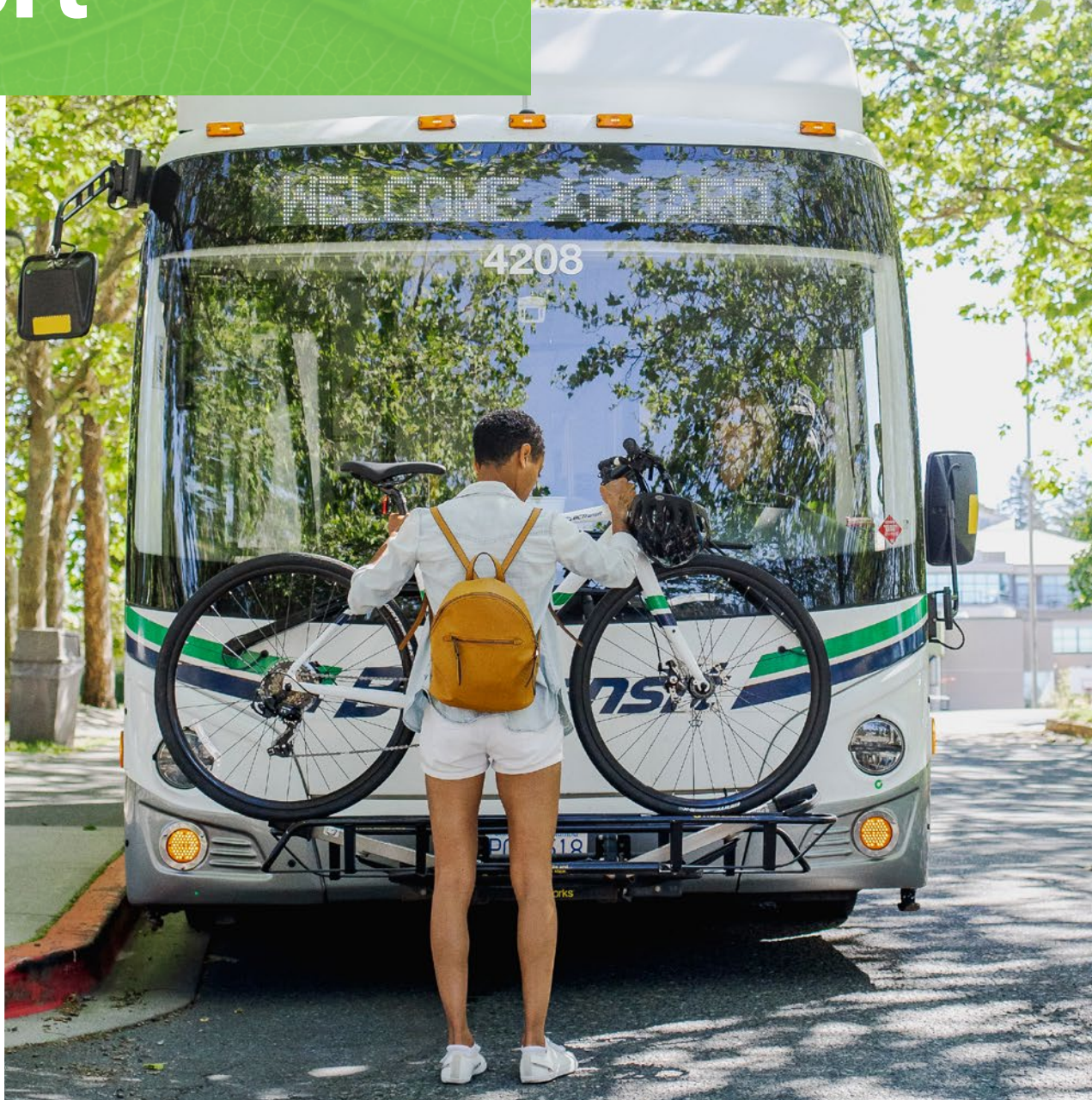


2022 BC TRANSIT

Climate Change Accountability Report





We acknowledge with respect that BC Transit delivers our mission on the ancestral territories of Indigenous Peoples across British Columbia, and their historical relationships with the land continue to this day.

Overview

Over 2022 BC Transit increased bus service delivered to the communities in which it operates, meaning more passengers transported, more vehicles off the road, and lower emissions overall. Traditionally, increased service also means higher fuel usage, which leads to higher carbon emissions. However, with the use of biofuels such as renewable natural gas (RNG), BC Transit has been able to reduce its carbon footprint, with greenhouse gas emissions dropping to 14% below 2007 emissions. This puts BC Transit on track to meet the 2025 target of a 16% reduction in emissions.

