2024 BC TRANSIT

Climate Change Accountability Report

BCTransit

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.

Executive Summary

This report has been prepared in accordance with the Climate Change Accountability Act requirements, offering a comprehensive view of BC Transit's greenhouse gas emissions inventory. It highlights not just the accounting of emissions, but the proactive steps BC Transit has taken in 2024 - the tangible emission reduction projects that are reshaping the operational landscape, the climate adaptation initiatives that are building resilience, and the strategic plans that chart a course towards a more sustainable horizon.

In 2024, the organization realized a modest increase in emissions from the previous year. A key development was the implementation of a system to track refrigerant losses, providing a more nuanced understanding of BC Transit's emissions profile. While an increased reliance on renewable fuels yielded a 5% reduction in direct operational emissions, the inclusion of refrigerant data revealed a 1% overall increase compared to the previous year. This underscores the importance of comprehensive monitoring in accurate accountability.

The transition to renewable fuels has been a transformative shift in BC Transit's fleet, achieving a 27% net emission reduction from the 2007 baseline, far surpassing CleanBC targets. This positions BC Transit favorably to meet future goals, contingent upon making progress in strategic investments in fleet electrification. It also highlights the significant reliance there is on utilizing renewable fuels, while the fleet transitions to zero emission technologies, to meet emission targets. While facility-related emissions saw a year-over-year decrease, they haven't yet aligned with CleanBC targets, a challenge attributed to the significant growth of BC Transit's facility portfolio. However, on a per-square-metre basis, facility emissions have decreased by 46% since 2010, showcasing improved energy and greenhouse gas efficiency.

BC Transit is pursuing a multi-faceted strategy to aggressively reduce its carbon emissions. This includes infrastructure modernization for enhanced energy efficiency, fleet transformation through the adoption of low and zero emission vehicles, sustainable supply chain practices, and the necessity to utilize renewable fuels. Key initiatives in 2024 demonstrate this commitment: the completion of groundbreaking decarbonization projects at the Kamloops and Vernon transit centres, major strides in the Low Carbon Fleet Program, including contracts for electric buses and essential charging infrastructure, and the release of BC Transit's inaugural Environmental Sustainability Plan.

Beyond climate mitigation, BC Transit recognizes the importance of climate adaptation and risk management. A comprehensive Climate Risk Vulnerability Assessment completed in prior years has informed the integration of climate resilience into the design of several new facilities. BC Transit is also an active participant in emergency response frameworks, notably through the Safe Bus Program and the Disaster Response Transportation framework, ensuring community safety in the face of increasing climate-related events.

BC Transit remains dedicated to pursuing a multi-faceted approach to minimize its environmental impact, enhance community resilience, and support British Columbia's broader climate objectives.

2024 Greenhouse Gas Emissions

Emissions Scope

BC Transit categorizes reportable greenhouse gas (GHG) emissions into three distinct scopes – Scopes 1, 2 and 3. System boundaries and methodology are as defined by *2024 B.C. Best Practices Methodology For Quantifying Greenhouse Gas Emissions.*

- **Scope 1** emissions originate directly from BC Transit's own assets, such as vehicles and facilities. These are emissions released right at the source, such as vehicle tailpipe emissions.
- **Scope 2** emissions, although not emitted directly by BC Transit's assets, are directly linked to the electricity and energy used by these assets. These emissions occur at the site of energy production, such as a power plant. As BC Hydro generates electricity primarily through hydroelectric dams, BC Transit's Scope 2 emissions are minor.
- **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. In the case of reportable BC Transit emissions, Scope 3 emissions are limited to office paper consumption.

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	

1 Per *2024 B.C. Best Practices Methodology For Quantifying Greenhouse Gas Emissions* and the *Scope Summary for Reporting B.C. Public Sector Greenhouse Gas Emissions*, facilities and other assets not owned or leased by BC Transit are outside of the scope of this report.

