



TRANSMOUNTAIN

2020

ENVIRONMENTAL,
SOCIAL & GOVERNANCE
REPORT



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AND APPROACH

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MESSAGE FROM OUR PRESIDENT AND CHIEF EXECUTIVE OFFICER

I am always proud to share the story of Trans Mountain—of our business, our people and the communities where we live and work. For the first time, in our inaugural ESG report, we are presenting our story through the lens of environment, social and governance considerations.

As a company, our success has been built on a solid and unwavering commitment to doing the right thing, for the right reasons. Reporting on our commitments, our performance and our aspirations through this report is our way of taking the next step and more broadly sharing our journey. Along the way we will continue to listen, learn and adapt to the expectations of stakeholders for greater transparency and corporate action on matters of societal importance.



As a federally owned corporation, Trans Mountain is governed by an experienced Board of Directors and driven by a strong leadership team running the business as any other publicly-traded company would be—with transparency, attention to a long-term vision of growth and competitiveness and a strict adherence to ethics and compliance. On the ground, we have a team of dedicated professionals safely operating and maintaining the Trans Mountain pipeline system across two provinces and into Washington state, and many more thousands of individuals who are working today to build the Trans Mountain Expansion Project. Together, we are the face of Trans Mountain to our neighbours, Indigenous communities and all Canadians.

It is fitting that we are presenting our first ESG report on the heels of a year marked by the many changes and challenges presented by COVID-19. As an essential service provider and as the proponent of a major, national interest pipeline expansion project, we know that to continue to work for the recovery of Canadians, we must remain safe. In the rapidly changing environment that faced our company, our industry and the world, Trans Mountain remained vigilant and nimble. We quickly pivoted to ensure we could continue to operate and build our Expansion Project safely, and we continued to evolve and improve our measures in line with health guidelines and the recommendations of workplace safety regulators.

While I am proud of our response to the pandemic, our safety performance on the Expansion Project in 2020 was unacceptable. In October, one of our general construction contractors was fatally injured and in December, a second contractor suffered a life-altering injury. In December, we decided to voluntarily stop construction. Work resumed February 8, 2021, only after ensuring that we had the right safety processes, procedures and training programs in place, and most importantly, that they were strictly followed. We focused our efforts in three areas including increased hazard awareness and safety training, systemic changes to the way we assess and manage high risk activities, and a refocus on safety communications and shared learnings with all of our contractors. We are committed to drive further improvements and embed the right behaviours throughout our organization and the Project.

This year we also saw an unprecedented level of social awakening. The movement we are witnessing is not a moment in time, nor is it a passing trend.

It is about a real, true exposure of racism in all its forms. Within Trans Mountain, we have talked about our collective ability to address the roots of racism through the pursuit of diversity and the clarity of codes and ethics. I believe this begins with self-reflection and personal accountability, choosing to be better tomorrow than we were yesterday.

In 2020, we also aligned to the sense of urgency related to emission reductions and climate action. We support the Government of Canada's ambition to be net zero by 2050 and will set our own targets to reduce and/or offset our scope 1 and scope 2 emissions to support this ambitious goal.

As Canadian taxpayers, you are all Trans Mountain's shareholders so you will be pleased to hear that the return on Canada's investment is solid. Today, the pipeline generates \$0.2 billion in cash each year. After the Expansion, that cash flow will increase seven-fold. In the more immediate term, construction-generated benefits are being realized by Indigenous communities across British Columbia and Alberta. These benefits include Indigenous-owned or joint-venture businesses participating in the construction of the Expansion Project, marine safety and spill response enhancements for the West Coast, increased revenues to the energy sector, and taxes to all three levels of government that benefit all Canadians. The Expansion will also leave a legacy of benefits and prosperity for many local communities through our community investment program, local infrastructure projects, jobs and training programs, and environmental enhancements.

Thank you for taking the time to read our report. We will continue to gather insights, identify areas of focus and improvement, and report to you on our progress. As always, we are open to listening and learning, and we welcome your feedback.

Ian Anderson
President and Chief Executive Officer

ABOUT TRANS MOUNTAIN

Trans Mountain operates Canada's only pipeline system transporting oil products to the West Coast. We currently deliver about 300,000 barrels of crude oil and refined products every day. Our assets also include four storage terminals and a marine terminal. Our pipeline system, which runs from Edmonton, Alberta to Burnaby, British Columbia, has been in operation for more than 65 years.


Trans Mountain Corporation was incorporated in 2018 as a federal Crown corporation and we are ultimately accountable to Parliament through Canada Development Investment Corporation (CDEV). Trans Mountain is headquartered in Calgary, Alberta, and has regional offices along the pipeline system.

AT A GLANCE

Figures as of December 31, 2020

390 EMPLOYEES	1,217 CONTRACTORS	\$10.6 BILLION IN ASSETS	\$428 MILLION IN REVENUE
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STORAGE TERMINALS




11 MILLION BARRELS STORAGE CAPACITY

4 STORAGE TERMINALS
Edmonton, Kamloops, Abbotsford, Burnaby

69 TANKS ACROSS TERMINALS AND OTHER LOCATIONS

PIPELINES



1,150 KILOMETRES
Trans Mountain Pipeline System
Edmonton, AB to Burnaby, BC

~300,000 BARRELS PER DAY
(nominal capacity)

23 PUMP STATIONS

80% LIGHT OIL


20% HEAVY OIL

111 KILOMETRES
Puget Sound Pipeline
Sumas, BC to Washington state


~240,000 BARRELS PER DAY
(nominal capacity)

1 PUMP STATION

WESTRIDGE MARINE TERMINAL



39,100 BARRELS PER DAY
(volume loaded)



Handles export of crude oil and importation of jet fuel on third-party marine vessels (barge and tanker).

TRANS MOUNTAIN EXPANSION PROJECT

Our Expansion Project will provide Western Canadian oil producers with significant additional oil transportation capacity and tidewater access. The Expansion will create a twinned pipeline along our current pipeline between Edmonton, Alberta and Burnaby, British Columbia. The Project will see the installation of new pipeline, new and modified facilities including pump stations and terminals, and a new dock complex at the existing Westridge Marine Terminal.

EXPANSION (estimated figures)

- +980 kilometres of new pipeline
- +590,000 barrels per day
- +12 pump stations
- +19 tanks across the three terminals
- +3 berths

OUR APPROACH TO ESG

Managing environmental, social and governance (ESG) matters responsibly is not something new at Trans Mountain. It is a part of our past, present and an integral part of our future. This report is our first formal effort to communicate our ESG practices and progress. Our current approach to ESG management involves working on the ESG topics below. As society evolves, we will reassess what specific environmental, social and governance issues we focus on.

OUR COMMITMENT		RELEVANT TOPICS
ENVIRONMENT	Our pipeline crosses some of the most rugged, mountainous terrain in the world as well as wetlands, waterways, and parkland. While we operate in a challenging environment, our pipeline has delivered safe and reliable energy transportation for more than 65 years. We take great care to respect the traditional use of the land and Indigenous heritage resources. During the Expansion Project activities, our goal is to minimize our impacts on the environment and to offset remaining impacts on the climate, wetlands, and biodiversity.	<ul style="list-style-type: none">• Asset integrity and emergency preparedness• Land and water stewardship• GHG emissions• Mitigation of climate-related risks• Environmental stewardship in marine operations
SOCIAL	We respect the communities where we operate and work hard to build and maintain these relationships. We operate in a manner consistent with Canada’s commitment to advance reconciliation with Indigenous peoples. Whether it is through the course of our daily operations or during construction, we are committed to operating responsibly and safely to protect our employees, contractors, and the public. We also foster a positive, inclusive, and diverse work environment.	<ul style="list-style-type: none">• Relationships with people and communities• Enabling Indigenous opportunity• Economic contribution• Employee and contractor safety• Inclusion and diversity
GOVERNANCE	Our Board of Directors and leadership team work to set a positive example for all employees and contractors by acting with integrity. Our policies and practices establish clear expectations and foster accountability at all levels of the organization. Our training gives employees the necessary tools to meet the commitments contained in our policies. Our decisions consider the long-term vision for our company and incorporate environmental and social factors. As societal expectations of corporations evolve, we remain attuned to shifts in risks and opportunities, and adjust our business practices accordingly.	<ul style="list-style-type: none">• Corporate governance• Governance for environmental and social matters• Ethics• Cybersecurity• Working with responsible contractors

HOW WE WORK

We are driven by a culture of "doing the right thing" and that means doing things the right way, even if it is not easy. Those principles are embedded in our organization and guide our actions: We take the high road.

"Taking the High Road" is our set of principles that explains who we are, what we believe, and how we work. It establishes a common understanding not only for us, but for everyone who works with us.

- We put people first.
- We are relationship-builders.
- We respect the environment.
- Safety. We live by it.
- We share a sense of purpose.
- We are down-to-earth.
- We shape progress.

OUR ROLE IN THE FUTURE OF CANADIAN ENERGY

Access to energy is a crucial component to raise and maintain the standard of living in communities at home and abroad. Midstream pipeline companies, like Trans Mountain, play a key role in safely connecting energy sources with people in Canada and around the world. As a responsible company, we strive to balance the economic, social and environmental impacts of our activities while serving this important function.

As society collectively looks for ways to meet the world's energy demand, Canada, with its third largest oil and gas reserves in the world, will continue to play a leading role. Trans Mountain can contribute to the future of responsible Canadian energy by:

Unlocking access to world markets: According to the Canadian Association of Petroleum Producers (CAPP), Canada produced approximately 4.7 million¹ barrels of oil per day in 2019 and required only one quarter of that for domestic use, with the remainder being exported. These exports were mostly to the United States, Canada's largest energy trading partner. Our Expansion Project includes a significant increase in the capacity of the Westridge Marine Terminal which creates three key benefits. First, it will allow Canadian energy to reach emerging markets in the Pacific Rim, where demand is forecasted to rise. Second, the ability to export a larger percentage of Canadian crude from the West Coast will provide greater customer options for Canadian oil producers. Third, accessing global markets can help Canadian producers to receive world prices for their product. Unlocking access to global markets will enable producers to increase their profitability. This, in turn, can enhance tax revenues to the Government of Canada, which helps fund essential programs for the country.

Creating value through the energy transition: As the world transitions to different types of energy, hydrocarbons will continue to be an important component of the energy mix. National policies will increasingly give preference to responsibly sourced and lower emissions oil. Canada has a stringent regulatory environment, a high degree of regulatory oversight

and is viewed as a leader on climate change policies. Companies involved in Canada's energy system, like Trans Mountain, must have robust environmental, social and governance practices so they can help meet Canada's emission reduction targets. Canadian oil sands companies have increased their competitiveness and have also decreased their carbon intensity by 21% from 2009 to 2017², with the potential for further reductions as new technologies emerge. Our Expansion Project will provide increased capacity that can support responsible Canadian oil production and bring oil to the markets where it is needed. Our customers share our belief that Canada will continue to be a key provider of global energy. This belief has secured the Expansion Project with long-term contract commitments (take-or-pay contracts) with our shippers that cover 80% of the expanded capacity and range from 15 to 20 years.

Creating jobs and prosperity for all Canadians: On the Expansion Project we expect to provide employment for approximately 15,000 individuals. As of the end of 2020, Trans Mountain and our contractors have hired approximately 9,700 people, of whom 1,000 are Indigenous. These jobs remain in place even during the COVID-19 pandemic. After construction is completed, we expect approximately 600 direct jobs will be needed to support operations.



¹ CAPP. Retrieved January 04, 2021. <https://www.capp.ca/energy/canadas-energy-mix/>

² IHS Markit. 2018. Press release. https://news.ihsmarkit.com/prviewer/release_only/slug/energy-2030-upstream-greenhouse-gas-emissions-intensity-canadian-oil-sands-be-30-perce



ABOUT THIS REPORT

At Trans Mountain, we are committed to being transparent about our practices and performance. The goal of this ESG report is to communicate the environmental, social and governance initiatives and key metrics that demonstrate our progress to date and our commitment to continual improvement.

- Unless otherwise noted, this report covers quantitative and qualitative performance for the year ended December 31, 2020. When available, historical data is provided for 2019.
- This report covers ESG activities for our currently operated pipeline and terminals, and the Expansion Project now underway.
- Unless noted, data does not cover third-party service providers.
- Unless stated otherwise, all photographs were taken prior to COVID-19 mask protocols.
- Financial data is in Canadian dollars and environmental data is in metric units.
- The accuracy of this report is significantly important to our company. Senior management and relevant staff have reviewed all information and believe it is an accurate representation of our performance. Third-party assurance of this report was not conducted.
- The terms Trans Mountain, our, we, the company, and the corporation, refer to Trans Mountain Corporation. The Expansion Project, the Expansion, and the Project refer to the Trans Mountain Expansion Project.

ALIGNING WITH ESG REPORTING STANDARDS

Although this report does not meet all the requirements to be fully in accordance with a reporting standard, we cross-reference our disclosures to the following recognized standards:

TCFD Summary page 39
SASB page 45

Read our caution regarding forward-looking statements on page 47.

DETERMINING WHAT TO REPORT

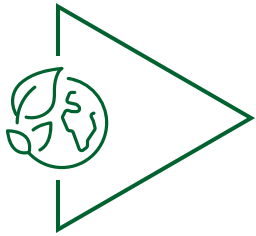
Although there is a wide range of ESG matters companies can consider, we want to focus our communications on the ESG topics that can have a significant impact on our business success, and those that represent the interests of:

- Our employees
- Our customers
- Indigenous and local communities
- Regulators

In November 2020, our senior management team participated in an ESG prioritization workshop to determine which ESG-related issues were most relevant to our company. Prioritization was conducted by taking into account our understanding of the concerns and priorities of employees, customers, Indigenous and local communities and regulators; and by discussing the potential financial or operational impact of the issues on Trans Mountain. The results of the workshop were reviewed and approved by our Board of Directors.