In addition to greenhouse gas reduction goals, BC Transit is ramping up its climate adaptation response with the completion of a climate risk assessment across ten key facilities, and the initiation of a study identifying cooling mechanisms to retrofit existing maintenance garages in response to extreme heat events. These efforts demonstrate commitment to not only reduce emissions but also adapt to the impacts of climate change.

One of the key goals of CleanBC is to encourage British Columbians to shift from single occupancy vehicles to sustainable modes of transportation such as public transit, and BC Transit will play a critical role in achieving this objective. By providing reliable and sustainable transportation services, BC Transit is inherently aligned with the Province of British Columbia's climate goals. By decarbonizing operations through the use of battery electric buses, RNG, and other alternative energy sources, BC Transit is able to further contribute to provincial and community targets.

Despite the challenges posed by increasing service delivery and energy usage, BC Transit's commitment to environmental sustainability remains unwavering. The organization recognizes the role it plays in reducing carbon emissions and mitigating climate change and is taking concrete actions to achieve its sustainability goals. By leveraging innovative technologies and fuel sources, BC Transit is leading the way towards a more sustainable future.

This report has been prepared in accordance with the Climate Change Accountability Act requirements and provides an overview of BC Transit's greenhouse gas emissions inventory, highlights the emission reduction projects completed during the 2022 reporting year, outlines activities related to climate adaptation, and presents planned future actions.

2022 Greenhouse Gas Emissions

Emissions Scope

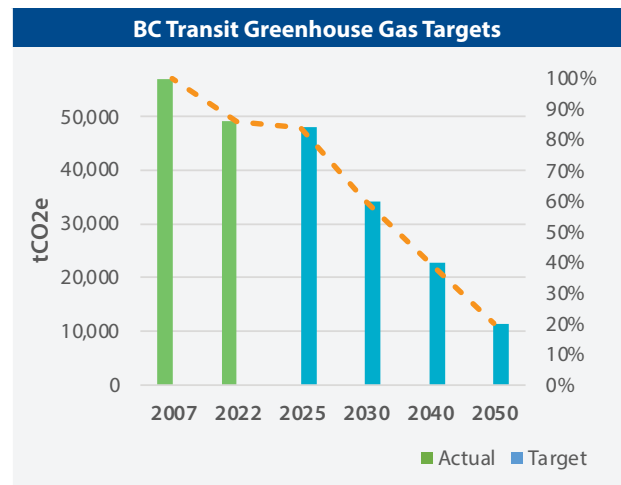
BC Transit’s reportable greenhouse gas (GHG) emissions fall into three categories – Scope 1, 2 and 3. Scope 1 emissions are those that physically occur at the location of the asset, be it vehicle or building. Scope 2 emissions are those that occur elsewhere but are directly associated with energy consumption of the asset. Scope 3 emissions are those that are not directly tied to energy consumption of BC Transit but occur elsewhere in the value chain of the organization.

The breakdown of BC Transit’s emission sources can be seen in the below table.

Scope 1 Direct emissions from sources owned or leased by BC Transit ¹	Scope 2 Indirect emissions from purchased electricity	Scope 3 Other Indirect Emissions
Building Heating – Natural Gas	Building Heating - Electric	Paper Consumption
Vehicles powered by fossil fuels or biofuels	Other electricity use in buildings	
	Electric vehicles	

BC Transit’s GHG Targets

CleanBC has established ambitious targets for reducing greenhouse gas emissions. As of 2022, BC Transit is on track to achieve 2025 targets and has identified pathways to meet future targets with adequate funding. By continuing to invest in sustainable technologies and practices, BC Transit is confident in its ability to contribute towards a cleaner and more sustainable future for British Columbia.



¹ Per 2021 B.C. Best Practices Methodology For Quantifying Greenhouse Gas Emissions, facilities not owned or leased by BC Transit are outside of the scope of this report.

2022 Emission Profile

Across 2022, 98% of BC Transit GHG emissions were produced by the bus fleet deployed throughout the province. Of the fleet emissions, 26% of the fuel comes from renewable sources (biofuels), with the remaining being conventional diesel, gasoline and compressed natural gas (CNG). BC Transit has made a significant effort to increase the proportion of biofuels this year, which increased nearly 300% between 2021 to 2022.

A comparatively small 2% of GHGs were emitted by in scope² stationary sources which is primarily comprised of operations and maintenance (O&M) facilities that perform upkeep on the bus fleet as well as provide for administrative spaces.

GHG emissions from office paper accounted for a mere 0.01% of total organizational emissions.