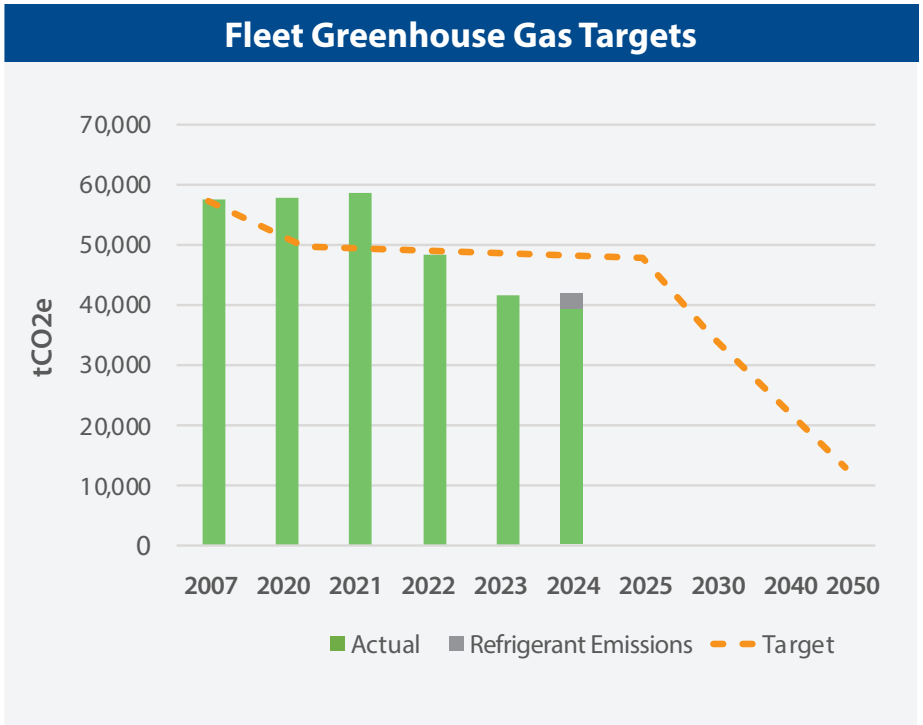
BC Transit's GHG Targets

BC Transit is committed to supporting British Columbia's ambitious CleanBC GHG emission reduction targets for the public sector and province as a whole. This report provides an overview of BC Transit's progress in meeting these commitments. Leveraging past achievements, BC Transit continues to prioritize emissions reduction across its operations, demonstrating its commitment to environmental sustainability and contributing to a cleaner transportation future for communities in which it serves.

Building on 2023 achievements, BC Transit continued its strong climate action performance throughout 2024, with direct emissions 1.3% above the previous year.

A key development in 2024 was the implementation of a new tracking system designed to identify and quantify refrigerant losses from bus air conditioning systems. This enhanced monitoring provides a more complete and transparent understanding of BC Transit's overall emissions profile. While the expansion of renewable fuel utilization across the provincial bus fleet yielded a substantial year-over-year reduction in direct operational emissions at over 5%, the inclusion of refrigerant losses resulted in a net stabilization of overall emissions, showing a modest increase of approximately 1% compared to the previous year. This underscores the significance of previously unquantified sources of emissions and the importance of robust monitoring systems in achieving accurate accountability.

The primary driver of the emissions reductions achieved to date has been the widespread adoption of renewable fuels throughout BC Transit's bus fleet. This strategic shift has yielded emissions reduction of 27% from the 2007 baseline. This demonstrates that BC Transit is well-positioned to meet future goals contingent upon making progress in strategic investments in fleet electrification. It also highlights the significant reliance on utilizing renewable fuels while the fleet transitions to zero emission technologies, to meet emission targets.