The initial list of ESG-related issues was extracted from guidelines from:

- The Sustainability Accounting Standards Board (SASB)
- The Task Force on Climate-related Financial Disclosures (TCFD)
- The Canadian Energy Pipeline Association (CEPA)
- Reports from other midstream companies



ENVIRONMENT

We are committed to conducting our operations in a safe and responsible manner that is respectful of the environment and minimizes our impact to water, land, and air.



ASSET INTEGRITY

For the protection of our employees, the public, and the environment, we want to operate all our assets as reliably and safely as possible. We maintain the integrity of our pipelines, terminals and pump stations through continual hazard identification, prevention, and monitoring.

PIPELINES

Since our pipeline is underground, continual inspection and monitoring is critical. Our asset integrity program helps us detect small defects in the pipe. Being proactive helps reduce the likelihood of pipeline defects evolving into slow leaks over time or becoming significant sudden spills. Although we conduct many asset integrity activities, in-line inspections are our most important tools because most of the pipeline cannot be visually inspected. In-line inspections use sophisticated tools (called pigs) that travel inside the pipeline to detect and measure potential defects or changes to the pipe using specialized technology. The range of inspections and preventative activities that are part of our asset integrity program are illustrated on the next page.

TERMINALS

Trans Mountain owns 69 above ground tanks—57 are located across four liquids storage terminals and 12 are in other locations. As part of our regular maintenance program, our operators visually inspect the exterior of our tanks monthly to check the tank foundation, shell, roof, leak detection and secondary containment systems. These inspections help identify early warnings of potential tank problems. In addition, we complete both external (in-service) inspections at least every five years, and a comprehensive internal (out-of-service) inspection at intervals not exceeding 20 years.

LOOKING FORWARD: LEADING-EDGE LEAK DETECTION FOR THE EXPANDED PIPELINE

Common practices for detecting leaks include using a combination of sensor technology and mathematical calculations to monitor and estimate flow rates. Using these practices, any deviation from expected flow rates will indicate a leak in the pipe. For the expanded pipeline, we are installing a new technology that places a fibre optic cable outside along the pipe. The cable acts as a distributed sensor that measures changes in noise, temperature, pressure, and ground strain, all of which can be indications of activities that could damage the integrity of our pipeline including a possible leak. The fibre optic cable can help us pinpoint the location of a suspected leak within 10 metres. Using this leading-edge technology for its rapid and accurate leak detection provides an important additional safety feature for the expanded pipeline.

PUMP STATIONS

Pump stations, spaced approximately every 50 km along the pipeline, keep the oil flowing. To ensure the stations operate safely, they are continually monitored remotely and visited on-site by operations personnel at least five times per week. Because our pipeline traverses mountainous terrain, our pipeline must operate at varying and sometimes high pressures. Our comprehensive over-pressure protection system and in-house experts evaluate pressure variations and set limits to protect against exceeding safe pressures.

Response to the Sumas pump station incident

In June 2020, we responded to a release at our Sumas pump station in Abbotsford, British Columbia. The pipeline was shut down and the release was contained on Trans Mountain property. The cleanup and safe response to the release began immediately followed by investigations by the applicable government authorities, as well as Trans Mountain. The environmental remediation activities at the site continued throughout 2020 and are nearing completion.

ASSET INTEGRITY METRICS

	2019	2020
PIPELINE INTEGRITY		
In-line inspections (total km of pipeline inspected)	1,576	865
Integrity digs (number)*	110	71
PIPELINE SPILLS		
Pipeline spills (number)	0	0
SPILLS AT FACILITIES		
Reportable spills (number)	1	1
Volume of reportable spills (m³)	2	190
CONSTRUCTION-RELATED SPILLS—EXPANSION PROJECT		
Reportable spills (number)	9	50
Volume of reportable spills (m³)	0.009	125

**The number of integrity digs can vary year over year depending on the deployment of programs, technology and the activity associated with reactivation work.*

As construction ramped up in 2020, the number of construction-related spills increased significantly. The two most common types of construction-related spills are: spills to water and fluid releases during horizontal directional drilling. According to regulations, we must report any spills to water regardless of volume. We experienced several small spills (10 ml to 1 L) to water during the expansion of the Westridge Marine terminal. The larger volumes were non-toxic drilling mud related to directional drilling; none reached environmentally sensitive areas. To learn from these incidents, we held lessons-learned workshops to discuss inadvertent fluid releases and shared best practices. We continue to work with our contractors to ensure they use environmentally friendly materials when working in and around water.

PIPELINE ASSET INTEGRITY PROGRAM

We conduct the following inspections and preventative activities:

115

aerial inspections in 2020

AERIAL INSPECTIONS

We fly over the pipeline to conduct a visual inspection of the right-of-way and monitor human-related activities around the pipeline, inspect for any possible leaks, and look for new hazards that could affect the pipe such as sink holes or other geohazard events.

RIGHT-OF-WAY MAINTENANCE

We maintain the strip of land above and around the pipeline so that large trees, shrubs, or other debris remain away from the pipe. This ongoing maintenance provides clear line of sight and access for surveys, inspections, and emergency situations.

PIPELINE DEPTH OF COVER

We regularly monitor our pipeline to ensure adequate soil cover remains over top of the pipe. Areas with deficient cover are remediated.

4,055

cathodic protection test lead surveys conducted in 2020

CATHODIC PROTECTION SURVEYS

We monitor the effectiveness of our cathodic protection system by taking annual readings at test stations located every two kilometres along the pipeline route to ensure a minimum voltage is maintained on the pipeline. We also complete periodic close interval surveys that provide us with voltage readings every three metres along the pipeline route.

24/7

real-time remote monitoring of the entire system

CONTROL CENTRE

In our Control Centre in Edmonton, Alberta, our operators monitor specific segments of our pipelines and terminals 24 hours a day, seven days a week.

865 kms

of pipeline inspected via in-line inspections in 2020

IN-LINE INSPECTIONS

We use sophisticated tools (called pigs) that travel inside the pipe to detect and measure potential defects or changes. These in-line inspections are one of our most important tools because most of the pipeline is buried and cannot be visually inspected.

71

integrity digs conducted in 2020

INTEGRITY DIGS

When an in-line inspection detects something that requires further investigation, we conduct an integrity dig by excavating and examining the pipe at that location. We use non-destructive examination techniques and if necessary, repair, refurbish or replace the pipe.

CORROSION PREVENTION

The exterior of the pipe has a coating to protect it from contact with the soil. Because corrosion is an electrochemical process, we also use cathodic protection to protect the pipe from oxidation in areas where it is in contact with the soil.

The interior of the pipe is protected from corrosion by running cleaning pigs on a regular basis to prevent debris and moisture build up.

295

Natural hazard inspections and surveys completed in 2020

GEOHAZARD MONITORING

This program documents inspections and maintenance work on natural hazards sites along the pipeline route, including watercourse crossings and slopes or other areas of potential ground movement. Within our program we:

- Maintain a natural hazard database that includes detailed information for each natural hazard site;
- Conduct detailed ground inspections and surveys to monitor the geohazard sites that are scheduled based on risk;
- Use real-time flow monitoring at watercourse crossings to assess any increased risk to the pipe during flood events;
- Use instrumentation and radar/satellite imagery to monitor for potential ground movement around the pipe; and
- Complete detailed assessments to prioritize mitigation where required.

EMERGENCY PREPAREDNESS AND RESPONSE

The most responsible emergency management strategy is to prevent the emergency from occurring. However, if an incident occurs, we rely on our detailed emergency procedures and trained professionals to respond quickly. Read about our response to an incident at our Sumas pump station on page 9.

CONTINUALLY IMPROVING OUR RESPONSE CAPABILITIES

We use the internationally recognized [Incident Command System](#) (ICS) to manage our emergency response. ICS is a standardized command and control system used to manage emergency incidents. We train our own personnel to be our first responders, an industry best practice, and we also engage stakeholders (firefighters, emergency crews, suppliers and community organizations) in emergency preparedness. Each year, we enhance our preparedness capabilities by completing the following activities:

- 20-30 emergency field and tabletop exercises to learn the various components of our response plans, equipment and response strategies in varying environmental conditions.
- 3-5 tabletop response exercises, which allow us to work through emergency scenarios and test employee and contractor knowledge about the available emergency response plans.
- One full-scale exercise to test the real-time effectiveness of our response. These exercises are multi-agency, multi-jurisdictional activities involving the mobilization of emergency personnel, equipment, and resources, as if a real incident had occurred.

BEING PREPARED WITH OUR OWN EQUIPMENT INVENTORY

Another way we prepare for emergencies is through the availability of our own inventory of emergency response equipment. We estimate our equipment requirements by modelling for a worst-case spill volume scenario in each district, which helps to ensure we have enough equipment and can deliver that equipment to an incident site on time.

PREPARING FOR COMPLEX EMERGENCIES

We prepare for a variety of incidents. For all spills we ensure we have enough equipment on hand to contain the spill for the first six hours, after which additional spill response requirements would come from our mutual aid companies and service providers. To deal with a potential tank fire, we have enough equipment to handle fires up to the size of our largest tank.

EMERGENCY RESPONSE EXERCISES

	2019	2020
Drills	13	22
Tabletop exercises	5	11
Full-scale exercises	1	1
TOTAL	19	34

2020 FULL-SCALE EXERCISE

In February 2020, prior to COVID-19, we conducted a full-scale emergency response exercise in Kamloops, British Columbia, to practice spill response to a simulated pipeline rupture under ice and snow conditions.

The exercise included a coordinated response with over 225 participants and observers from more than 25 agencies working collaboratively to enable an efficient and effective response.

While we completed our planned exercise schedule in 2020, we made several modifications to protect our employees and the public from COVID-19 risks.

We are required by the Canada Energy Regulator to maintain \$1 billion of financial resources in the event of a spill

LAND AND WATER STEWARDSHIP

We see it as our responsibility to protect the land, water, and ecosystems where we operate. Water is a shared resource and an essential part of all ecosystems. We therefore take seriously our responsibility to be stewards of the land and water bodies near our operations.

PROTECTING BIODIVERSITY

The pipeline crosses many protected areas, including recreational areas and parks such as Jasper National Park in Alberta and Mount Robson Provincial Park in British Columbia. We are committed to minimizing our impact to the land and to the biodiversity of these sensitive areas by implementing a strong asset integrity program that prevents spills and a rapid emergency response program that reduces impacts if a spill were to occur.

PAYING SPECIAL ATTENTION TO WATER CROSSINGS

Our pipeline system crosses more than 1,000 bodies of water, including important waterways such as the North Saskatchewan River, Athabasca River, Thompson and North Thompson Rivers, Coquihalla River, Coldwater River and Fraser River. While there is relatively little in-stream work required during day-to-day operations, we protect water bodies by:

- Inspecting each water course crossing at least every five years, prioritized by risk exposure, and inspecting more often if any flooding or geological risks are uncovered;
- Monitoring real-time water flow data at each watercourse crossing, which provides us with automatic notification of high flow rates during flood events; and
- Completing mechanical damage assessments that allow us to estimate potential damage to a pipe if it were to become exposed in the water body during a flood event, so we can prioritize mitigation measures in the locations that are higher risk.

As part of the Expansion Project our teams have conducted:

9,978

person days of environmental inspection in 2020

13,771

person days of technical field studies and monitoring by third-party consultants in 2020





ELEVATING LAND AND WATER STEWARDSHIP DURING CONSTRUCTION

In recognition of the leading environmental practices required for the approval and execution of the Expansion Project, we have developed a culture that promotes environmental awareness.

Environmental Protection Rules: We carefully selected and integrated eight Environmental Protection Rules into our approach on the Expansion Project, a first in the industry. The Rules aim to do for environmental awareness what the Life Saving Rules have done for safety in the energy industry. Each of the Environmental Protection Rules is focused on an area that has the potential to result in a significant environmental event. The Rules are in place to protect land, water, and other resources, and to help avoid spills, noise, and other environmental impacts.

To support the implementation of these rules, we have developed a worker recognition program. The program recognizes on-the-spot positive actions with small awards. The program also acknowledges sustained leadership in compliance and environmental stewardship by recognizing peer-nominated employees at quarterly safety meetings.

Wetlands and fisheries offsets: As part of planning the Expansion Project, we carefully selected each watercourse and wetland crossing to minimize our impact on aquatic species, riparian habitat, and wetland soil and vegetation. In some situations, we developed offsets to compensate for potential impact. Offsets are used for certain classifications of wetlands or for stream crossings involving specific fish habitat. For wetlands requiring offsetting, we have provided monetary compensation to non-profit organizations for wetland-related research or habitat enhancement projects to help offset or mitigate any potential impact. For watercourses requiring offsetting, we engage certified aquatic specialists to develop in-stream enhancement projects in consultation with communities and regulatory authorities.

ENVIRONMENTAL PROTECTION RULES

Our eight rules are in place to protect land, water, air, and other resources. These industry-first rules must be followed by everyone working on our Expansion Project.