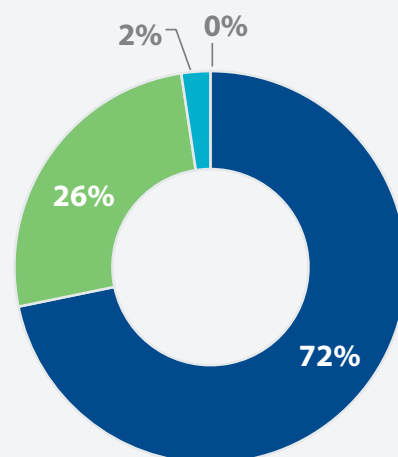
Year-Over-Year Comparison

BC Transit is pleased to announce that it has achieved a notable 17% reduction in conventional³ GHG emissions between 2021 and 2022. This decreased annual emissions from 59,558 tonnes of carbon dioxide equivalent (tCO₂e) to 49,208 tCO₂e.

This decrease in emissions was able to be achieved largely through the use of biofuels such as Renewable Natural Gas (RNG) which increased 297% from 4,313 biogenic tonnes carbon dioxide equivalent (bio tCO₂e) to 17,138 bio tCO₂e. Biogenic emissions come from renewable sources and are not counted against the climate targets of BC Transit or the Province of British Columbia.

With a year over year increase in bus service delivered, total energy usage (including biogenic) and subsequent fuel consumption increased 4%.

BC Transit Greenhouse Gas Emission Sources 2022



- Mobile Emissions - Conventional (Bus Fleet & Other Vehicles)
- Mobile Emissions - Biofuels (Bus Fleet & Other Vehicles)
- Stationary Emissions - (Buildings & Facilities)
- Office Paper

2 As per 2021 B.C. Best Practices Methodology For Quantifying Greenhouse Gas Emissions

3 Conventional GHG emissions are those from fossil fuels, and do not include emissions from biofuels



Cowichan Transit Facility

Stationary Emissions (Buildings & Facilities)

Between 2021 and 2022, total in scope GHG emissions from BC Transit stationary sources including transit facilities and office spaces increased by 7.1%⁴. During this time total energy consumption increased only 4.4%, with the differential between these two numbers being primarily due to the electrical emissions factor of electricity increasing 19% from 9.7 to 11.5 tCO₂e/GWh. Consequently, though electrical consumption increased by only 2.7%, electrical-related GHG emissions increased by 21.7%.

The remainder of energy consumption increases is attributed to increased natural gas consumption, largely related to HVAC consumption. Along with increased bus service and extended cold periods across 2022, HVAC load remains high due to ongoing high ventilation requirements responding to COVID-19. In order to enhance air quality and minimize transmission rates, buildings are circulating more ventilated air than in the past. This air must be accordingly be heated or cooled, meaning significantly increased energy load compared to historic values.

Per 2021 B.C. Best Practices Methodology For Quantifying Greenhouse Gas Emissions, facilities not owned or leased by BC Transit are excluded from analysis.

⁴ Due to a technical issue, four months of electrical data associated with the Kootenay Okanagan Boundary Building is not included in the 2022 quantification of emissions. With the entire facility's annual electrical related GHG emissions being historically ~1 tCO₂e, the impacts of this missing data is minor and will be included in included in BC Transit's 2023 CCAR as a Prior Year Adjustment (PYA).



BC Transit electric demo bus next to a Nova bus

Mobile Emissions (Fleet)

In 2022 BC Transit has made large strides towards reducing the GHG emissions associated with the bus fleet. Between 2021 and 2022, conventional mobile emissions decreased 18% despite a year over year increase in bus service⁵.

The decrease in emissions was achieved by the injection of renewable fuels into the bus fleet fuel supply. This action is discussed further in the section *Actions Taken to Minimize Emissions*.

Low carbon biofuels made up over 26% of BC Transit's total fleet fuel supply in 2022, marking a substantial increase from 7% in 2021. This upward trajectory is projected to continue, as the proportion of biofuels is anticipated to grow in the upcoming years, and then decrease as battery electric buses are deployed into service.

By employing biofuels, the current fleet infrastructure can be leveraged to lower GHG emissions while transitioning to new technologies which will electrify the fleet.

⁵ It has been identified that fueling records of two CNG powered light duty maintenance vehicles, and several light duty gasoline support vehicles were not included in analysis. The impacts of this missing data is expected to be minor (<1%) and will be included in BC Transit's 2023 CCAR as a Prior Year Adjustment (PYA).



Paper

BC Transit has made strides in its office supply sustainability efforts with the continued move towards electronic documentation which has helped to minimize overall organizational reliance on paper and, for the paper still in use, the GHG impact is minimized by using the low-carbon Sugar Sheet paper which is made from sugarcane waste.

These actions have resulted in a sizable 16% reduction in GHG emissions linked to office paper in 2022. BC Transit is proud to report this reduction builds upon a multi-year trend that has seen a 57% decrease in emissions from 2019 to 2022.