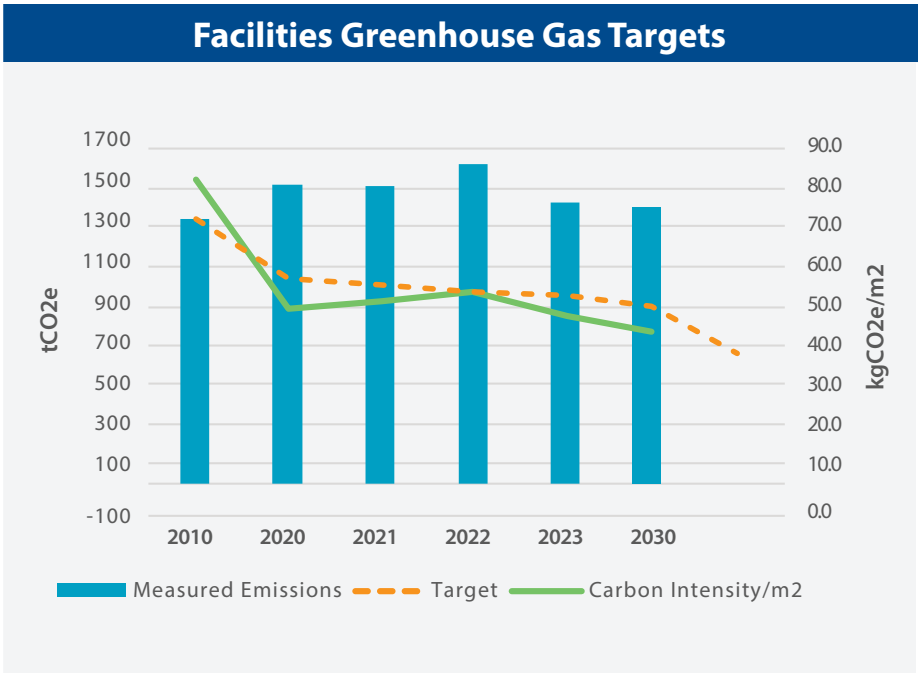


While BC Transit achieved a slight year-over-year decrease in its facility-related GHG emissions, these reductions have not kept pace with the ambitious CleanBC target of a net 50% reduction from a 2010 baseline. The substantial growth of BC Transit's facility portfolio, which has doubled in size since 2010, is a primary factor contributing to this gap. This expansion naturally increased overall emissions from operating and maintaining these additional buildings and infrastructure.

Despite the challenges posed by this portfolio growth, BC Transit has made considerable progress in enhancing the energy efficiency of its individual facilities. When emissions are normalized by the size of the facilities (measured per square metre), a significant decrease of 46% has been achieved since 2010. This indicates that on a per-unit area basis, BC Transit's facilities are becoming far more efficient in their energy consumption and associated emissions. However, the rate at which the facility portfolio is expanding is currently outpacing the emission reductions achieved through these efficiency improvements, resulting in the overall emissions remaining above the targeted trajectory.

Furthermore, it is important to consider the implications of the *Scope Summary for Reporting B.C. Public Sector Greenhouse Gas Emissions*. This methodology states that facilities not directly owned or leased by BC Transit are outside the scope of emissions reporting. Consequently, as BC Transit assumes direct operational control over additional facilities that were previously managed by operating partners, these facilities and their associated emissions will now be included within BC Transit's reported emissions inventory. Therefore, the growth in the reported facility emissions is, in part, a reflection of a more comprehensive accounting of BC Transit's operations compared to reporting guidelines.

The ongoing transition towards fleet electrification requires BC Transit to assume greater control over its facility portfolio. This increased control is essential for planning, installing, and managing the charging infrastructure needed to support the growing electric bus fleet and is a crucial investment in a zero emission transit fleet that will enable the broader goal of reducing emissions.



2024 Emission Profile

In the 2024 reporting year, 97% of BC Transit's total GHG emissions originated from the bus fleet across the province. 41% of emissions are from fleet renewable biofuels, with 53% being conventional diesel, gasoline and natural gas.

Beyond the primary source of fleet emissions, refrigerant loss from bus air conditioning systems constituted 4% of BC Transit's total GHG emissions in 2024. While this was only roughly two (2) tonnes of refrigerant, refrigerant emissions have high global warming potential.

A comparatively small 2% of GHGs were emitted by in-scope[2] stationary sources which is primarily comprised of operations and maintenance facilities that are essential for the upkeep and servicing of the bus fleet, as well as administrative spaces.

GHG emissions from office paper accounted for just 0.01% of total emissions, indicating minimal environmental impacts.

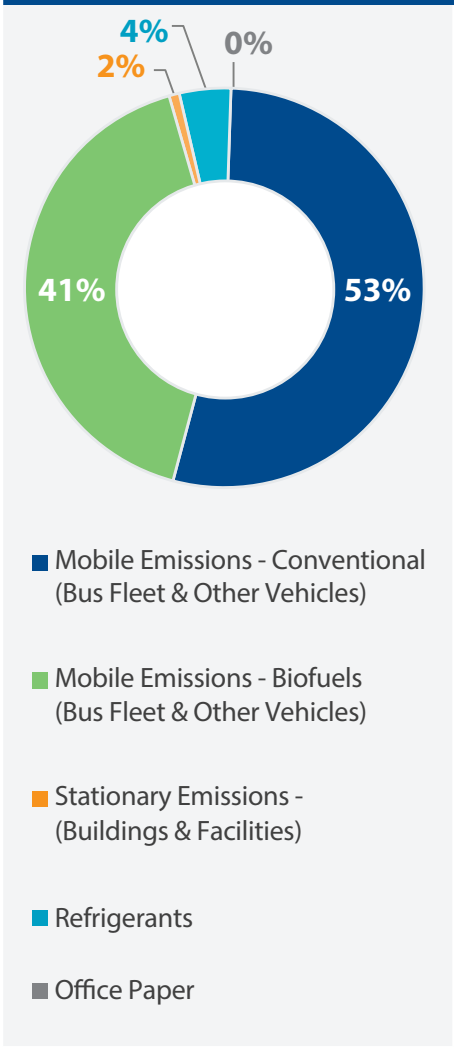
Year-Over-Year Comparison

BC Transit's overall conventional GHG emissions saw little change between 2023 (42,639 tCO_2e) and 2024 (43,182 tCO_2e). However, this stability masks an underlying improvement. Without the newly quantified emissions from bus fleet refrigerants of 2,778 tCO_2e, year-over-year conventional emissions would have decreased by 5.2%, reaching 40,404 tCO_2e.