Watercourses & Wetlands

- Minimize work in riparian habitat
- Ensure all drainage, erosion and sediment control measures and spill prevention and response materials are in place



Biosecurity

- Clean equipment at required cleaning locations
- Maintain standardized equipment cleaning records



Heritage Resources

- Avoid known heritage resources
- Stop localized work immediately if a chance-find (e.g., archeology artifact) is observed and implement contingency plan



Fish & Water

- Avoid restricted activity periods for fish
- Complete fish salvage, water flow and water quality monitoring when required



Spills

- Maintain equipment in good working order
- Use secondary containment and ensure spill kits are available and stocked
- Report all spills



Air & Noise

- Limit equipment idling when not in use
- Install and maintain proper sound control and dust suppression measures



Trespass & Approvals

- Ensure all construction activities and materials are conducted and retained within the approved Project footprint
- Ensure all approvals are in place for work



Land & Soil

- Install and maintain effective drainage, erosion and sediment control measures
- Salvage topsoil, separate and mark soil

PROTECTING TRADITIONAL USE AND HERITAGE RESOURCES OF INDIGENOUS PEOPLES

Environmental stewardship is not solely about the physical aspects of land; it is also about respecting traditional use of the landscape and heritage resources. Traditional use includes the historical use of the land and water by Indigenous communities, while cultural heritage resources refer to objects, sites, or locations that are of cultural, historical, or archaeological significance to Indigenous groups and Canada.

Trans Mountain's environmental practices also integrate traditional knowledge and approaches throughout project planning and into construction to protect important cultural resources. Traditional knowledge is generally understood as the beliefs, practices and skills passed down through generations that form part of the cultural or spiritual identity of an Indigenous community.

There are three ways in which we integrate traditional knowledge and demonstrate our respect of traditional use and heritage resources:

Traditional land and resource use and archaeological studies: Since 2012, more than 70 Indigenous groups have participated in archaeological fieldwork or have provided traditional use information and traditional knowledge as part of Trans Mountain facilitated studies or independent third-party studies. During these studies, Indigenous groups collect or provide data to enhance our knowledge of the environment along the pipeline corridor. Additionally, many Indigenous groups have participated in environmental field programs to support traditional knowledge integration into our practices.

Pre-construction cultural surveys: Working with more than 12 interested Indigenous communities during the Expansion Project, we have facilitated pre-construction cultural surveys on key areas of Crown land. The surveys support and enable Indigenous groups to document culturally important plants or vegetation, identify interests in salvageable timber, and conduct cultural activities, such as traditional plant harvesting or performing ceremonies. In addition to their community's typical practices, these surveys are important as they offer additional financial and logistical support for Indigenous participants to conduct cultural activities prior to the start of land clearing activities for the Expansion Project.

Indigenous Monitoring program: We work with Indigenous Monitors to ensure we incorporate traditional knowledge into construction oversight, and to help us minimize impacts to traditional sites and heritage resources. As of December 2020, 34 Indigenous Monitors are employed as part of the Expansion Project. Our Indigenous Monitors are essential and integrated members of our construction environmental inspection team. Integration enables efficient knowledge transfer between Indigenous Monitors, environmental inspection and construction crews. Integration also provides opportunities for Indigenous Monitors to develop experience and transferable skills related to environmental inspection and monitoring that they can use after the construction project is over.

On the Expansion Project

2,801
person days of Indigenous
Monitoring during 2020

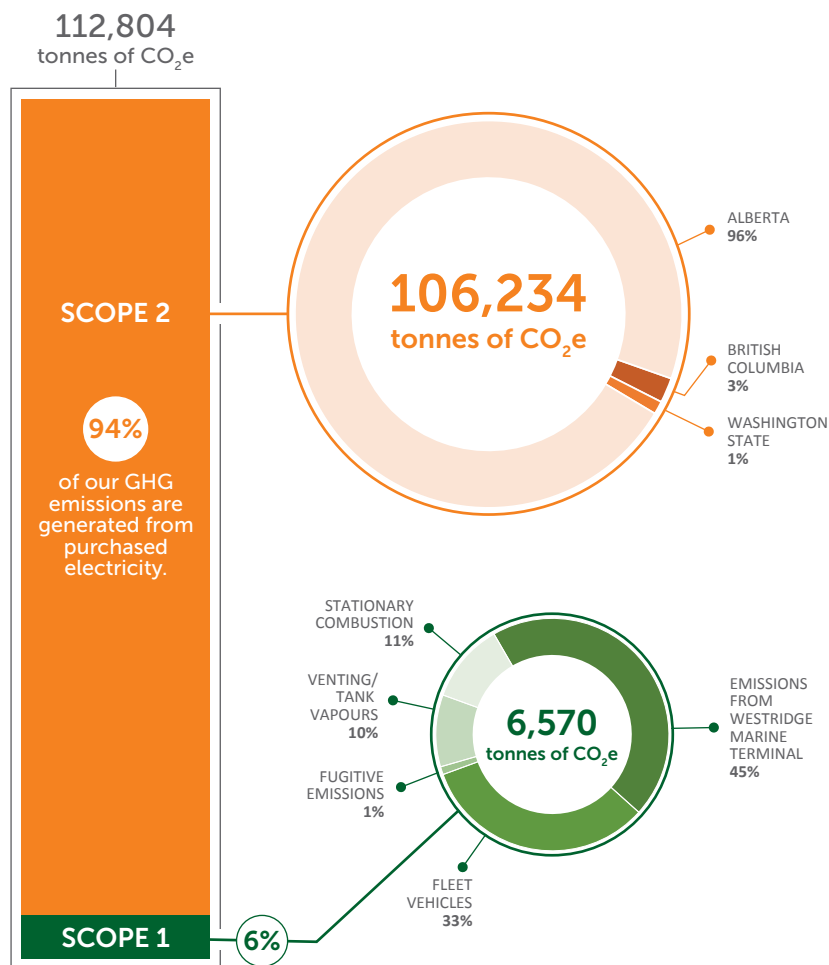
COLDWATER RIVER CEREMONY

In October 2020, our Indigenous Monitors initiated and helped to organize a cultural ceremony to honour the sacred headwaters of the Coldwater River south of Merritt, British Columbia. Led by the Lower Nicola Indian Band, Nooaitch Indian Band, and Coldwater Indian Band, the three-hour ceremony was attended by representatives from five Indigenous communities, seven community members, and five Indigenous Monitors. Trans Mountain representatives from our construction, environment, and Indigenous Relations teams were honoured to participate.

GREENHOUSE GAS EMISSIONS

We track and manage the greenhouse gas (GHG) emissions generated by our daily operations. Most of our emissions are indirect (also known as scope 2) since we use electrically driven pumps to move the fluid through the pipeline.

2020 GHG EMISSIONS AND SOURCES



SCOPE 2

EMISSIONS BY ELECTRICITY GENERATION LOCATION

The vast majority of our **scope 2 emissions** are generated in Alberta where we source electricity from the grid. In Alberta, most electricity is generated from natural gas and coal* while in British Columbia most electricity is generated from hydroelectric power.

SCOPE 1

EMISSIONS BY SOURCE

The main source of our **scope 1 emissions** is our Westridge Marine Terminal. These emissions are generated in the process of loading vessels. See page 20.

The other significant sources of scope 1 emissions are fleet vehicles and stationary combustion equipment (such as backup generators and fire pumps).

IMPROVING ENERGY EFFICIENCY AT OUR PUMP STATIONS

The majority of our scope 2 emissions are associated with the electricity required by pumps at our pump stations. We are working to reduce our emissions intensity by improving the energy efficiency of these pumps.

From December 2019 to June 2020, we installed variable frequency drives (VFDs) at seven pump stations. With the completion of this project, 23 out of our 24 active pump stations now have VFDs.

A VFD is a type of controller that varies the frequency and voltage supplied to the electric motor that drives the pump. The VFDs replaced control valves at these seven stations to regulate pumping rates. VFDs control pumping rates by varying the speed of the pump to match the hydraulic requirement. Without a VFD the pumps run at full speed continuously and a control valve throttles the discharge of the pumps to control pressure and flow which uses more electricity.

The installation of VFDs allows us to reduce the electricity required to move the same volume of oil. Energy savings will be monitored and measured in the upcoming year.

*CER 2018 data. <https://www.cer-rec.gc.ca/en/data-analysis/energy-markets/provincial-territorial-energy-profiles/provincial-territorial-energy-profiles-alberta.html>

OFFSETTING EMISSIONS FROM CONSTRUCTION

Building a pipeline generates emissions. We estimate that the Expansion Project will generate a cumulative 1 million tonnes of CO₂. The two main contributors to those emissions are land clearing activities (removal of vegetation for site preparation) and fuel consumed by light and medium trucks as well as heavy machinery during construction. Our plans to reduce or offset emissions include:

Land clearing activities: To place the new pipeline under the ground, we must first remove grasses, trees and shrubs. Some of this vegetation will be reclaimed to its original nature and some will be replaced with grasses to leave an adequate right-of-way to access the pipeline. There are emissions associated with removing trees since they store carbon. We are planning and executing these activities with the intent of reducing the impact on the environment and the associated emissions of this process.

Fuel consumption: To manage emissions arising from fuel consumption, we have developed a carbon management plan for the Expansion Project that contracted companies must adhere to. The plan incorporates initiatives such as an anti-idling policy, and the use of worker camps and shuttle services to minimize transportation to and from work sites.

Offsets: As part of our regulatory approvals, we have committed to offset all direct GHG emissions generated from Project construction in Canada. Offsets compensate for project emissions through measurable emission reductions elsewhere that are verified by independent third parties. We are currently seeking offset project opportunities.

LOOKING FORWARD: AMBITIOUS GOALS

In support of the Government of Canada's ambition to be net zero by 2050, we will set targets to reduce and/or offset scope 1 and scope 2 emissions. In the next few years, we will develop and communicate a plan to achieve this ambitious goal.



CLIMATE CHANGE AND THE TRANSITION TO A LOW CARBON ECONOMY

Climate change is an important issue requiring global action across industries. Trans Mountain is committed to working with governments and stakeholders to advance strategies that will reduce emissions along the energy value chain.

PHYSICAL RISKS TO OUR ASSETS FROM CLIMATE CHANGE

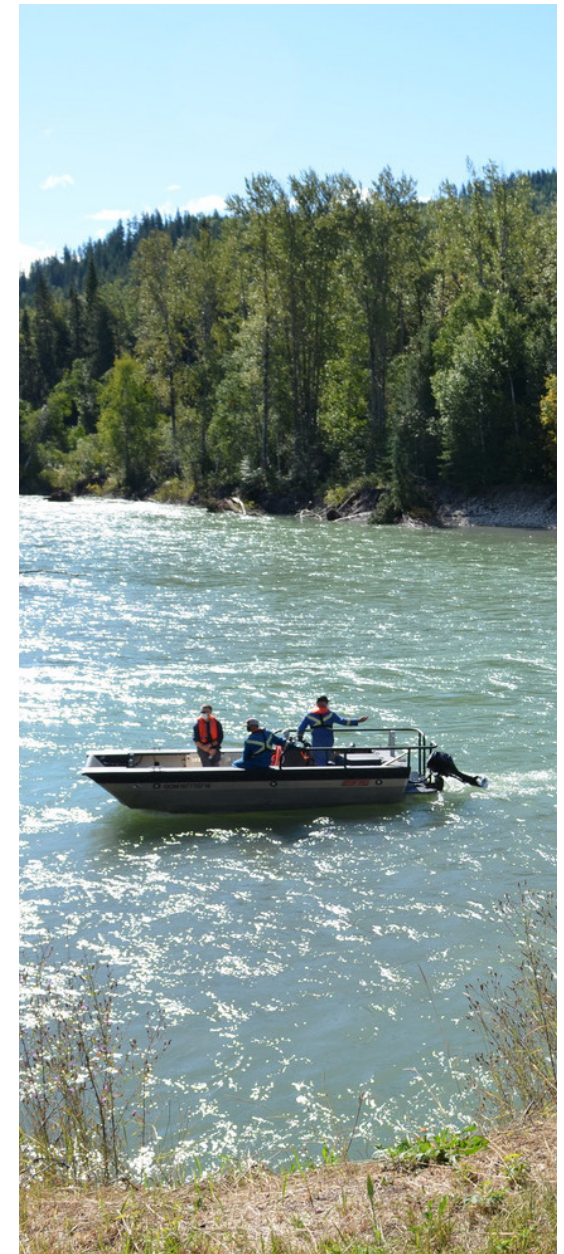
Our operational assets are located in Alberta, British Columbia, and Washington state. The climate-related risks with the highest likelihood to affect our assets are wildfires, winter storms, land flooding and rising sea levels on the British Columbia coastline, where our marine terminal is located.

Wildfire risk: Our pipeline system passes through urban centres, farmlands, grasslands, mountains, and valleys. As more than 99% of the pipeline is buried, the risk to our assets from wildfires or forest fires is relatively low across the full route. Nevertheless, we protect our above-ground assets (storage terminals and pump stations) through procedures, training, detailed wildfire response planning, and by maintaining an adequate inventory of response equipment. Our pump stations are within gravelled, fenced-in industrial sites, with no equipment against the fence line. As well, only certain pump stations along the line are deemed critical, while the remainder can be remotely turned off, if required, due to an approaching fire.

Winter storms: Increases in the severity of winter storms poses a specific risk to the users of our marine terminal as storms can result in vessel delays. We mitigate this risk by investing in weather prediction technology, terminal management systems to better respond to system back-ups and weather delays, and by requiring our customers to use larger, more powerful escort vessels (tugboats) throughout their vessels' entire transit within Canadian waters year-round.

Land flooding: As weather patterns change, flooding events may increase in frequency or severity. To prepare and respond quickly in case of a flood event, we continually monitor the flow rates in the watercourses crossed by our pipeline and conduct additional aerial and ground inspections of the right-of-way when flow rates reach a certain level. These additional inspections verify that the integrity of the pipeline is not compromised in a flood event, and that any pooled water on the right-of-way does not threaten the continued safe operation of the pipeline system.

Rising sea levels: Our Westridge Marine Terminal is located in Burnaby on the north side of the Metro Vancouver area. Although studies estimate that the most affected areas will be on the south side of Metro Vancouver, we have prepared for possible long-term impacts by accounting for the potential sea level rise in the detailed design of the terminal. In particular, the design ensures that the deck elevation of the structures is set high enough to avoid flooding or wave damage should the predicted sea level rise occur.