Actions Taken to Minimize Emissions:

BC Transit has been approaching emission reductions across the organization, including infrastructure installed in its buildings, new technologies in the bus fleet, supply chain sourcing, biofuels, and operational and procedural changes.

Mobile Emissions (Bus Fleet & Other Vehicles)

What are Biofuels?

Biofuels are renewable fuels that are derived from biomass, which is organic matter such as plants, trees, agricultural and food waste, and animal waste. They are produced through various processes, such as fermentation, distillation, and chemical processes, and can be used as a substitute for fossil fuels in transportation, heating, and electricity generation. Biofuels are generally lower in carbon intensity compared to fossil fuels and can be used to reduce GHG emissions.

Renewable Natural Gas (RNG)

RNG is a type of natural gas produced by processing organic waste, such as food or agricultural waste that would otherwise be sent to a landfill. RNG can typically be used in any application that conventional natural gas is used, whether that's heating a home or being compressed to fuel a vehicle.

BC Transit operates a fleet of buses that run on compressed natural gas (CNG) that is pressurized to less than 1% of its typical volume. Throughout 2022, BC Transit has prioritized raising the proportion of renewable fuel utilized in the CNG fleet, with an averaged 83% of the fuel consumed throughout the year being RNG.

Biodiesel

Biodiesel is a renewable low carbon biofuel that is made from organic materials, typically vegetable oils, animal fats, or recycled cooking oils. Biodiesel is typically blended with conventional fossil fuel based diesel as most engines are unable to run 100% biodiesel without modifications.

Hydrogen-Derived Renewable Diesel (HDRD)

HDRD is a type of low carbon biofuel distinct from biodiesel in that it can be used at high percentages in conventional diesel engines. BC Transit's liquid fuel supply is currently being assessed to raise the percentage of HDRD required to be provided in the overall blend.

For each litre of bus diesel replaced with HDRD, more than 98% of the GHG impact is avoided⁶. Therefore, by raising the amount of HDRD in the fuel supply blend, overall fleet emissions will subsequently decrease.

⁶ As per 2021 B.C. Best Practices Methodology For Quantifying Greenhouse Gas Emissions, calculated using biodiesel emissions factor as per direction from Climate Action Secretariat

ELECTRIC BUS

Low Carbon Fleet Program

This past year was a big year for the Low Carbon Fleet Program at BC Transit. In May 2022, BC Transit announced the award of its contract for 10 Heavy Duty battery electric buses, charging infrastructure, and supporting systems. The buses have been ordered, design was completed, and BC Transit took delivery of a demonstration bus at the end of 2022 to support operational change readiness and training.

In 2022 BC Transit completed an electrification opportunity analysis of all conventional fleet transit systems with heavy duty buses and the 17 associated depots. The analysis identified how many heavy duty electric buses could be deployed into each system based on replacements of diesel buses, only considering overnight depot charging. Indicative designs were then completed for charging infrastructure at nine transit depots based on the results of the modeling. The output of this work yielded cost estimates and scope to support the next electrification projects. 115 more Heavy Duty battery electric buses and 134 charging points are planned for deployment in Phase 1 of the of the electrification program (i.e. Phase 1 = 2022 to 2026).

Additionally BC Transit progressed with the inclusion of pilots for the High Capacity fleet category and Light Duty fleet category. A request for information was released in 2022 to support an assessment of the market readiness of the category, similar to the RFI that was completed in 2021 for the Light Duty category. Based on the information received and discussions with other transit agencies, it appears these two categories are still somewhat behind the heavy duty category in terms of maturity. A pilot for deployments of High Capacity battery electric buses and charging infrastructure, and 6 light duty battery electric buses has been targeted in the next few years. These pilots will inform further project deployments in the subsequent phases of the program.

The next phase of the program is currently in the planning stage and will see an increase in complexity for charging solutions and operations. Many locations will likely require some level of layover charging to support longer routes within each system. New practices, procedures, and IT systems will also need to be developed to support electric fleet operations across the province. Finally, to support the near term Clean BC Greenhouse Gas Emission reduction target of 16% by 2025, BC Transit has secured the RNG biofuel for 100% of its natural gas fleet consumption. Further, a fuel contract with options to purchase up to 2 million litres of HDRD to blend into the diesel fleet is now in place and pilot tests of HDRD are underway. With the support of these renewable fuels, BC Transit is able to meet its near term greenhouse gas reduction targets while it scales up the transition to a fully electric fleet.

Stationary Emissions (Buildings & Facilities)

A variety of BC Transit retrofit projects, new construction, policies and programs have been initiated, completed or worked on in 2022. These projects aim to decarbonize the future of stationary emissions and align with provincial CleanBC targets. The scope of a comprehensive Environmental Sustainability Plan began to be developed in late 2022 which will continue into 2023. This plan will include future goals and targets for climate action and other aspects of sustainability.