The GHG reduction strategy has heavily involved biofuels such as Renewable Natural Gas (RNG) and Hydrogenation-Derived Renewable Diesel (HDRD) which increased in usage 28% from 23,617 biogenic tonnes carbon dioxide equivalent (bio tCO_2e) to 30,229 bio tCO_2e. This growth follows a notable 38% increase in the preceding year. Biogenic emissions come from renewable sources and are not counted against the climate targets of BC Transit or the Province of British Columbia.

When considering both biogenic and conventional emissions, the total increased by 11% year over year, with 5% directly attributable to the inclusion of refrigerant data and 7% resulting from service expansion, facility expansions, and the conclusion of 2023 service disruptions in the Central Fraser Valley.

BC Transit Greenhouse Gas Emission Sources 2024



2 As per *2024 B.C. Best Practices Methodology For Quantifying Greenhouse Gas Emissions*

Bus Fleet

Mobile Emissions (Fleet)

In 2024, BC Transit demonstrated continued progress in the commitment to reducing GHG emissions associated with its bus fleet operations. Building upon the strong momentum of the previous year, conventional mobile emissions witnessed a further decrease of 5.4% between 2023 and 2024. This follows a 14% reduction in these emissions in the prior year.

A key driver of the 5.4% decrease was the increased integration of renewable fuels into the bus fleet's fuel supply. In 2024, biofuels accounted for over 41% of the total fuel, a rise from 36% in 2023, 26% in 2022, and 7% in 2021. This consistent growth supports decarbonizing the existing fleet and highlights the importance of the role renewable fuels has for BC Transit to reach its emissions goals. This action is discussed further in the section *Actions Taken to Minimize Emissions*.

It's important to acknowledge that another source of GHG emissions, quantified for the first time in 2024, stems from the venting of air conditioning refrigerants in the bus fleet. Refrigerant losses occur due to leaks in the air conditioning systems, releasing potent GHGs into the atmosphere. Many refrigerants have a high global warming potential, meaning they trap more heat than carbon dioxide. Even relatively small releases can have a considerable impact on climate change.

A 2011 study determined that BC Transit fleet refrigerant losses were insignificant (<1% emissions) and therefore were not historically measured, but fleet changes over time to include more vehicles with air conditioning have shifted the magnitude of this loss. By measuring and quantifying refrigerant losses, BC Transit can better understand how to reduce leakage in the systems via new maintenance procedures.

Abbotsford O&M Facility

Stationary Emissions (Buildings & Facilities)

BC Transit's total in-scope GHG emissions from stationary sources (transit facilities and office spaces) remained nearly unchanged between 2023 and 2024, increasing by only 0.4%. This occurred despite the full-year operation of an additional facility.

This near-flat trend highlights the effectiveness of electrification projects at the Kamloops and Vernon Transit Facilities, which largely counteracted the emissions from the new site. The impact of switching from natural gas to low-carbon electricity is evident in these figures.

As FortisBC has begun injecting a renewable natural gas blend into the general supply in 2024, a small amount of natural gas used by BC Transit facilities was from a renewable source, with very low associated GHG impacts.

Per *2024 B.C. Best Practices Methodology For Quantifying Greenhouse Gas Emissions*, facilities not owned or leased by BC Transit are excluded from analysis.

Paper

BC Transit achieved a 24% reduction in year-over-year GHG emissions from paper consumption between 2023 and 2024. This reduction resulted from both a decrease in total paper consumption and an increased use of recycled and alternative paper.

The adoption of Sugar Sheet paper, made from sugarcane waste, offers considerable environmental benefits by reducing GHG emissions, eliminating the need for tree harvesting thus combating deforestation, and promoting a circular economy through waste utilization. Its production generally involves less energy and fewer harsh chemicals, and as a rapidly renewable resource, it provides a sustainable alternative to traditional wood-based paper.

While there was an uptick in paper associated emissions last year, the overall trend in BC Transit's paper emissions continues to be downward. The 2024 levels represent the lowest on record, constituting roughly half of the emissions recorded in 2019.

Actions Taken to Minimize Emissions

BC Transit is actively reducing its GHG emissions through a comprehensive and integrated strategy. This strategy involves upgrading infrastructure to enhance energy efficiency, modernizing fleet with lower and zero emission vehicles, implementing sustainable practices throughout the supply chain, and transitioning to renewable fuel sources. These interconnected efforts ensure that sustainability is embedded across all facets of BC Transit's operations, contributing to a cleaner and more resilient public transportation system for British Columbia.