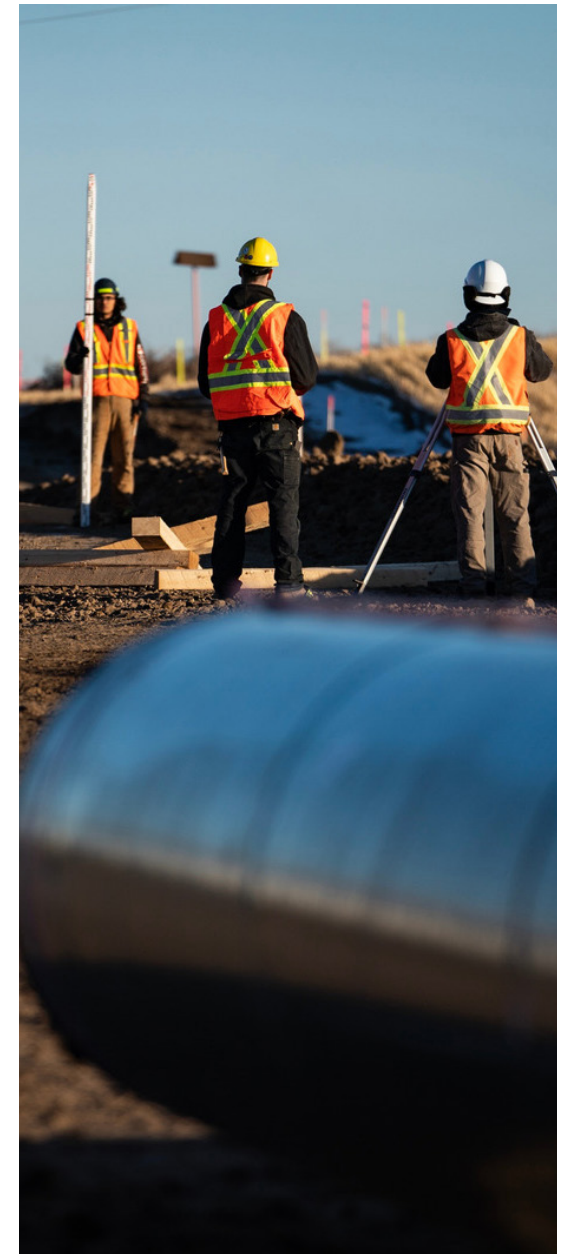


TRANSITION-RELATED RISKS

Two of the most challenging impacts of the transition to a lower carbon economy are regulations and changes in demand.

The current carbon tax in Alberta applies to large final emitters (single facilities emitting more than 100,000 tonnes of CO₂) and none of our facilities fall under this category. Carbon tax in British Columbia applies to the purchase or use of fuels such as gasoline, diesel, and natural gas. Although we rely mostly on electricity, carbon tax can have an indirect impact on our company since it can make Canadian oil and gas production more costly. However, we have several long-term contract commitments in place with our shippers, ranging from 15 to 20 years, which make us more resilient to those impacts.

Although the transition is already taking place in many countries, in 2020, oil remained the dominant source of energy³ in Africa, Europe and the Americas. Under its most aggressive decarbonization scenario (the Sustainable Development Scenario), the International Energy Agency forecasts that by 2040 the global oil demand could be at 66.2 million barrels of oil per day⁴. As we move from current demand levels and the transition takes place, preference will be given to lower cost, responsibly sourced and lower emissions oil. Canadian oil sands have increased their competitiveness and have also decreased their carbon intensity by 21% from 2009 to 2017⁵. The Expansion Project will provide increased capacity to support responsible Canadian oil production.



³ BP. 2020. Statistical review of world energy.
<https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/energy-economics/statistical-review/bp-stats-review-2020-full-report.pdf>

⁴ IEA. 2020. World Energy Outlook.
<https://www.iea.org/reports/world-energy-outlook-2020/outlook-for-fuel-supply#abstract>

⁵ IHS Markit. 2018. Press release.
https://news.ihsmarkit.com/prviewer/release_only/slug/energy-2030-upstream-greenhouse-gas-emissions-intensity-canadian-oil-sands-be-30-perce

ENVIRONMENTAL STEWARDSHIP IN MARINE TERMINAL OPERATIONS

Our Westridge Marine Terminal in Burnaby, British Columbia, receives third-party vessels (tankers or barges) that either export petroleum products from our pipeline; or import jet fuel from offshore. While the number of vessels handled each month fluctuates depending on market conditions, our terminal historically averages five tankers and three barges loaded with oil, and one or two barges unloaded with jet fuel each month.

As part of the Expansion Project, the marine terminal will be expanded from a single berth to a three-berth complex, with associated onshore facilities. Following the completion of the Project, the pipeline's full capacity will be 890,000 barrels per day. Up to 70% of the capacity of the expanded system may be delivered to the Westridge Marine Terminal for shipment. This volume is equivalent to loading up to 34 partially loaded Aframax class vessels per month. Although this traffic level is a small contribution to the overall traffic in the area, we acknowledge the role that the Expansion will play in increasing overall vessel traffic and associated concerns. We are working proactively to mitigate risks with suitable management systems and working with others to prevent and respond to incidents.

We see our role as two-fold. First, we must safely and responsibly operate the expanded terminal, and second, we must act as an enabler of a safer and more responsive marine community. The next few pages explain how we carry out these responsibilities.

OUR ROLE IN SUPPORTING THE MARINE COMMUNITY

RESPONSIBLY OPERATING OUR TERMINAL



GREEN MARINE

Green Marine is a voluntary environmental certification program for the North American marine industry which encourages its participants to reduce their environmental footprint by taking concrete actions across 14 performance indicators. The 348 members and supporters include ship owners, ports, terminals, shipyards, and seaway corporations.

As a terminal participant since 2015, the Westridge Marine Terminal undertakes a self-review of its performance with respect to air and waste contaminants and noise levels annually, and is subject to an independent verification every two years by Green Marine. Our participation has allowed us to benchmark our performance against other terminals across North America.

RESPONSIBLY OPERATING OUR MARINE TERMINAL

The terminal has a long record of safe and reliable operations. We will work to maintain that record by operating the terminal with the highest standards of safety and environmental protection. The following activities help us manage the direct impacts of our terminal operations:

1 Terminal safety

At the Westridge Marine Terminal, we have three tanks designed to store finished products that are currently storing jet fuel. We ensure we meet all standards for maintenance, odour abatement, terminal lighting (light levels and directional lighting), and have a rigorous ongoing safety program. We also work collaboratively with all stakeholders to help improve overall navigation safety, such as maintaining regular communication with ship agents. Navigation safety and safe vessel approach to the terminal are particularly crucial during construction given the additional vessels and activity near the terminal. For added security during the Expansion, and to maintain safe separation between active construction and the public waterway, we placed a floating marine fence (known as a marine construction safety boom) around the main construction area.

2 Managing emissions from the marine terminal

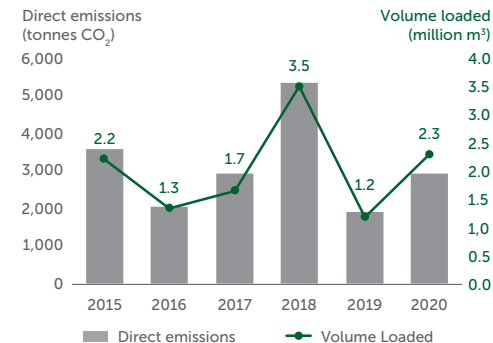
The process of filling a marine vessel with oil leads to the generation and displacement of hydrocarbon vapours or gases from within the vessel's cargo tanks. As a direct release of those gases into the atmosphere would be detrimental, we capture and destroy them in a Vapour Combustion Unit. As part of the Expansion Project, we will install two new Vapour Recovery Units (VRUs) which will capture nearly all the vapours associated with ship loading and reinject them into the vessels. Increased traffic might result in increased overall emissions from the terminal.

3 Preventing spills during loading

We have been safely loading third-party vessels with petroleum products at our marine terminal since 1956. Preventing marine spills is critical because they would have detrimental effects on the marine environment and require significant resources and effort to clean up.

- We have a strong oil pollution prevention plan, reviewed by Transport Canada, and deploy numerous resources as part of the plan.
- At any given time, there is only a small amount of oil in the terminal piping and the integrity of such piping is regularly checked as part of our pipeline asset integrity program.
- For oil transfers between the terminal and vessels, we plan and carefully manage this procedure applying international best practices, under close supervision of our operators, our Loading Master and the vessel officers and staff.
- We take special efforts to prevent any oil that might enter the water from spreading over a larger area by having pre-deployed an operational oil spill boom (i.e., a containment barrier) surrounding both the vessel and the water side of our terminal.

**WESTRIDGE TERMINAL
GHG EMISSIONS VS VOLUME LOADED**
(HISTORICAL DATA)



GHG emissions from the Westridge Marine Terminal directly correlate to the volume of product we load onto vessels each year.

OUR ROLE IN SUPPORTING THE MARINE COMMUNITY

As a midstream company, our pipeline and terminal play a crucial role in connecting producers with customers. We will continue to provide value by performing this role, as well as being an advocate of safety and enhanced stewardship in the marine community. Some of our activities that support safer marine traffic are:

1 Working within the established marine safety regime

Our practices and procedures conform to the established regional marine safety regime, a robust set of risk controls for all traffic and for oil tankers, in particular. We work with the many significant stakeholders and rights-holders (both national and international) to support and continually improve this regime. We collaborate with Transport Canada, the Canadian Coast Guard, the Pacific Pilotage Authority, the United States Coast Guard, pilots, marine service providers, shipping organizations, other terminals, coastal communities, and Indigenous peoples. Trans Mountain supports efforts and initiatives such as the federal [Oceans Protection Plan](#) that strive for continual improvement of the regime.

2 Supporting spill prevention during vessel transit

Spillage of oil from a tanker is the owner's responsibility. Trans Mountain is responsible for all spills from our pipelines or facilities. However, we recognize concerns about oil spills to marine waters and have taken active steps to contribute to marine safety and spill prevention and response.

Vessel Acceptance Standard: Each vessel that calls at our terminal must meet all applicable international, national and local regulations. Our acceptance standard outlines the criteria vessels must meet before they can use our dock and includes measures that minimize noise and light effects for neighbours living close to our terminal. We carry out pre-screening of all nominated vessels and reserve the right to deny vessels access to our marine terminal facility if standards are not met.

Expanded tug escort route: We have helped to improve tug use and escort procedures for tankers by financing studies and funding training programs for pilots and tug masters. As a condition of vessel acceptance, we will be requiring our shippers (customers) to use escort service for all loaded tankers for the entire shipping route between our terminal in the Burrard Inlet and the Pacific Ocean, including the Strait of Juan de Fuca where no such escort of vessels happens today. The additional tugs necessary for this expanded service have the support of our shippers and will increase and further strengthen the marine safety regime to benefit all vessel traffic in the region.

Increased oil spill response capabilities: Trans Mountain is a shareholder and member the Western Canada Marine Response Corporation (WCMRC). WCMRC is funded through fees charged on transported oil, including oil transported at our marine terminal. Our contributions have supported establishing and maintaining this highly capable oil spill response organization. In the event of a spill, fast and effective response enables rapid containment and prevents more widespread impacts. We have committed to funding a significant increase in future response capacity along with incremental reduction in response time. Once implemented, this will be a lasting legacy of the Expansion Project.



As a condition of vessel acceptance post-Expansion, we will be requiring our shippers (customers) to use escort service for all loaded tankers for the entire shipping route between our terminal in the Burrard Inlet and the Pacific Ocean, including the Strait of Juan de Fuca where no such escort of vessels happens today.

3 Spill response and preparedness

Even though each vessel is responsible for their own spills, we acknowledge the role that the terminal expansion plays in increasing tanker traffic and have invested more than \$150 million to increase the response capabilities of the WCMRC. Funded by the industry, WCMRC is the only certified marine responder on Canada's West Coast. By working with them to dramatically increase their capacity, we are helping to improve spill response along the entire shipping route. The funds will create up to eight new marine spill response bases, enable the purchase of 40 new vessels, and employ more than 120 new people in spill response. The Enhanced Response Regime (ERR) is currently in development by WCMRC and is expected to be in place when the Expansion is completed, with most bases under active construction and over 50% of the recruitment complete at the end of 2020.

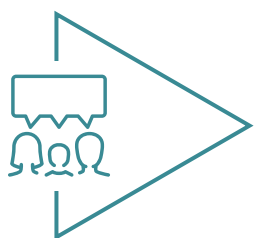
Westridge Marine Terminal is an important part of our emergency preparedness and response planning. We have taken numerous steps to ensure we can rapidly respond in the event of an emergency, such as comprehensive training for our employees and maintaining enough equipment to be self-sufficient to respond to emergencies for the first six hours (read more about Trans Mountain's emergency response program on page 11).

4 Protecting marine life and biodiversity

Our expanded marine terminal will enable additional vessel traffic within the habitat of the Southern Resident killer whale, listed as an endangered species in Canada and the United States. It is for this reason that, from the beginning, we recognized our responsibility to mitigate the effects of the Expansion on Southern Resident killer whales and work with industry and stakeholders to apply mitigation to the greatest extent possible.

While we cannot do it alone, we are participating in collaboration efforts such as the Port of Vancouver Enhancing Cetacean Habitat and Observation (ECHO) Program to better understand and reduce the cumulative effects of shipping on at-risk whales throughout the South Coast region of British Columbia. The long-term goal of the ECHO Program is to develop mitigation measures that will lead to a quantifiable reduction in threats to whales due to shipping activities. We have committed to incorporate learnings from the ECHO Program to our own marine mammal management program and work with third-party marine vessels calling at our terminal in its implementation.