What is LEED Gold & Energy Step Code

BC Transit has made a commitment to build all new Transit Facilities to LEED Gold equivalency and future office spaces to at least Energy Step Code 3, but what are these certifications?

LEED

LEED which stands for Leadership in Energy and Environmental Design, is a green building certification program that recognizes buildings that meet specific sustainability and energy efficiency standards. The LEED certification system evaluates the environmental performance of a building across several categories, including water efficiency, energy and atmosphere, materials and resources, sustainable sites, and indoor environmental quality.

BC Energy Step Code

BC Energy Step Code is a set of provincial building standards that aim to improve the energy efficiency of new buildings and reduce greenhouse gas emissions. The code is divided into several steps, with each step setting increasingly stringent energy efficiency requirements for new buildings. Builders and designers are encouraged to achieve higher steps in the code by incorporating energy-efficient features and design elements in their buildings.

BC Energy Step Code 3 is the third step in the code, and it represents a significant advancement in energy efficiency requirements compared to previous steps and base building code. Buildings designed to meet Step Code 3 are generally highly insulated and airtight, with high-performance windows and doors, efficient heating and cooling systems, and other energy-saving features. Achieving Step Code 3 certification demonstrates a high level of commitment to reducing energy consumption and associated GHG emissions.

New handyDART Facility

A new handyDART facility in the Victoria Regional Transit System is under construction which will be the first BC Transit facility meet LEED Gold, as well as the first to meet BC Energy Step Code 3 in the administrative areas, further reducing energy consumption and associated GHG emissions.

With planning completed, construction was able to begin in 2022 which marks an important step towards the future of BC Transit infrastructure as the new facility will include innovative technologies that promote energy efficiency and sustainability. The building will feature high-efficiency heat pumps, heat recovery systems, bay door air curtains, electric forklifts, and other state-of-the-art technologies. The use of these technologies will eliminate the use of fossil fuels in the building operations, contributing to the reduction of GHG emissions.



Aerial rendering of new handyDART facility

The heat pumps will serve a secondary function of cooling the maintenance bay during the summer. This technology will improve the climate resiliency of the facility and the transit system as a whole by ensuring operations and maintenance teams are able to maintain service during extreme heat events.

In addition to the building's energy-efficient design, the facility yard will be constructed to accommodate charging infrastructure for a fleet of electric buses, underscoring the commitment to environmental sustainability of both the facility and the fleet.

Whistler Bus Wash

The bus wash located at the Whistler Transit Centre underwent a major renovation that aimed to improve its efficiency, reduce its environmental impact, and enhance the overall performance of the facility. The upgrade included several key components that were essential in achieving these objectives.

Primarily the heating ventilation and air conditioning (HVAC) system of the bus wash was replaced with an electric heat pump which is both more energy efficient and reduces GHG emissions. During this step, the integrated boiler system was additionally electrified, replacing the older natural gas system.

A speed door was also installed to reduce the amount of time that warm air is vented during the winter. This door acts as an air barrier, preventing the warm air inside the bus wash from escaping outside, meaning the HVAC system is required to expend less energy.

Kamloops and Vernon Boilers

Throughout 2022, BC Transit has been working on a project to replace the old natural gas boilers at the Kamloops and Vernon transit centres with low carbon electric options. This initiative has the potential to reduce the vast majority of GHG emissions of these two facilities, which are combined among the largest emitters in building systems. This project, ongoing into 2023, will make substantial progress in reducing overall facility emissions and represents a major step in transitioning to a more sustainable and low-carbon future for transit facilities.

Administration Building Renovation

In 2022, BC Transit completed a retrofit of its Administration Building, which transformed the building's original layout to incorporate several energy-efficient features. The retrofit included the installation of LED flat-panel lighting and occupancy controls, which allow for more precise control of lighting levels and reduce energy consumption. The new lighting system provides higher-quality illumination and enhances the comfort of employees and visitors.

HVAC systems were replaced, with the installation of new high-efficiency heat pumps, which reduce the amount of energy needed to heat the building in the winter and cool it during the summer.

Air curtain retrofits were also installed as part of the retrofit. Air curtains are high-velocity fans that blow air across the opening of a doorway to create an air barrier, which helps to keep warm or cool air inside the building and prevent drafts. The air curtains installed in the Administration Building help to reduce heat loss during the winter months and reduce air conditioning requirements in summer months.

Bus Wash Energy Savings

BC Transit has implemented a new strategy to reduce greenhouse gas emissions at its transit facilities in Kamloops and Vernon by using exclusively cold water in bus wash process water.

