ports and Harbors and is also co-chair of the Presidents Group. Cliff Stewart, our vice-president of infrastructure, sits on the board of directors for Green Marine.

Our key memberships are listed below:

- American Association of Port Authorities
- Association of Canadian Port Authorities
- Business Council of British Columbia
- Canada West Foundation
- Canadian Chamber of Commerce
- Canadian Council for Aboriginal Business
- Chamber of Shipping of British Columbia
- Cruise Industry Association of BC
- Greater Vancouver Board of Trade
- Industry Council for Aboriginal Business
- International Association for Public Participation
- The Worldwide Association of Port Cities

© 2023 Vancouver Fraser Port Authority