SOCIAL

We believe Indigenous communities, our neighbours, governments and local communities play an important role in how we conduct our business. Our success depends on earning the trust, respect and cooperation of all community members.



RELATIONSHIPS WITH INDIGENOUS COMMUNITIES

Through the course of our daily operations, we have formed relationships with numerous Indigenous communities and groups. In Alberta, the existing pipeline system spans the traditional territories of Treaty 6, Treaty 8, and the Metis Nation of Alberta (Zone 4). In British Columbia, the system crosses many traditional territories and 15 First Nation reserves. These Indigenous communities are our neighbours, and we respect their values, culture, and unique interests in the land.

For the Expansion Project, we will only cross reserve lands with the consent of the First Nation.

Our approach to engagement is to come from a place of openness and respect, to share mutual benefits and work toward mutual understanding. We endeavour to identify areas where we can maximize opportunities for Indigenous people. We also hope to leave a positive legacy that endures beyond the Expansion Project; that Indigenous communities are in a more sustainable position than when we first engaged with them. The following are some of the ways we strive to provide long-term benefits for Indigenous communities.

INTENTIONAL AND RESPONSIVE ENGAGEMENT

We seek to meaningfully engage with Indigenous people and their communities, tailoring our engagement to respect each community's diverse needs, governance principles and protocols. For the Expansion Project, we intentionally took an inclusive approach to engagement and welcomed input and discussion with all Indigenous communities, even those not necessarily recognized by the Crown for consultation purposes. Guided by our Indigenous Relations Policy, our engagement efforts have included more than 150 Indigenous communities and groups culminating in more than 98,750 points of engagement from 2012 to 2020. We are committed to understanding the needs and interests of Indigenous groups, including considerations of traditional knowledge and heritage resources (read more on page 14). We are open to hearing concerns, and where possible, adjust our construction and operations to reflect Indigenous perspectives.

152

Indigenous communities and groups engaged from 2012 to 2020.

98,750

points of engagement with Indigenous communities from 2012 to 2020.



CAPACITY BUILDING

We strive to enhance Indigenous peoples' long-term prosperity through direct and meaningful participation in the Canadian economy and in our operation and construction activities. We build capacity by helping individuals develop or strengthen valuable skills or expertise. Our training programs aim to maximize Indigenous participation in available employment opportunities. Some examples include:

- Our general construction contractors provide training to Indigenous, local, and regional residents, in addition to the training programs offered by Trans Mountain. Contractors provide mentorship, apprenticeship, construction readiness/close-to-qualified training, and on-the-job training. Several training sessions and programs were held in 2020 and included construction and fire safety certifications, confined space awareness, security, defensive driving, ground disturbance, fall protection and first aid.
- We have sponsored an online Project Management Extension Certificate program for Indigenous women through Mount Royal University in Calgary, Alberta. The program is exclusively for Indigenous women, which allows for additional support and more open and inclusive dialogue. The participants have been introduced to mentors to support their learning and extend their networking circles. Participants have the option to attend additional classes to prepare for their Certified Associate in Project Management (CAPM) designation.
- We have partnered with Outland Youth Employment Program (OYEP) to deliver an initiative that works toward equity and provides opportunity for Indigenous youth (ages 16-19) through land-based education, training, and work opportunities. Participants are fully immersed in a six-week natural resource-based work environment that includes on-the-job safety training, time management, skill-building, remote work experience, and lessons on managing personal work-life balance. The program enables youth to build confidence, leadership skills, and earn high school credits.

EMPLOYMENT AND BUSINESS OPPORTUNITIES

We are working hard to support the sustainability of Indigenous, local, and regional communities along the pipeline corridor through the creation of employment and business opportunities during construction, post construction and in support of operations. Building the 980 kilometres of new pipeline and associated facilities will require more than 15,000 individuals, the majority being residents from British Columbia and Alberta. We recognize that most employment opportunities will be made available through construction-related contracts. As of December 31, 2020, Trans Mountain and our contractors have hired approximately 9,700 people of whom 1,000 are Indigenous.

We are also committed to maximizing business opportunities for Indigenous groups. As our contractors identify specific business opportunities along each section of the Project, we communicate these to Indigenous communities and identify potential partners through our vendor system. As of December 31, 2020, Trans Mountain and our contractors have hired approximately 3,550 businesses, of which 420 are Indigenous. This is approximately 12% of the total businesses hired.

MUTUAL BENEFITS AGREEMENTS

Mutual Benefits Agreements (MBAs) are intended to help build long-term relationships based on shared interests. They are important not only for formally acknowledging our commitments to which we are accountable, but also to share prosperity and to build capacity and opportunities. MBAs are tailored to community needs and provide different types of defined project benefits. However, there are broad categories of benefits such as, but not limited to, financial compensation, community investment, business opportunities, environmental commitments, employment and training and emergency management and response.

More than

380

Indigenous people have taken more than 800 contractor training programs or courses.

24

Indigenous women enrolled in an online Project Management Certificate program, funded by Trans Mountain.

More than

1,000

Indigenous people hired to support construction of the Expansion Project. This is approximately 10% of total hires.



RELATIONSHIPS WITH LANDOWNERS

We have built and maintained relationships with approximately 2,200 landowners along the existing pipeline route that has been in operation for more than 65 years. We value these continued interactions and know that every day the safe operation of our pipeline is dependent on these relationships. Our key objective is to treat each landowner fairly and equitably.

ENGAGING LANDOWNERS AND BUILDING RELATIONSHIPS

Our land teams have been working directly with all landowners for decades. More recently, our land teams have been focused on the Expansion and landowners who are, or may be, affected by the Project. As a good neighbour, we are doing several things to enhance these relationships.

- We have hired dedicated Senior Land Representatives for each spread of the pipeline. These are Trans Mountain employees who directly manage or oversee the activities of any third parties or vendors.
- We continue to host pre-construction meetings to capture any changes to the Project over the past few years and to update any relevant landowner requests.
- As we have many landowners in the Lower Mainland of British Columbia, we have built a dedicated team based in Burnaby. These staff are local and understand the local context and concerns.

Questions and issues often arise during construction and we work together to find jointly equitable solutions. We also recognize that the duration of this Project has been hard on landowners and has affected some of these relationships. We welcome feedback and encourage landowners to raise any concerns with us through their land agent or Senior Land Representative, via email or phone. Complaints may also be filed through the Canadian Energy Regulator. We proactively communicate with all landowners on a regular basis through in-person visits, mailouts, emails, and/or Landowner Update newsletters.

SAFETY IS A SHARED RESPONSIBILITY

Every day we work with landowners to help protect the pipeline and the environment. We do this through a variety of programs.

Public Awareness program - helps maintain the safety of the pipeline and the right-of-way by informing and educating people who live and work in the area.

Depth of Cover program - ensures sufficient cover over the top of the underground pipe, which is especially important in agricultural areas where tilling is practiced. Each year different sites are assessed and remediated based on exposure and risk.

Weed Management program - ensures clear access and line-of-sight along the right-of-way through the ongoing management of vegetation and weeds.

Damage Prevention program - reduces the potential for unsafe digging that may cause pipeline damage. Examples include pipeline markers along the right-of-way and creating awareness about the need to "Click Before You Dig". We also use surveillance and monitoring (including an aerial patrol program) to assess potentially threatening activities in a 30-metre zone from the centreline of the pipeline.

RELATIONSHIPS WITH COMMUNITIES

Operating and building pipeline infrastructure affects more than 55 communities along the route and marine corridor, many of which are in urban areas. To build respectful, transparent, and collaborative interactions, and to develop long-term, effective relationships, we have hosted more than 215 open houses and workshops and held more than 1,800 meetings along the pipeline and marine corridor since 2012. This process has included more than 24,000 points of engagement.

ENGAGING WITH COMMUNITIES

Building on 65 years of operations, we meet with our neighbours and those impacted by, and interested in, our business to provide factual and relevant information; and to provide opportunities for those impacted to share their concerns and interests with us. To honour our commitments, we host events, provide newsletters and updates, make safety and public awareness presentations, and participate in community events, regulatory processes and informal meetings. Community members can expect a timely and accurate response to their interests and concerns, with their concerns considered and addressed to the extent practical and compliant with regulatory conditions and requirements.

As a result of these conversations, we continually improve and optimize our planning and mitigation measures to address concerns about our pipeline operations, emergency response and safety. We are committed to earning trust and continuing to work with communities to gather feedback and support collaborative efforts to mitigate the impacts of our operations while enhancing safety and protecting the environment.

COMMUNITY BENEFITS AGREEMENTS

We invest in the communities where we operate to foster economic and social wellbeing. In recognition of the effects of pipeline construction, we have worked with communities to develop Community Benefits Agreements, which provide a range of benefits to residents. Our aim is to leave positive legacy impacts in surrounding communities. Community Benefits Agreements designate funds for priority projects as unique as the communities themselves, from parks to bike paths and local education initiatives, to drinking water infrastructure. In 2020, the value we committed to (or paid as part of our community benefits program) was \$3,275,000.

COMMUNITY INVESTMENT

We encourage our employees and contractors to be active members of their communities. We support our local communities through our community investment program, volunteerism and by supporting local speaking opportunities. Our community investment program focuses on areas that reflect what we value: Education, Community Wellbeing, and Environmental Stewardship.

20

Community Awareness and Emergency Response Sessions (mostly virtual) were held in 2020

In 2020, Trans Mountain granted **137** financial and in-kind contributions in **39** communities along the pipeline and marine corridor as part of our community investment program. The value of our contributions was **\$285,000**, including the company matching of the employee-led United Way contributions. These contributions were made to support events and initiatives designed to address the needs of the community across our areas of focus.



ECONOMIC CONTRIBUTION

The financial success of our business allows us to contribute to the local and Canadian economy. Our contributions also help to build resiliency in the Indigenous and local communities along our pipeline route.



LOCAL PROCUREMENT

We are committed to maximizing the benefits of the Expansion Project for all Canadians which includes taking into consideration local procurement decisions during the Expansion. Nearly 60% of the pipe needed (measured by length) for the Project is manufactured in Regina, Saskatchewan at EVRAZ North America's facility. This company is the only producer of 100% made-in-Canada pipe and will employ 100s of Canadians.

Additionally, the material for the pipe is sourced from EVRAZ North America's recycled metal operations in Alberta, Saskatchewan, Manitoba and Ontario. The pipe is manufactured by Canadian members of the United Steelworkers Union.

EMPLOYEE AND CONTRACTOR SAFETY

Our first priority is to protect the health and safety of our employees, contractors, and the public. With 390 employees and more than 1,200 individual contractors working directly with, or on behalf of, Trans Mountain, this is a critical and ongoing mission. We care about the safety and wellbeing of our people, not only for their safety, but the safety of others in the community and for the environment. This is why we have stringent safety regulations, high expectations of our contractors, and are always working to improve our safety practices.

PRACTISING SAFETY

We track leading indicators including near misses reported, contractor safety inspections, and hazard identifications. Learnings derived from tracking these indicators are used to continually improve our safety program and can be shared through regular safety practices, such as:

Tailgates: Short safety meetings with all workers at the beginning of the day are used to identify and control hazards and risks for that work period.

'Safety Flash': These email notifications are created and distributed across the company when a hazard, near miss, or an incident investigation finding may help prevent future injuries.

SAFETY CULTURE SURVEY

In 2019, we participated in a joint safety culture survey between the Interstate Natural Gas Association of America (INGAA) and the Canadian Energy Pipeline Association (CEPA). This survey was an industry-wide effort to evaluate safety for oil and natural gas pipeline operators in North America. Our operations team achieved a participation rate of 100%, the highest amongst 22 participating North American companies.

0.59

Total Recordable Injury Rate*,
for employees in 2020.

0.00

Lost Time Injury Rate*,
for employees in 2020.

**incidents per 200,000 exposure hours*

84%

Our safety culture score, the second
highest score amongst participating
Canadian companies.



EXPANSION PROJECT SAFETY

Some of our safety challenges on the Expansion Project include the complexity of construction logistics, slopes and mountainous terrain, amount and size of equipment, multiple general construction contractors, and high number of individuals required on site. As such, we need to be exceptionally vigilant and rigorous in the application of our safety practices by the contractors.

Despite our safety efforts, we experienced two significant safety incidents on the Expansion Project in 2020. In October, an employee working for one of our construction contractors lost his life in a line of fire accident during the disassembly of a trench box. Trench boxes are used to protect workers in confined spaces and keep the ground from sloughing into the trench. In December, another construction contractor on our Expansion Project suffered a life-altering injury. These separate, tragic incidents prompted a company-wide safety stand down, and later, a voluntary project-wide safety stand down that saw all project construction suspended from December 2020 to February 2021.

We resumed work only after ensuring that we had the right safety processes, procedures and training programs in place and, most importantly, that they were strictly followed. We focused our efforts in three areas including increased hazard awareness and safety training, systemic changes to the way we assess and manage high risk activities, and a refocus on safety communications and shared learnings with all of our contractors. We also engaged third-party safety expertise to assess and make recommendations about our safety culture across the Project.

Setting clear expectations

To ensure we set clear expectations and are aligned with our contractors on safety behaviours, we have implemented the following practices:

Life Saving Rules: We have implemented Energy Safety Canada's [Life-Saving Rules](#), in conjunction with our own best practices on the Expansion Project. These rules are a set of concise, easy to remember rules aimed at preventing serious injuries and fatalities. They remind workers of the most hazardous work situations in our industry (heights,

confined spaces, hot work, line of fire, energy isolation and driving) and set mandatory expectations for having a work authorization, respecting safety controls and being fit for duty.