Previously, hot water was used to wash buses which required energy for heating. By switching to cold water, BC Transit estimates that it will reduce emissions by roughly 25 tCO₂e per year, or nearly 13% of the total emissions of these two facilities. This is a considerable reduction in emissions given it comes as an additional cost savings to the organization.

High Efficiency Parts Cleaner

Retrofits were completed to replace and electrify old inefficient gas-fired parts cleaners used to refurbish bus components including engine blocks and other equipment at both Langford Transit Centre and Victoria Transit Centre. These parts cleaners are in use for extended periods of time, with nearly the entire bus fleet having parts run through them. The use of more energy-efficient parts cleaners running on low carbon electricity will reduce GHG emissions and overall energy consumption of the equipment.



Victoria Transit Facility Bus Wash



Paper Consumption

In 2022, BC Transit has continued to make strides in its efforts to reduce GHG emissions associated with office paper usage. One of the primary components of the organizational strategy around office supplies is the ongoing commitment to replacing traditional office paper with the low-carbon alternative, Sugar Sheet. The production of Sugar Sheet paper makes use of bagasse, which is a 100% agricultural fibre waste derived from sugarcane residue after the extraction of useful sugars. This innovative paper alternative requires no trees to be cut down, which helps preserve existing forests and reduces land use. Additionally, by utilizing bagasse, BC Transit is diverting waste from landfills, thus minimizing methane emissions from landfill decomposition compared to conventional paper.

In combination with the adoption of Sugar Sheet paper, BC Transit's shift towards electronic filing has also played a crucial role in reducing the organization's carbon footprint related to office supplies. Through a redesign of policies and procedures surrounding electronic filing, interoffice communication, and record-keeping, BC Transit has succeeded in meaningfully reducing its reliance on printed materials. This means that less paper is being printed overall, and that which is printed has a lower environmental impact than in prior years.



Climate Resiliency, Adaptation & Risk Management

Climate mitigation and climate resiliency (also known as climate adaptation) are two complementary approaches that are critical to address the challenge of climate change. Climate mitigation projects are designed to reduce greenhouse gas emissions and prevent further climate change. In contrast, climate resiliency projects are intended to anticipate and manage the impacts of climate change that are already manifesting or are expected to occur in the future. Both approaches are vital to ensure that communities, infrastructure, and natural systems can adapt to a changing climate and maintain functionality.

Climate Risk Assessment

As climate change increasingly affects different regions of British Columbia, it is crucial for BC Transit to adapt to the diverse impacts of climate change across the province. To accomplish this, it is necessary to have a comprehensive understanding of the current and future risks, and how they will intersect with existing infrastructure and long-term capital plans.

One of the essential steps taken by BC Transit to build a foundation of knowledge in this area is the completion of a Climate Risk Vulnerability Assessment for ten critical facilities across the province. This assessment utilizes a modified version of the Public Infrastructure Engineering Vulnerability Committee (PIEVC) Protocol, which is designed to quantify risks and identify development of mitigation actions and projects to decrease this risk.

Through the climate risk assessment process, BC Transit can identify critical components of its infrastructure and operations that may be impacted by climate change. The process allows for an evaluation of risks in the current and future state, providing valuable insight into the potential vulnerabilities across different time horizons.

Climate resiliency is a priority for BC Transit, and this assessment is helping the organization to identify vulnerabilities in its infrastructure and operations that need to be addressed to ensure continued service delivery in the face of changing climate conditions. The outcomes of the assessment is being used to develop strategies and standards that mitigate climate risks, enhancing the resiliency of transit systems across the province.

Langford Transit Centre GHG Mitigation and Cooling

Responding to the highest climate risk identified in the Climate Risk Vulnerability Assessment, that of extreme heat, BC Transit engaged in a feasibility project to install cooling systems into the Langford Transit Centre maintenance garage. Providing safe and comfortable working conditions in even extreme weather events ensures transit service will be available during these events which improves safety of BC Transit employees but also the public in served communities.

In addition to addressing cooling systems this project is intended to concurrently assess the existing heating systems in the facility and identify retrofit methods to decrease the carbon intensity of heating the facility in the colder months of the year.

The feasibility study, initiated in 2022, will provide a roadmap for installing cooling systems while reducing GHG emissions in a sustainable way. Once completed in 2023 the project will provide guidance to not only improve the GHG impact and resilience of the Langford Transit Centre, but also to inform building design guidelines and/or similar projects at other transit facilities.

Heat Stress Program

To mitigate risk of heat stress upon maintenance teams and bus operators, BC Transit has developed a Heat Stress Exposure Plan. The plan includes training to identify and report any potential heat-related hazards and establishes a protocol for responding to such incidents promptly. Further, BC Transit has also established a policy that prohibits individuals from working alone during these high-temperature periods. This policy ensures that workers can identify symptoms and receive prompt assistance in case they experience any heat-related impacts.