Mobile Emissions (Bus Fleet & Other Vehicles)

What are Biofuels?

As part of the commitment to a greener public transportation system, BC Transit is integrating biofuels into its energy strategy. Biofuels are renewable fuels produced from diverse organic materials such as plants, trees, agricultural and food waste, and animal waste – collectively known as biomass. Sophisticated conversion technologies, including fermentation, transesterification, and hydroprocessing, transform the sugars, fats, and oils within this biomass into usable fuel. The adoption of biofuels directly contributes to lower carbon dioxide emissions, lessening environmental impacts. Furthermore, this transition reduces BC Transit's dependence on finite fossil fuel resources and fosters the development of a sustainable renewable energy industry.

Renewable Natural Gas (RNG)

Renewable Natural Gas (RNG) is a sustainable fuel source produced by capturing and processing methane emissions from the natural decomposition of organic waste at landfills, agricultural operations, and wastewater treatment facilities. This crucial process not only prevents the release of potent GHG methane into the atmosphere but also transforms it into a clean and effective fuel alternative.

CNG Powered Bus

RNG offers versatile applicability, serving as a direct substitute for conventional natural gas in various applications, including heating and compressed fuel for vehicles. The Compressed Natural Gas (CNG) process reduces the volume of natural gas, allowing for efficient on-board storage and transportation in the CNG-powered fleet.

In 2024, 76% of the fuel consumed by BC Transit's CNG fleet was Renewable Natural Gas, largely decarbonizing this component of the fleet.

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.

Hydrogenation-Derived Renewable Diesel (HDRD)

Hydrotreated Renewable Diesel (HDRD) represents an advanced biofuel technology distinct from biodiesel, offering a significant advantage in its seamless compatibility with existing diesel engines. This "drop-in" capability allows for the utilization of HDRD at high blend percentages, up to 100%, without requiring engine modifications.

HDRD is produced through a hydrotreatment process that hydrogenates vegetable oils, animal fats, or other sustainable feedstocks, converting them into a high-quality diesel fuel that closely mirrors the chemical properties of conventional fossil diesel but with substantially lower GHG emissions. For every litre of conventional bus diesel replaced with HDRD, over 98% of the fuel's GHG impact is avoided.

Consequently, increasing the proportion of HDRD in BC Transit's fuel supply blend directly translates to a major reduction in overall fleet emissions. Building upon the promising outcomes of a pilot program in 2024, BC Transit strategically increased its adoption of HDRD across the fleet fuel supply. Biofuels, largely driven by HDRD adoption, now constitute 36% of BC Transit's total diesel supply, representing a 222% increase compared to the previous year.

Renewable Gasoline & Naphtha

Renewable Gasoline is an emerging biofuel produced by converting sustainable biomass feedstocks into a fuel designed to be compatible with existing gasoline engines, offering a route to lower the carbon footprint of gasoline use. Various production methods are being explored, and while currently constituting a limited amount of potential renewable gasoline, one such method involves combining a small quantity of renewable naphtha (which can be derived as a co-product from processes producing renewable diesel or sustainable aviation fuel) with ethanol. Offering the potential for seamless integration into gasoline vehicle fleets, renewable gasoline currently makes up only 3% of BC Transit's fuel supply but represents a potential future strategy to further reduce overall GHG emissions as production scales and the fuel becomes more readily available.

Electric Bus

Low Carbon Fleet Program

In 2024 BC Transit completed an electric bus demo in the Victoria Transit System which reached 11,000 kilometres across the trial period. This experience tested reliability, usability and practical demonstrations of the battery electric technology, with work including:

- Employee Engagement: Over 30 sessions familiarized BC Transit team members with electrification and their related roles.
- Route Validation: All Victoria routes were successfully navigated to confirm maneuverability.
- Performance Testing: Acceleration, energy efficiency (uphill, winter tires, braking), and accessibility features were analyzed.
- Training Insights: Operation and maintenance training on the demo bus informed future training materials.
- Revenue Service & Feedback: Customer interaction with Transit Ambassadors on revenue routes yielded positive responses.

Beyond the demo bus, BC Transit continued to progress with the first phase of its Low Carbon Fleet Program in 2024. This built upon the work from the previous year's funding announcements and procurements released to prequalify suppliers.