Contractor Leadership Meetings: In November 2020, we established quarterly safety meetings which involve all our general contractor companies' senior leaders and are used to broadly communicate our safety practices and expectations.

Safety best practices meetings: Our senior and executive staff meet six to eight times per year with our contractors' senior management teams to raise awareness about safety, discuss best practices and identify improvement opportunities.

Senior leadership tours: Expansion Project senior leaders have visited each key site along the pipeline as part of multiple cross-project site visits. These site visits generally take from seven to ten days and involve meetings with contractor leadership and the Expansion Project management teams. During these visits they inspect progress, discuss challenges and review construction planning. In 2020, senior leaders conducted three site visits. Additionally, senior leaders, including our Chief Operating Officer, conducted a 16-day cross-project visit dedicated to safety restart meetings in January 2021.

Monitoring

While contractors are responsible for quality control in their work, we take seriously our role in quality assurance and oversight. We regularly monitor our contractor's work to verify that they are executing the work as agreed. This includes:

Contractor inspectors: We have teams of inspectors in the field to examine various aspects of the Project, such as traffic, health and safety, ground disturbance, damage prevention, steep slopes and mobile equipment, environment, avalanche monitoring, etc.

Site safety spot inspections: In addition to local safety oversight in the field, our Environment, Health and Safety advisors conduct real-time spot inspections while our contractors are performing tasks.

During 2020, our employees and contractors worked more than 11 million hours on the Expansion Project

0.52

Total Recordable Injury Rate* for contractors in 2020.

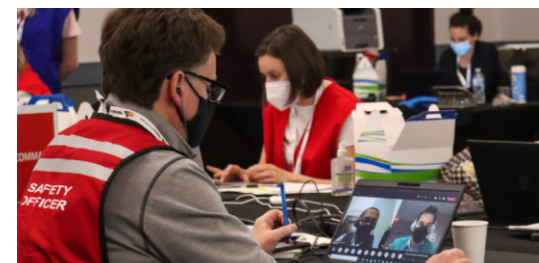
0.05

Lost Time Injury Rate* for contractors in 2020.

*incidents per 200,000 exposure hours

WORKING SAFELY DURING THE PANDEMIC

In response to the evolving COVID-19 pandemic, we have been working diligently to ensure adherence to all guidance and direction from health officials and all levels of government. Some of the specific measures that we, together with our construction contractors, are taking include working from home wherever possible, enhancing cleaning, staggering work shifts, following physical distancing guidelines, wearing masks, ensuring access to safety equipment, and temperature testing. We continue to revisit and update our plans and monitor implementation daily.



INCLUSION AND DIVERSITY

We strive for an inclusive and diverse workplace that is supportive of all employees and contractors. We believe that diverse viewpoints and cultural knowledge enrich our organization’s collective cultural understanding, build trust, reduce turnover, improve innovation, and create a positive environment where our people can thrive.

As a federally owned company, we must comply with the Employment Equity Act. The Act requires us to engage in proactive employment practices to increase the representation of four designated groups: women, people with disabilities, Indigenous people, and visible minorities. We must survey our Canadian workforce to allow for self-identification, and also develop an annual employment equity report which details the representation of the designated groups, rates of hiring, promotions, and terminations. The report also outlines our efforts around policy review, and training and awareness initiatives.

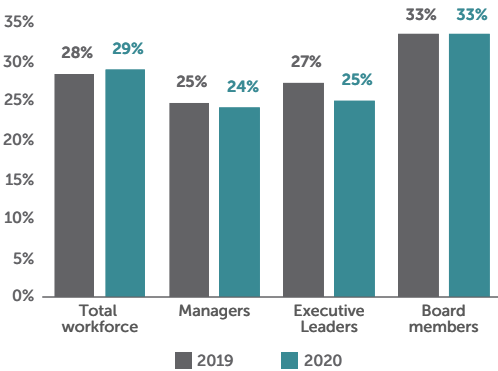
PROVIDING TRAINING AND INCREASING AWARENESS

We provide opportunities for our employees to openly discuss harassment, discrimination, and unconscious biases. Doing so raises awareness about these topics and how they hinder the development of an inclusive workplace. Examples include:

Unconscious Bias and Inclusive Workplace: 24 Directors attended this training which examines different types of bias and the psychology around bias, with a focus on what inclusive leadership is and why it is important.

Respect in the Workplace: This training was conducted by an external subject matter expert and was mandatory for all leaders, including all executive leaders. Sessions were then offered for all employees and contractors. In total, 412 individuals across the company took the training in 2020. The training reinforced our position around discrimination and harassment in the workplace, how to report and deal with a complaint, and tips for engaging in difficult conversations.

WOMEN AT VARIOUS LEVELS
(PERCENTAGE)



We support inclusive hiring practices that are not biased. For example, for all leadership positions we always endeavour to include qualified female candidates as part of the talent pool, and we ensure female representation on the interview panel. Note this data only covers employees.

INCLUSION AND DIVERSITY INITIATIVES

To advance employment equity we have an internal Diversity and Inclusion Committee, whose mandate is to support a workplace environment where everyone feels safe, valued, and respected. The committee develops and promotes initiatives that raise awareness, identify and remove barriers, and create workforce learning opportunities to promote diversity and inclusion. Some of the initiatives supported by the Committee during the last two years include:

Diversity Days: This annual company-wide event is focused on creating increased awareness of organizational diversity through education initiatives, reminders on our relevant policies and procedures, and an annual theme centered around one or more of the designated groups.

National Indigenous Peoples Day: In 2020, we celebrated National Indigenous Peoples Day. An important message we shared with our employees was about building relationships through principles of trust, respect, transparency, and meaningful engagement.

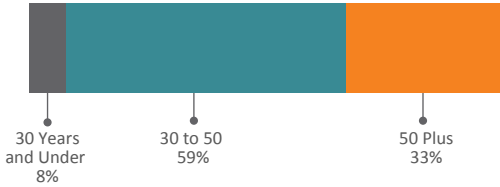
Mental Health and Mental Wellness Sessions: In 2020, we offered three sessions to our workforce. A speaker from the Canadian Mental Health Association led the sessions and provided insights on how to manage one’s wellbeing, and how to be a good peer and colleague to those you work with.

SUPPORTING EMPLOYEES DURING COVID-19

In March 2020 we rapidly implemented a work-at-home strategy which included guidelines for our leaders on how they could support their teams through the pandemic.

The guidelines included tips on maintaining a sense of connectivity and teamwork, being mindful of email or chat overload, addressing concerns of social isolation or loneliness, encouraging appropriate time away from the computer as the lines of work and home are more blurred now, and recognizing that these are unusual circumstances which may require more frequent connection and communication.

AGE DEMOGRAPHICS
2020 WORKFORCE



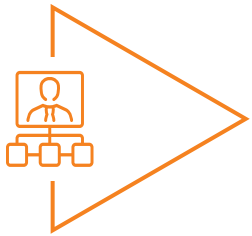
DESIGNATED GROUPS

	2019	2020
Indigenous people	1.8%	1.8%
People with disabilities	0.3%	0.3%
Visible minorities	13.1%	13.8%
Women	28.0%	29.0%

Employee-only data.

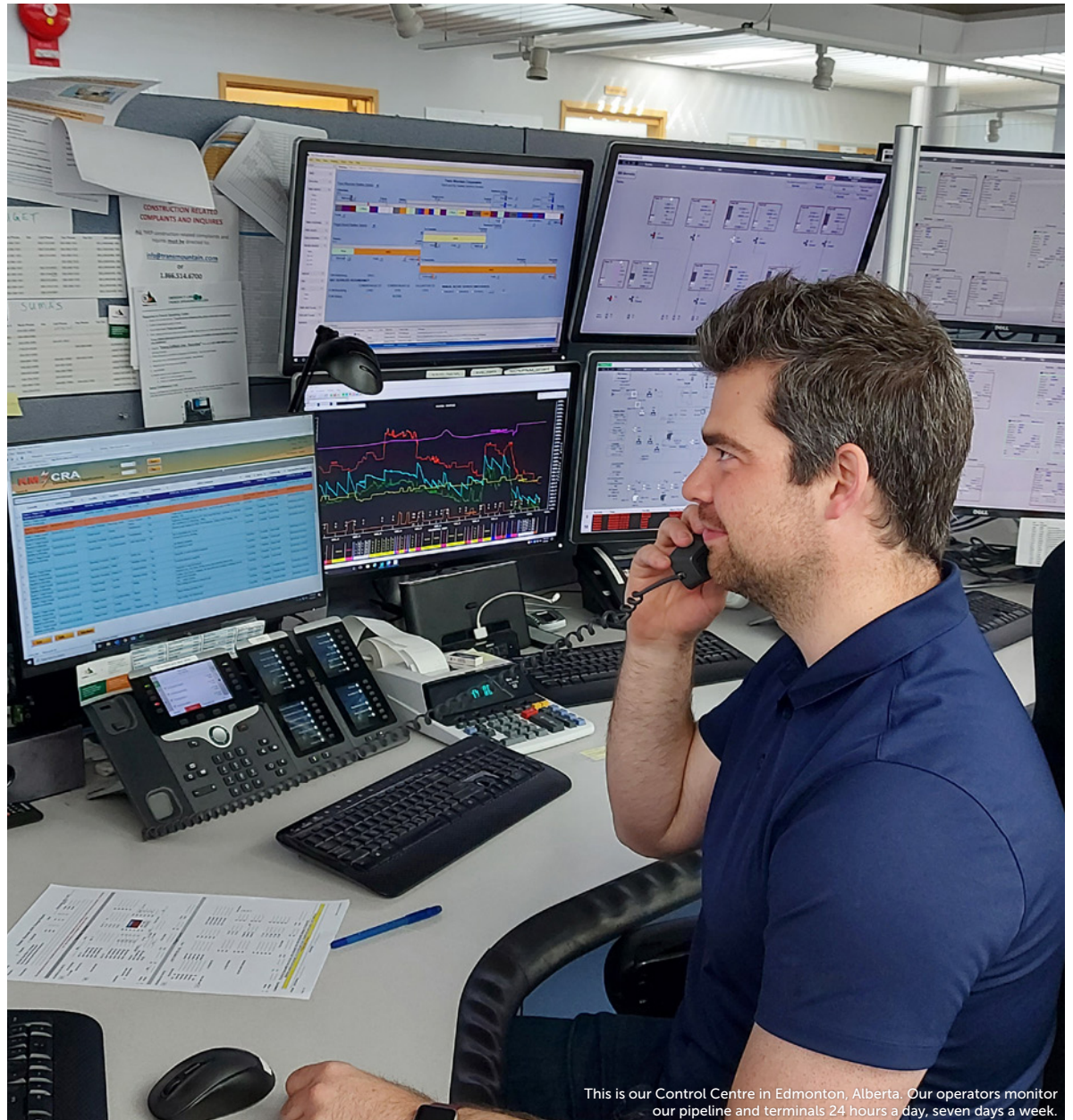


Operator technicians at Westridge Marine Terminal



GOVERNANCE

At Trans Mountain, we believe strong and effective governance is essential for creating a culture of integrity, proactively controlling risks, and achieving strong business performance.



This is our Control Centre in Edmonton, Alberta. Our operators monitor our pipeline and terminals 24 hours a day, seven days a week.

CORPORATE GOVERNANCE

We see good corporate governance as critical to helping us achieve sustained success and creating lasting benefits for all our stakeholders: our customers, employees, business partners, regulators, and the communities where we live and work.

CORPORATE STRUCTURE

Trans Mountain Corporation (TMC) was incorporated in 2018 as a federal Crown corporation for the purpose of purchasing and managing assets related to the pipeline and Expansion Project. Our Board of Directors is ultimately accountable to Parliament through Canada Development Investment Corporation (CDEV), a federal parent Crown corporation, and the Minister of Finance. As Crown corporations, TMC and CDEV operate at arm’s-length from the government and have a high degree of responsibility to maintain the public trust and account fully and openly for operations and decisions.

BOARD FORM AND FUNCTION

Our Board of Directors is appointed by CDEV and is composed of 12 members, 11 of whom are considered independent including the Chair. The Board is responsible for the stewardship of our company with overall responsibility to oversee and supervise the management, businesses, and activities, while exercising their independent judgment to strengthen management and accountability. The Board carries out its mandate through five standing committees: the Audit Committee; the Environmental, Health and Safety Committee; the Human Resources, Compensation, Nominating and Governance Committee; the Expansion Project Oversight Committee; and the COVID-19 Committee which was formed in early 2020 to manage the rapidly evolving COVID-19 situation.

BOARD DIVERSITY

We have a Board with qualified, knowledgeable and committed individuals who understand our business and the context in which we operate. At Trans Mountain, we value diverse points of view and believe that diversity of thoughts, experiences and perspectives can lead to better decision making. In our current Board of Directors, we have four women (representing 33% of the Board) and two Indigenous individuals (17%). Indigenous Board members can play a role in ensuring we consider Indigenous perspectives and the Indigenous world view in our strategy and plans.

BOARD COMPOSITION AND INDEPENDENCE

Size of Board	12
Independent Directors	11
Separate Chair and CEO	Yes
Independent Chair (required)	Yes
Comprehensive Board Assessment Process	Yes
Board Meetings Held in 2020	6
Average Meeting Attendance	100%

BOARD RENEWAL AND DIVERSITY

Mandatory Retirement Age	No
Average Director Tenure	2 years
Women Board Members	33%
Indigenous Board Members	17%

ETHICS

Code of Conduct for Directors, Officers and Employees	Yes
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GOVERNANCE FOR ENVIRONMENTAL AND SOCIAL MATTERS

ROLE OF THE BOARD

The Board oversees the conduct of our business, direct management of the company, and considers all major issues affecting the company, which may include environmental and social matters. At Trans Mountain, the Board as a whole (and not any individual Board committee) is responsible for providing oversight over critical environmental and social risks, including climate-related risks (read more on page 17). The Board receives a standard quarterly update on corporate risks, which often includes environmental and social risks.