In addition to these measures, BC Transit has made other operational changes to help its employees cope with high temperatures. This includes adjustment to work schedules to reduce exposure during periods of extreme heat as well as providing additional breaks and hydration stations, which are essential to prevent dehydration and heat exhaustion.

Saanich Transit Centre

A new facility to service the Victoria Regional Transit System is currently in the planning stage. This facility will build upon the knowledge base from the handyDART facility, meeting LEED Gold and Energy Step Code requirements. This facility will additionally be the first in the BC Transit portfolio to directly incorporate future climate projections into the design, enhancing its resiliency and adapting to the impacts of our changing climate.

Climate Resilient Public Sector Buildings Workshop

BC Transit continued to participate in the Climate Resilient Public Sector Buildings Workshops across 2022. By engaging in these workshops, BC Transit was able to collaborate with other public sector organizations and contribute to the development of guidelines, processes, standards, and other resources to help plan for and respond to the impacts of climate change.

Through its participation in the workshops, BC Transit has been able to contribute to the development of resources that will help other public sector organizations to plan for and respond to the impacts of climate change. These resources will provide guidance on how to design and manage buildings and infrastructure that are resilient to the impacts of climate change, such as extreme weather events and rising sea levels.



Emergency response in the Fraser Health Region

Emergency Response

Climate change has far-reaching impacts that extend beyond organizational infrastructure, and can have severe impacts upon BC communities. BC Transit recognizes the importance of taking proactive measures to prepare for and respond to the consequences of climate change and other emergencies throughout the province.

To this end, the BC Transit Emergency Management team plays an active role in the Provincial Regional Emergency Operation Centres, which are responsible for responding to emergency events including those that are expected to become more frequent and severe due to climate change. This team is equipped with the necessary knowledge and resources to assess risks, manage incidents, and provide assistance to affected communities in a timely and effective manner.

The bus fleet is able to respond to emergencies to evacuate populations from wildfires and floods, and to act as air conditioned shelters for firefighters and for vulnerable populations during heatwaves.

Other Initiatives

Avoided Emissions Quantification

Public transit has the potential to significantly reduce community greenhouse gas emissions beyond the emissions associated with the bus and facility infrastructure alone. This is because public transit helps to offset the use of other forms of transportation, particularly personal passenger vehicles such as cars, trucks, and SUVs and, subsequently, eliminating the need for new road/highway infrastructure. By reducing the use of these vehicles, associated GHG emissions can be similarly reduced. Quantifying the GHG impacts of this shift in transportation mode from personal vehicles to public transit is known as *Avoided Emissions*.

In 2021, a project was launched to assess the Avoided Emissions impact of BC Transit operations. The aim of the project was to quantify the high-level impacts of transit service on reducing community GHG emissions. Over the course of 2022, a multidisciplinary team developed a tool to measure these impacts, and it is currently being tested.

This tool will inform a better understanding of the environmental benefits of public transit. It also highlights the importance of encouraging mode shift towards public transit as a key strategy for reducing transportation related GHG emissions. The project integrates into CleanBC goals, demonstrating the potential for public transit to play a crucial role in mitigating climate change and reducing community-level emissions.

Energy Conservation Day

In 2022 BC Transit ran an organization-wide energy conservation day encouraging employees to take steps towards reducing energy consumption in their home offices and personal lives.

During the event, BC Transit provided educational activities and resources to its employees to aid in their efforts to minimize their carbon footprint. These resources included information on how to reduce energy consumption at home and included interactive components including a quiz and photo contest. By providing educational resources and encouraging small lifestyle changes, BC Transit is helping to promote a culture of sustainability and inspire others to take action towards a more sustainable future.

GHG Analysis – Capital Planning

BC Transit's continued incorporation of GHG analysis into its core business practices is part of its broader commitment to sustainability and reducing its environmental impact. By integrating GHG analysis into infrastructure projects and capital planning, the organization can identify opportunities to reduce emissions and select more sustainable options.

For larger-scale projects, BC Transit applies the Investing in Canada Infrastructure Program (ICIP) Climate Lens methodology. This methodology provides a standardized approach for assessing climate risks and opportunities associated with infrastructure projects. It considers both the project's direct and indirect emissions, as well as its resilience to climate change impacts. By using this methodology, BC Transit expands its base GHG analysis to include a broader scope of emissions and identify opportunities for further emissions reductions.