In 2024 BC Transit:

- Established prequalified lists of suppliers for heavy duty battery electric buses, double decker battery electric buses, charging equipment, and power distribution equipment.
- Awarded contracts for 125 battery electric buses from NovaBus and New Flyer Industries.
- Completed an assessment of light duty bus options.
- Issued a Request for Proposals for high capacity (double decker) battery electric buses from the list of prequalified suppliers.
- Issued a request for proposals for charging equipment and charge management from the list of prequalified suppliers.
- Progressed detailed designs for charging infrastructure for nine transit systems in British Columbia.
- Established a project to replace 105 heavy duty diesel buses with hybrid electric buses.
- Released a procurement for an engineering consultant to support development of Phase 2 of the program, focused on establishing new projects for battery electric buses.

Looking to the future, BC Transit expects to take delivery of its first-purchased battery electric buses, starting with the first 10 that will be deployed into charging infrastructure already built in the Victoria Transit Centre. Additional battery electric bus deployments will follow in other transit systems as the charging equipment is installed and the site is made ready. A heavy duty hybrid electric procurement and a light duty battery electric bus procurement will also be developed in 2025.

Refrigerant Quantification

Refrigerants possess global warming potentials far exceeding that of carbon dioxide. The cumulative effect of even minor leaks from numerous air conditioning units can result in the release of substantial quantities of these environmentally harmful substances into the atmosphere.

In 2024, BC Transit established a methodology and started the development of a dashboard to monitor and quantify these refrigerant losses from the bus fleet at an aggregate level. The objective for 2025 is to complete and then enhance this analytical tool further, enabling the identification of specific bus models and production years exhibiting higher rates of leakage. By accurately measuring and quantifying refrigerant losses, BC Transit aims to gain a deeper understanding of the factors contributing to these emissions, facilitating the development and implementation of targeted new maintenance procedures designed to effectively reduce system leakage.

Non-Revenue Vehicles

Throughout 2024, BC Transit expanded its fleet of lower-emission non-revenue vehicles with the acquisition of three battery electric service vans and SUVs. These additions supplement the existing pool of electric cars, gasoline-hybrid fleet supervisor vehicles, and dual-fuel CNG/gasoline maintenance vehicles. Notably, the deployment of these electric vehicles coincided with the ability to fully fuel the dual-fuel vehicles with the RNG blend available at the Langford transit facility – a resource previously inaccessible to this portion of the fleet. This expanded access to RNG allows dual-fuel vehicles to operate with appreciably lower carbon emissions compared to their exclusive use of gasoline.

Stationary Emissions (Buildings & Facilities)

In 2024, BC Transit undertook, advanced, or completed a range of retrofit projects, new constructions, policies, and programs. These initiatives are designed to reduce stationary emissions in the future and align with provincial CleanBC objectives.

A comprehensive Environmental Sustainability Plan was completed in 2024, available publicly on BC Transit's website. This plan includes future goals and targets for climate action and other aspects of sustainability, with notable implications for built infrastructure. Further details are discussed under the Environmental Sustainability Plan section below.

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 is a globally recognized green building certification system that awards points to buildings that excel in various sustainability and energy efficiency aspects. The certification assesses a building's performance across multiple categories, such as water efficiency, energy usage and atmosphere management, materials and resources, site sustainability, and indoor environmental quality. Buildings achieving LEED certification demonstrate a comprehensive approach to sustainability by meeting stringent criteria set in these categories.

LEED Gold Certified handyDART Facility

BC Energy Step Code

The BC Energy Step Code is a progressive framework of provincial building standards designed to enhance the energy efficiency of new constructions and reduce GHG emissions. This code is organized into a sequence of escalating steps, each setting increasingly rigorous energy efficiency benchmarks. As builders and designers advance through these steps, they integrate innovative energy-saving technologies and strategies into their buildings.

BC Energy Step Code 3 is the third step in the code, and it represents a major advancement in energy efficiency requirements compared to 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.

handyDART Facility

New handyDART Facility

Across 2024, construction progressed on the new handyDART facility in the Victoria Regional Transit System. This facility is poised to set new sustainability benchmarks and upon opening in 2025 will be the first facility to achieve LEED Gold certification and the first to meet BC Energy Step Code 3 in its administrative areas. Examples of the innovative design include:

Sustainable Sites: The 8-acre site prioritizes ecological restoration. A degraded watercourse was revitalized and reconnected to groundwater, and over 8,000 native plants and 350 trees were planted, creating over one (1) acre of new protected habitat. This commitment to ecological enhancement has earned the project an EcoStar Award and recognition as the first "Salmon Safe" urban development on Vancouver Island. The Galloping Goose Trail was also realigned and improved for accessibility, improving a major regional active transportation corridor.

Energy and Atmosphere: The facility features high-efficiency heat pumps which also provide cooling in the maintenance bay during summer, energy recovery systems, high efficiency lighting, and electric forklifts. The design further incorporates superior insulation, bay door air curtains, high-performance windows, and minimized air leakage to reduce heating and cooling demands. These technologies will eliminate the use of fossil fuels in building operations, almost entirely reducing GHG emissions compared to standard construction and improving the facility's climate resiliency by maintaining operations during extreme heat events.