ROLE OF MANAGEMENT

Our executive team reports environmental and safety-related performance and issues quarterly to the Environmental, Health and Safety Committee of the Board. Reporting includes key performance indicators, security updates, marine activity, developing issues in operations, and any environmental or safety incidents or near misses. Our executive team sets our goals and strategy that might ultimately be executed by our operations and subject matter expert teams.

ESG RISK IDENTIFICATION AND INTEGRATION

We continually monitor risks to our business, incorporate them into our enterprise risk management systems, and assess their potential impact. Some of those risks are environmental and social in nature. We update our risk registry every quarter. Environmental and social matters are incorporated into our business and operational decisions in several ways including:

- Pre-qualifying and monitoring contracted companies that work on our Expansion Project to align on safety and environmental expectations (page 37);
- Incorporating environmental considerations in the route of our pipeline (page 13); and
- Monitoring and taking action to respect Indigenous heritage resources (page 14).

OUR MANAGEMENT SYSTEMS

As required by the Canada Energy Regulator, we have an Integrated Safety and Loss Management System (ISLMS). Our ISLMS helps us support and protect the safety and security of the public, our employees and contractors, the environment and company assets. ISLMS covers the procedures, processes, and guidelines that our employees must follow in conducting our operations in a safe, environmentally responsible, and sustainable manner. The system is subject to regulatory audits. Learnings from these audits helps drive continuous improvement throughout the pipeline’s lifecycle.

COMMUNICATING TO OUR OWNER

Trans Mountain provides information about our risks and risk management strategies, and material health, safety and environmental matters to CDEV on a quarterly basis. All significant health and safety, security and environmental incidents are promptly reported to CDEV and do not wait until our quarterly report.



ETHICS

POLICIES AND ETHICS HOTLINE

We are dedicated to conducting our business ethically and responsibly, and to upholding our core values of safety, integrity, respect and excellence in all we do. Our [Code of Business Conduct and Ethics](#) outlines how our values translate into everyday behaviour, establishes high standards of ethical conduct, and incorporates company policies and the laws and regulations we must follow. Our Whistleblower Policy states that there will be no retaliation (discipline, loss of job, or any other type of retaliation) against anyone who, in good faith, reports a compliance or ethics concern. We also maintain an Ethics Hotline through a third-party company, which provides a confidential and anonymous way to report potential unethical behaviour or wrongdoing that is not in compliance with the Code. All reports are dealt with expeditiously, investigated and resolved as appropriate.

CODE OF CONDUCT TRAINING

All personnel must complete annual awareness training of the Code. The training module provides an overview of the Code, reviews key areas in plain language, and ends with a knowledge evaluation to ensure accountabilities are understood.

CYBERSECURITY

The growing level of threat to cybersecurity is a risk affecting organizations of all sizes and in all industries. We protect our systems, information, and physical assets through a cybersecurity program that aligns to ISO 27001 and the [National Institute of Standards and Technology](#) (NIST) Cybersecurity Framework. We also complete an annual maturity and risk assessment to ensure that our cybersecurity program is aligned with Trans Mountain risks and meets industry standards and best practices.

PROMOTING CONTINUED SECURITY AWARENESS

In 2020, we implemented a company-wide security awareness program which involved monthly awareness bulletins, departmental sessions, and cybersecurity lunch and learn sessions. We also conducted quarterly tests as part of our phishing testing program in which our employees receive emails from a seemingly trustworthy source and we monitor open, click and reporting rates. As part of this campaign and increase in the threat landscape, we offered personal cyber health awareness and education which encourages safe practices at home and at work.

MAINTAINING CYBERSECURITY WHILE WORKING FROM HOME

Like many organizations, we have had to adjust to the decentralization of our workforce. From a cybersecurity perspective, this has meant a larger focus on ensuring secure remote access and using cloud-based digital collaboration systems. We have implemented increased end-point protection including anti-malware, multi-factor authentication, and scrutiny over geographical network and/or cloud activity. As cyber-incidents increase worldwide due to the pandemic, we are being proactive by retaining a third-party operations security centre where events are analyzed, correlated, and filtered down to identify real security threats.

In 2020,

98%

of our workforce completed their ethics training.

4

phishing tests completed; one per quarter.

250

individuals attended cyber awareness sessions.

WORKING WITH RESPONSIBLE CONTRACTORS

As an extension of Trans Mountain, it is important that all contracted companies embody our values of safety, integrity, respect, and excellence.

We expect all contracted companies to work to the high standards of safety and environmental protection we set for ourselves, and to assist us in fulfilling our commitments to Indigenous communities. The following processes and programs we have in place ensures a consistent approach from the third parties that work on our behalf.

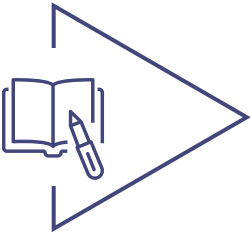
Choosing safe contractors: As part of the evaluation process, each general construction contractor must be registered with ISNetworld, the online contractor and supplier management platform we use for pre-qualifying and monitoring contractors for work. All contracted companies must meet our ISNetworld requirements including demonstrating technical capabilities, having adequate safety practices and appropriate insurance in place. We have teams of safety inspectors that work alongside contractors (read more about contractor safety on page 30).

For individual contractors, we have a Contractor Competency Assurance program that provides additional rigour around training by detailing the competencies each contractor must have to complete a job and identifying the specific training required.

Monitoring environmental practices: All contracted companies must meet our environmental commitments, respect heritage resources, and report any environmental incident in the course of the work. To monitor adherence with our policies, we have a team of Trans Mountain employees and environmental inspectors who work alongside each contracted company.

Ensuring contractors help us meet our social commitments: We must rely on our contracted companies to help us meet our commitments to Indigenous communities. For the Project, each contracted company must sign our Owners' Requirements, a special contract which outlines contractor's responsibilities to maximize the hiring of Indigenous peoples (read more about Indigenous employment on page 24).





APPENDIX
AND DATA



TCFD SUMMARY

This section summarizes content that is provided in other sections of this ESG report. The content has been reorganized to align with the Task Force on Climate-related Financial Disclosures (TCFD) recommendations around four thematic areas that represent core elements of how organizations operate—governance, strategy, risk management, and metrics and targets. We provide information related to the four overarching recommendations and partially address some of the more specific climate-related financial disclosures in each area. In the next few years, Trans Mountain is committed to enhancing its disclosures, including scenario analysis.

I. Governance: Describe the organization's governance around climate-related risks and opportunities

a) Describe the Board's oversight of climate-related risks and opportunities.

The Board oversees the conduct of our business, direct management of the company, and considers all major issues affecting the company, which may include environmental and social matters. At Trans Mountain, the Board as a whole (and not any individual Board committee) is responsible for providing oversight over critical environmental and social risks, including climate-related risks (read more on page 17). The Board receives a standard quarterly update on corporate risks, which often includes environmental and social risks.

b) Describe management's role in assessing and managing climate-related risks.

Our executive team reports environmental and safety-related performance and issues quarterly to the Environmental, Health and Safety Committee of the Board. Reporting includes key performance indicators, security updates, marine activity, developing issues in operations, and any environmental or safety incidents or near misses. Our executive team sets our goals and strategy that might ultimately be executed by our operations and subject matter expert teams.

II. Strategy: Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning where such information is material.

a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long-term.

b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.

Climate change is an important issue requiring global action across industries. Trans Mountain is committed to working with governments and stakeholders to advance strategies that will reduce emissions along the energy value chain. Trans Mountain is considering how changes in global hydrocarbon demand may impact the current and future operations of our systems.

PHYSICAL RISKS TO OUR ASSETS FROM CLIMATE CHANGE

Our operational assets are located in Alberta, British Columbia, and Washington state. The climate-related risks with the highest likelihood to affect our assets are wildfires, winter storms, land flooding and rising sea levels on the British Columbia coastline, where our only marine terminal is located.

Wildfire risk: Our pipeline system passes through urban centres, farmlands, grasslands, mountains, and valleys. As more than 99% of the pipeline is buried, the risk to our assets from wildfires or forest fires is relatively low across the full route. Nevertheless, we protect our above-ground assets (storage terminals and pump stations) through procedures, training, detailed wildfire response planning, and by maintaining an adequate inventory of response equipment. Our pump stations are within gravelled, fenced-in industrial sites, with no equipment against the fence line. As well, only certain pump stations along the line are deemed critical, while the remainder can be remotely turned off, if required, due to an approaching fire.

Winter storms: Increases in the severity of winter storms poses a specific risk to the users of our marine terminal as storms can result in vessel delays. We mitigate this risk by investing in weather prediction technology, terminal management systems to better respond to system back-ups and weather delays, and by requiring our customers to use larger, more powerful escort vessels (tugboats) throughout their vessels' entire transit within Canadian waters year-round.

Land flooding: As weather patterns change, flooding events may increase in frequency or severity. To prepare and respond quickly in case of a flood event, we continually monitor the flow rates in the watercourses crossed by our pipeline and conduct additional aerial and ground inspections of the right-of-way when flow rates reach a certain level. These additional inspections verify that the integrity of the pipeline is not compromised in a flood event, and that any pooled water on the right-of-way does not threaten the continued safe operation of the pipeline system.

Rising sea levels: Our Westridge Marine Terminal is located in Burnaby on the north side of the Metro Vancouver area. Although studies estimate that the most affected areas will be on the south side of metro Vancouver, we have prepared for possible long-term impacts by accounting for the potential sea level rise in the detailed design of the terminal. In particular, the design ensures that the deck elevation of the structures is set high enough to avoid flooding or wave damage should the predicted sea level rise occur.

TRANSITION-RELATED RISKS

Two of the most challenging impacts of the transition to a lower carbon economy are regulations and changes in demand.

The current carbon tax in Alberta applies to large final emitters (single facilities emitting more than 100,000 tonnes of CO₂) and none of our facilities fall under this category. Carbon tax in British Columbia applies to the purchase or use of fuels such as gasoline, diesel, and natural gas. Although we rely mostly on electricity, carbon tax can have an indirect impact on our company since it can make Canadian oil and gas production more costly. However, we have several long-term contract commitments in place with our shippers, ranging from 15 to 20 years, which make us more resilient to those impacts.

Although the transition is already taking place in many countries, in 2019, oil remained the dominant source of energy⁶ in Africa, Europe and the Americas. Under its most aggressive decarbonization scenario (the Sustainable Development Scenario), the International Energy Agency forecasts that by 2040 the global oil demand could be at 66.2 million barrels of oil per day⁷. As we move from current demand levels and the transition takes place, preference will be given to lower cost, responsibly sourced and lower emissions oil. Canadian oil sands have increased their competitiveness and have also decreased their carbon intensity by 21% from 2009 to 2017⁸. The Expansion Project will provide increased capacity to support responsible Canadian oil production.

III. Risk Management: Disclose how the organization identifies, assesses, and manages climate-related risks.

a) Describe the organization’s processes for identifying and assessing climate-related risks.

We continually monitor risks to our business, incorporate them into our enterprise risk management systems, and assess their potential impact. Some of those risks are environmental and social in nature. We update our risk registry every quarter. Environmental and social matters are incorporated into our business and operational decisions.

IV. Metrics and Targets: Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.

a) Disclose the metrics used by the organization to assess climate- related risks and opportunities in line with its strategy and risk management process.

b) Disclose scope 1, scope 2, and, if appropriate, scope 3 greenhouse gas (GHG) emissions, and the related risks.

We track and manage the greenhouse gas (GHG) emissions generated by our daily operations. Most of our emissions are indirect (also known as scope 2) since we use electrically driven pumps to move the fluid through the pipeline. See page 15.

GHG Emissions (tonnes CO ₂ e)	2019	2020
Scope 1 GHG emissions	4,596	6,570
Scope 2 GHG emissions	121,197	106,234
Total GHG Emissions	125,793	112,804
Construction emissions (partial scope 3)	4,976	91,118

We support the Government of Canada’s ambition to be net zero by 2050 and we will set targets to reduce and/or offset scope 1 and scope 2 emissions.

⁶BP. 2020. Statistical review of world energy. <https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/energy-economics/statistical-review/bp-stats-review-2020-full-report.pdf>
⁷IEA. 2020. World Energy Outlook. <https://www.iea.org/reports/world-energy-outlook-2020/outlook-for-fuel-supply#abstract>
⁸IHS Markit. 2018. Press release. https://news.ihsmarkit.com/prviewer/release_only/slug/energy-2030-upstream-greenhouse-gas-emissions-intensity-canadian-oil-sands-be-30-perce

OTHER ESG-RELATED QUESTIONS

We sometimes receive questions about ESG topics which are not covered previously in this report. The following provides additional information on these topics:

What are you doing to reduce emissions that impact local air quality (SOx, NOx, Particulate Matter, Volatile Organic Compounds) around your storage terminals?

The main sources of non-GHG emissions are tank venting, construction-related combustion equipment, road dust, and chemical use. Air emissions metrics from our storage terminals can be found in the performance table (see page 42). To reduce construction impacts, we are implementing best management practices and mitigation measures as described in our air emission monitoring plans and fugitive emissions monitoring plans. Some of our practices include reducing equipment idling, covering soil piles, and conducting regular street sweeping.

What do you do with the waste from construction activities?