Green Procurement Guidelines & Building Design Standards

BC Transit maintains a Green Procurement Guideline for all departments which includes principles such as considering the environmental cost of ownership, environmental design, standards and certifications, and packaging and waste management. The Guideline also includes suggested language that can be used in solicitation documents and evaluations to promote environmentally responsible practices.

In 2022 BC Transit began actively developing a Building Design Standards document, which will serve as a guideline for the design and construction of transit facilities including administration areas and maintenance buildings. One of the goals of the Building Design Standards is to reduce GHG emissions across all built infrastructure. The document will also address climate resiliency and include adaptation considerations to ensure that transit infrastructure is designed to withstand the impacts of climate change.

BC Scrap-it Program

The Victoria Regional Transit System offers a monthly pass incentive for vehicle owners to scrap their older, heavier-polluting vehicles and adopt transit. Seven of these eco-passes were issued in 2022. Implementation of this program removed 83.06 tCO₂e that would have otherwise been emitted in 2022.

CleanBC Integration

The Government of British Columbia's CleanBC plan aims to achieve the Province's climate goals, including GHG reductions and early-phase climate adaptation measures. As a public sector organization, BC Transit has a responsibility to support and adopt the governmental climate goals outlined in the CleanBC plan. To this end, BC Transit is taking steps to reduce carbon emissions from both its fleet and facilities, and is also developing and maintaining climate-resilient infrastructure and operations, which is in alignment with CleanBC.



The CleanBC Transportation Pathway includes actions to encourage mode shifting towards more energy-efficient forms of transportation, such as walking, cycling, and public transit. BC Transit's core operations are directly aligned with this mode-shifting component of CleanBC, as the provincial bus fleet plays a vital role in meeting the pathway goal of increasing the share of trips made by public transit, walking, and cycling to 30% by 2030, 40% by 2040, and 50% by 2050.

By promoting and providing accessible, efficient, and reliable public transit services, BC Transit is actively encouraging mode shifting towards more sustainable forms of transportation. This not only helps to reduce GHG emissions and mitigate the impacts of climate change but also promotes the health and well-being of transit users and the wider community. By aligning its operations with the CleanBC plan, BC Transit is taking a proactive role in addressing climate change and promoting sustainable practices in the communities it serves.

2022 GHG Emissions and Offset Summary Table

BC Transit 2022 GHG Emissions and Offsets Summary	
GHG emissions for the period January 1 - December 31, 2022	
Total BioCO ₂	17,138
Total Emissions (tCO ₂ e)	66,346
Total Offsets (tCO ₂ e)	1,641
Adjustments to Offset Required GHG Emissions Reported in Prior Years	
Total Offsets Adjustment (tCO ₂ e)	0
Grand Total Offsets for the 2022 Reporting Year	
Grand Total Offsets to be Retired for 2022 Reporting Year (tCO ₂ e)	1,641
Offset Investment (\$)	\$41,025

Declaration Statement

This PSO Climate Change Accountability Report for the period January 1, 2022 to December 31, 2022 summarizes our greenhouse gas (GHG) emissions profile, the total offsets to reach net-zero emissions, the actions we have taken in 2022 to minimize our GHG emissions, and our plans to continue reducing emissions in 2023 and beyond.

Retirement of Offsets:

In accordance with the requirements of the *Climate Change Accountability Act* and Carbon Neutral Government Regulation, BC Transit (**the Organization**) is responsible for arranging for the retirement of the offsets obligation reported above for the 2022 calendar year, together with any adjustments reported for past calendar years (if applicable). The Organization hereby agrees that, in exchange for the Ministry of Environment and Climate Change Strategy (**the Ministry**) ensuring that these offsets are retired on the Organization's behalf, the Organization will pay within 30 days, the associated invoice to be issued by the Ministry in an amount equal to \$25 per tonne of offsets retired on its behalf plus GST.

Executive Sign-Off



Signature

May 29, 2023

Date

Erinn Pinkerton

President and Chief Executive Officer

Name (please print)

Title

Links to Additional BC Transit Sustainability Information

BC Transit Sustainability

<https://bctransit.com/about/sustainability>

Government Mandate Letter – 2021/2022

<https://www.bctransit.com/documents/1529712549325>

BC Transit Service Plan 2022/23 – 2024/25

<https://www.bctransit.com/documents/1529716234039>

BC Transit 2021/22 Annual Report

<https://www.bctransit.com/documents/1529719117548>

BC Transit Strategic Planning

<https://www.bctransit.com/transforming-your-journey>

BC Transit is a member of the Community Energy Association

<http://communityenergy.bc.ca/>

BC Transit Victoria Regional Transit System is member of BC Scrap It Program

<https://scrapit.ca/rebatechoices>

BC Transit is a member of the Canadian Urban Transit Research & Innovation Consortium (CUTRIC)

<http://cutric-crituc.org/>