Future Electrification Readiness: Recognizing the future transition to a fully electrified handyDART fleet, the site features electrical infrastructure designed with the capacity to support charging a large fleet of electric vehicles.

Beyond its green building credentials, the facility's expanded capacity and strategic location will improve the accessibility and efficiency of handyDART services for the region. This project demonstrates a successful integration of environmental responsibility with enhanced public service, setting a positive precedent for future infrastructure projects within BC Transit and beyond.

LED lighting upgrades

Kamloops and Vernon Decarbonization

2024 marked the complete decarbonization of BC Transit's transit centres in Kamloops and Vernon. This ambitious undertaking was not a simple upgrade; it was a fundamental reimagining of these facilities' energy systems. Outdated, high-emission culprits – from aging natural gas boilers to conventional pressure washers and inefficient HVAC systems – were retired and replaced with their modern, low-carbon electric counterparts.

This overhaul directly confronted major sources of GHG emissions within BC Transit's facility portfolio, demonstrating a tangible commitment to environmental responsibility and aligning with the organization's broader objectives for infrastructure modernization and sustainability.

Langford Transit Centre Air Handling Unit

Completed in 2024, the replacement of a malfunctioning natural gas air handling unit with a high-efficiency electric heat pump is expected to yield significant improvements in Langford Transit Centre's energy efficiency. This upgrade is a key action in the ongoing effort to reduce the site's GHG emissions.

Facility Lighting Upgrades

In preparation for a summer 2025 implementation, BC Transit has been developing LED lighting upgrade projects across Vernon, Whistler, Kamloops, and Kelowna across 2024. The move to LED lighting offers substantial advantages, including energy savings, decreased maintenance needs, and a longer lifespan for the fixtures. These improvements are projected to lower electricity usage, reduce GHG emissions, and optimize operational expenses. Moreover, the enhanced light quality provided by LEDs will foster a safer and more comfortable working environment for maintenance teams.

Climate Resiliency, Adaptation & Risk Management

The global challenge presented by climate demands a dual response, a strategic pairing of climate mitigation and climate resilience ('climate adaptation'). These are not separate paths, but intertwined strategies essential for navigating the complex and evolving realities of the changing world.

Climate Mitigation - Mitigation addresses the root cause of climate change. It involves actively slowing down the engine of climate change by curbing the emissions that fuel it. This necessitates a bold transition towards cleaner horizons: embracing the power of renewable energy, maximizing energy efficiency, and pioneering sustainable ways to move people and goods.

Climate Resilience & Adaptation - Adaptation, or resilience, acknowledges that the climate is already shifting, and societies must learn to not just weather the storm, but to thrive despite it. It involves fortifying foundations – empowering communities to anticipate and bounce back from climate shocks, designing infrastructure that can withstand the extremes, and nurturing natural systems so they remain robust in the face of disruption. From bolstering flood defenses and conserving water to cooling systems, adapting landscapes and strengthening vital networks, resilience is about building a future that can endure.

Ultimately, a truly climate-smart approach recognizes that mitigation and adaptation are two sides of the same coin. By aggressively cutting emissions, the severity of future impacts is lessened.

Climate Risk Assessment

Recognizing the profound and unfolding impacts of climate change, BC Transit undertook a Climate Risk Vulnerability Assessment for ten key facilities province-wide in 2022. Employing a tailored version of the Public Infrastructure Engineering Vulnerability Committee (PIEVC) Protocol, this assessment systematically identified and quantified the core risks a shifting climate pose to the organization's infrastructure and operational continuity.

These assessments provided a strategic map, detailing the interplay between evolving climate patterns and BC Transit's daily operations. This analysis pinpointed critical vulnerabilities that could disrupt service reliability and safety, forming the essential foundation for developing targeted resilience strategies to strengthen the transit network against the increasing challenges of a changing world.

Leveraging the data gleaned from these initial assessments, BC Transit has moved to future-proof its infrastructure. Climate risks are now woven into early design of new facilities via the Environmental Sustainability Plan and adherence to the BC Climate Resilience Framework & Standards for Public Sector Buildings. This proactive integration ensures that resilience and adaptability are not secondary features, but rather intrinsic elements of the design and construction of all future facilities, preparing them to stand strong against the climate conditions of tomorrow. This forward-thinking approach is already taking concrete form in the design and construction of the new handyDART facility, set to open its doors in 2025, as well as shaping the early blueprints for future facilities.

Recognizing the need for broader understanding, BC Transit has also initiated the crucial work of extending these vital risk assessments to encompass a wider network of its facilities, casting an even wider net of preparedness across its operations.