All employees, contractors and consultants are required to comply with applicable environmental regulations and Trans Mountain policies for the handling, storage, transportation, and disposal of waste. Waste is characterized, classified, and labelled so that it may be properly recycled or disposed of at approved facilities. Waste is recycled when possible and waste minimization is encouraged.

What do you use water for?

Where does it go after it was used?

Our regular operations of the pipeline do not require large volumes of water. We primarily use water for hydrostatic testing which is a type of pressure test that fills the pipe with water after a repair or before new installation to make sure it is working properly. Utilized water is tested, and if it meets applicable discharge criteria then it is returned to the environment. If it does not meet criteria, it is treated until criteria is met, or taken to a third-party facility for disposal.

During the Expansion Project, our main uses of water are hydrostatic testing, dust suppression, horizontal directional drilling, cleaning, and worker camps. In determining the potential water sources required for use during the Expansion Project and the volumes and rates of withdrawal, many key environmental factors are considered including: fish and other aquatics species; source water quality, quantity, location and other characteristics; and duration, rates and total volumes of withdrawal. We obtain applicable water use permits from the appropriate government authorities prior to installing pumps, temporarily filling, or conducting any associated clearing, topsoil salvage or grading. In addition, water discharge or wastewater disposal is conducted in accordance with required approvals.

What is your process for deactivating pipelines or facilities which are end-of-life?

Once a pipeline is no longer operational, we follow all regulatory requirements around draining and cleaning the pipeline of any hydrocarbons, filling the pipe with an inert filler material such as nitrogen gas, and maintaining cathodic protection on the pipe to ensure it does not corrode.

Although our main pipeline is not near its end of life, we are required by the Canada Energy Regulator (CER) to set aside funds that are protected in a trust to cover costs associated with abandonment. Trans Mountain will collect these funds over 40 years from our customers who transport petroleum products through our pipeline system. We file annual updates with the CER regarding the status of the fund. As of the end of 2020, approximately \$95 million was available in the Trans Mountain Pipeline Reclamation Trust. Read more about the trust on our [website](#).

PERFORMANCE TABLE

CONTEXT	Units	2019	2020
Product throughput			
Trans Mountain Pipeline	barrels/day	313,900	311,700
Puget Sound Pipeline	barrels/day	203,000	196,300
Westridge Marine Terminal	barrels/day	20,500	39,100
ENVIRONMENT			
	Units	2019	2020
Asset integrity			
Pipelines operated	km	1,275	1,275
Total inspections conducted	count	3,709	4,399
"Kms of liquid pipeline inspected (all types of inspections not just in-line inspections)"	km inspected	1,989	1,155
Percentage of liquid pipelines inspected	percent	156	91
Spills from pipelines			
Number of pipeline incidents		0	0
Spills at facilities			
Total number of reportable spills	count	1	1
Volume of reportable spills	m ³	2	190
Construction-related spills			
Total number of reportable spills	count	9	50
Volume of reportable spills	m ³	0.009	125
Land			
Total land owned, leased, and/or operated	acres	19,107	19,107
Land owned, leased, and/or operated within sensitive areas	percent	39	40
Total surface disturbance	acres	739	12,724
Impacted area reclaimed ³	acres	37	0

ENVIRONMENT cont	Units	2019	2020
Climate Change and GHG emissions			
Scope 1 GHG emissions (direct)	tonnes CO ₂	4,596	6,570
Scope 2 GHG emissions (indirect)	tonnes CO ₂	121,197	106,234
Total GHG Emissions	tonnes CO ₂	125,793	112,804
Construction emissions (partial scope 3) ⁴	tonnes CO ₂	4,976	91,118
Scope 1 Emissions by Source			
Stationary combustion emissions	tonnes CO ₂	660	695
Emissions from Westridge VCU/Flaring	tonnes CO ₂	1,887	2,952
Fugitive emissions	tonnes CO ₂	77	76
Venting/Tank Vapors	tonnes CO ₂	682	666
Fleet	tonnes CO ₂	1,290	2,181
Air Emissions			
VOCs	tonnes	120	192
PM10	tonnes	130	117
NOx	tonnes	66	713
SOx	tonnes	5	56
Environmental and Indigenous monitoring (expansion)			
Technical field studies and monitoring by third-party consultants	person days	2,557	13,771
Indigenous Monitoring	person days	389	2,801
Environmental Inspection	person days	2,118	9,978

PERFORMANCE TABLE

SOCIAL	Units	2019	2020
Safety (operations and Expansion)			
Recordable Injury Rate – employees	count per 200,000 exposure hours	0.00	0.59
Recordable Injury Rate – contractors		0.43	0.52
Recordable Injury Rate – combined		0.38	0.53
Lost-time Injury Rate – employees		0.00	0.00
Lost-time Injury Rate – contractors		0.04	0.05
Lost-time Injury Rate – combined		0.04	0.05
Fatalities	count	0	1
Motor vehicle accidents ⁵	count	6	119
Leading indicators			
Near misses	count	193	312
Inspections conducted	count	283	3,613
Workforce numbers and retention			
Total number of employees	count	383	390
Total number of contractors	count	1,238	1,217
Turnover rate, voluntary and involuntary	percent	8	4
Turnover rate, voluntary	percent	7	3
Diversity and Inclusion			
Women, total workforce	percent	28	29
Women, managers	percent	25	24
Women, Executive Leaders	percent	27	25
Women, Board members	percent	33	33
Other Designated Groups			
Indigenous People	percent	1.8	1.8
Visible Minorities	percent	13.1	13.8
People with Disabilities	percent	0.3	0.3

NA data not available

SOCIAL cont	Units	2019	2020
Employee Age Categories			
30 Years and Under	percent	8	8
30 to 50	percent	59	59
50 Plus	percent	33	33
Economic contribution			
Value Generated ⁶	\$ million	1,419	3,468
Value Distributed to:			
Suppliers and contractors	\$ million	844	2,792
Indigenous communities ⁷	\$ million	236	268
Providers of capital ⁸	\$ million	143	192
Employees (wages and benefits)	\$ million	78	89
Landowners	\$ million	53	59
Governments ⁹	\$ million	48	47
Communities and non-profits	\$ million	17	21

GOVERNANCE	Units	2019	2020
Ethics			
Workforce who completed Code of Conduct training	percent	94	98
Cybersecurity			
Individuals attended cyber awareness sessions	count	NA	250
Number of phishing tests	count	NA	4

NOTES

1. A hydrocarbon spill is defined as spills of more than 1 barrel that reached the environment, excludes spills contained in impermeable secondary containment. This spill reporting is consistent with IPIECA and SASB requirements.
2. Volume recovered through short-term spill response activities. This is consistent with SASB definitions.
3. Includes fuel consumption from contracted companies' vehicles.
4. Land is considered reclaimed once the pre-disturbance assessment (PDA) is completed. Reclaimed land in 2020 is zero because PDAs will not be completed until later in 2021.
5. Vehicle accidents increased due to the increase in construction activities and the associated increase in kilometres driven.
6. Value generated includes revenue, realized gains and losses on commodity and foreign exchange risk management contracts, and liquidity provided by the company's credit facility.
7. Payments to Indigenous communities includes direct purchases and royalties paid to Indigenous communities.
8. Payments to providers of capital include dividends paid to our shareholders and interest paid.
9. Payments to governments include corporate taxes, property taxes, local and federal taxes, as well as Crown leases, rentals and land acquisitions.
10. Value retained is value generated minus value distributed to all stakeholders. This is not a financial reporting indicator and should not be compared with retained earnings.

SASB INDEX

Below are the metrics and reference to qualitative description in this report in alignment with the Sustainability Accounting Standards Board (SASB) standard for oil and gas midstream companies.

Reference	SASB indicator	2020 Data or Page
GHG Emissions		
EM-MD-110a.1.	Gross global scope 1 emissions	6,570 tonnes CO ₂ e
EM-MD-110a.1.	Percentage methane	Not applicable
EM-MD-110a.1.	Percentage of scope 1 emissions covered under emissions-limiting regulations	0
EM-MD-110a.2	Description of long-term and short-term strategy or plan to manage scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	Page 16
Air Quality		
EM-MD-120a.1	NOx (excluding N ₂ O)	713 tonnes
EM-MD-120a.1	SOx	56 tonnes
EM-MD-120a.1	Volatile organic compounds (VOCs)	192 tonnes
EM-MD-120a.1	Particulate matter (PM ₁₀)	117 tonnes
Ecological impacts		
EM-MD-160a.1	Description of environmental management policies and practices for active operations	Pages 9-16
EM-MD-160a.2.	Percentage of land owned, leased, and/or operated within areas of protected conservation status or endangered species habitat	40
EM-MD-160a.3	Terrestrial acreage disturbed	12,724 acres
EM-MD-160a.3	Percentage of impacted area restored	0 acres
EM-MD-160a.4	Number of hydrocarbon spills	1 reportable spill
EM-MD-160a.4	Volume of hydrocarbon spills	190 m ³ (associated with the reportable spill)
EM-MD-160a.4	Volume in Arctic	Not applicable, we do not operate in the Arctic
EM-MD-160a.4	Volume in Unusually Sensitive Areas (USAs)	0
EM-MD-160a.4	Volume of spills recovered	143 m ³

SASB INDEX cont

Reference	SASB indicator	2020 Data or Page
Competitive behavior		
EM-MD-520a.1.	Total amount of monetary losses as a result of legal proceedings associated with federal pipeline and storage regulations	Not reported
Operational Safety, Emergency Preparedness and Response		
EM-MD-540a.1.	Number of reportable pipeline incidents	0
EM-MD-540a.1.	Number of reportable pipeline incidents that are significant	0
EM-MD-540a.2.	Percentage of natural gas inspected	We do not have natural gas pipelines
EM-MD-540a.2.	Percentage of liquid pipelines inspected	91
EM-MD-540a.3	Number of accident releases from rail transportation	Not applicable, we do not use rail transportation
EM-MD-540a.4	Discussion of management systems used to integrate a culture of safety and project lifecycles	Page 35

FORWARD-LOOKING STATEMENTS

This report contains certain forward-looking information and statements (“forward-looking statements”). Forward-looking statements relate to future results or events, are based upon internal plans, intentions, expectations, and beliefs, and are subject to risks and uncertainties that may cause actual results or events to differ materially from those indicated or suggested therein. All statements other than statements of current or historical fact constitute forward-looking statements. Forward-looking statements are typically, but not always, identified by words such as “anticipate”, “estimate”, “expect”, “intend”, “forecast”, “continue”, “propose”, “may”, “will”, “should”, “believe”, “plan”, “target”, “objective”, “project”, “potential” and similar or other expressions indicating or suggesting future results or events. The forward-looking statements reflect Trans Mountain’s beliefs and assumptions with respect to such things as the outlook for general economic and market trends and conditions, industry and ESG trends, the integrity and reliability of Trans Mountain’s assets, and the governmental, regulatory and legal environment.

Forward-looking statements are not promises of future outcomes. There is no assurance that the results or events indicated or suggested by the forward-looking statements, or the plans, intentions, expectations or beliefs contained therein or upon which they are based, are correct or will in fact occur or be realized (or if they do, what benefits Trans Mountain may derive therefrom).

In particular, this report contains forward-looking statements pertaining to, without limitation: plans, targets, and strategies with respect to reducing greenhouse gas and other emissions and anticipated reductions in emissions levels; benefits which will result from the Expansion Project including reaching new markets, increasing customer options and increasing profitability; expected costs of the Expansion Project and expected employment that will result; expected generation of emissions; increased pipeline capacity and expansion of the marine terminal; future response capacity; enhanced disclosure to the public; and future preferences for low emissions oil.

Undue reliance should not be placed on these forward-looking statements and information as they are based on assumptions made by Trans Mountain as of the date hereof regarding, among other things: oil and gas industry exploration and development activity levels; commodity prices; the availability and efficacy of various technologies; the success of our operations; that future results of our operations and related activities will be consistent with past performance and/or anticipated performance and management expectations related thereto; availability of individuals with skills required to execute on our business objectives and strategy; general compliance with Trans Mountain’s plans, strategies, programs and goals across its reporting and monitoring systems among our employees, stakeholders and service providers; our ability to successfully engage Indigenous and other stakeholders; the success of growth projects; and existing regulatory, tax, environmental and other laws and regulations.

While Trans Mountain believes the expectations and assumptions reflected in these forward-looking statements are reasonable as of the date hereof, there can be no assurance that they will prove to be correct. Forward-looking statements are subject to known and unknown risks and uncertainties which may cause actual performance and financial results to differ materially from the results expressed or implied, including but not limited to: our ability to implement our strategic priorities and business plan and achieve the expected benefits; the strength and operations of the oil and natural gas industry and related commodity prices and market conditions; our relationships with external stakeholders, including Indigenous stakeholders; reliance on key personnel and third parties; shortages or disruptions in the availability of labour, human capital and/or materials; actions by governmental and regulatory authorities, including changes in regulatory processes or increased environmental regulation; fluctuations in operating results; adverse general economic and market conditions in Canada, North America and elsewhere; risks related to the current and potential impacts of the COVID-19 pandemic and depressed commodity prices; constraints on, or the unavailability of, adequate infrastructure and technology; changes in the political environment in Canada; the ability to access sources of financing; the effectiveness of our risk management and other programs; ability to expand, update and adapt our infrastructure on a timely and effective basis; technology and security risks including cyber-security risks; reputational risks; potential litigation and disputes; and natural catastrophes.

Readers are cautioned that this list of risk factors should not be construed as exhaustive.

The forward-looking statements contained in this document speak only as of the date of this document. Unless required by law, Trans Mountain assumes no obligation to update forward-looking statements and information should circumstances or management’s expectations, estimates, projections or assumptions change. The forward-looking statements contained in this document are expressly qualified by this cautionary statement.