Heat Stress Program

Drawing on the foundation of the Heat Stress Program established in prior years, BC Transit continues its strong commitment to the health and safety of maintenance teams and bus operators as temperatures increase. The Heat Stress Exposure Plan, a vital part of the workplace safety strategy, is actively used to reduce the risks of heat-related illness.

The program includes thorough training sessions aimed at enhancing team members' understanding of heat-related hazards. These sessions reinforce the necessary skills to identify, report, and respond effectively to potential heat-related incidents. Moreover, a policy strictly prohibiting solo work during high-temperature periods remains in effect, ensuring that no team member faces these risks alone.

Emergency response in Kamloops Region

Emergency Response

Climate change impacts are felt far beyond the operational boundaries of any single organization, profoundly affecting all communities throughout British Columbia. Recognizing this reality, BC Transit stands as a steadfast partner in proactive preparedness and responsive action against climate-driven events and other emergencies across the province. The BC Transit Emergency Management team is integrated within the Provincial Regional Emergency Operation Centres, which coordinate responses to the increasing frequency and severity of crises.

At the forefront of this commitment stands BC Transit's Safe Bus Program administered by its Corporate Security and Emergency Management team. This program offers a lifeline – secure passage from danger's path or a safe haven for those awaiting the arrival of emergency responders.

Recognizing the increasing severity of climate-related incidents, such as wildfires, the organization has developed the Disaster Response Transportation (DRT) framework to enhance its support for affected communities. DRT establishes a collaborative methodology for disaster response, facilitating more efficient and effective evacuation procedures. This initiative forms part of BC Transit's broader strategic adaptation of its operations to evolving emergency management protocols and the impacts of climate change, thereby bolstering community resilience.

The year 2024 witnessed BC Transit answering the call more than a dozen times across the province, deploying the Safe Bus to those in peril. The summer months, often marred by the threat of wildfires, saw the organization facilitate the safe transport of hundreds of evacuees seeking refuge. Through the synergy of its dedicated Operating Companies and invaluable community partners, BC Transit played a crucial role in the evacuations of Ashcroft, Wells, and Lillooet. A powerful testament to this collaborative spirit unfolded on July 22, 2024, when BC Transit and its Operating Partner, Diversified, coordinated the movement of hundreds of individuals displaced by the Jasper wildfires. This is more than transportation; it is a commitment to standing with its communities in times of crisis.

Environmental Sustainability Plan

A central task across 2024 was the finalization of BC Transit's first Environmental Sustainability Plan.

This comprehensive plan builds upon actions in prior years, focusing on long-term strategic and operational goals that target the most pressing environmental sustainability priorities. The plan, developed through extensive stakeholder engagement and aligned with the Government of British Columbia's CleanBC Roadmap, serves as a blueprint for BC Transit to enhance its sustainability efforts across multiple dimensions.

The plan addresses six focus areas, split into strategic and foundational categories:

1. *Climate Mitigation:* reduce emissions through planning and investments and pursuing new and emerging low carbon technologies and energy sources;
2. *Air Quality:* enhancing the health and livability of local communities by identifying opportunities to improve air quality;
3. *Climate Resilient and Sustainable Infrastructure:* embedding climate risk, resilience and sustainable design into existing infrastructure, long term capital plans, technology and processes;
4. *Operational Resource Management:* minimizing waste, reducing water consumption, increasing energy efficiency and managing related impacts throughout operations;
5. *Sustainable Procurement:* reducing the environmental and climate impact of its supply chain by actively working with its suppliers and partners to adopt more sustainable practices; and,
6. *Environmental Governance and Risk Management:* robust environmental oversight and risk management through transparent governance, policies and decision-making frameworks.

In 2024, BC Transit progressed in developing an implementation plan and initiating various actions aligned with its Environmental Sustainability Plan. While certain aspects, such as Actions Taken to Minimize Emissions and Avoided Emissions Quantification, are relevant to this report, a comprehensive summary of progress on the broader Sustainability Plan will be provided in a dedicated future report.

The Environmental Sustainability Plan can be found on BC Transit's website.

Other Initiatives

Avoided Emissions Quantification

Individuals choosing public transit over personal vehicles like cars, trucks, and SUVs greatly lowers community GHG emissions. This shift not only cuts direct vehicle emissions but also lessens the demand for new roads and highways, further reducing the GHGs associated with infrastructure development. The act of choosing to take public transit creates what is referred to as avoided emissions: the GHGs that never enter the atmosphere because a different, greener journey was taken.

BC Transit continues to elaborate and quantify these avoided emissions. The aim is to create a model that clearly demonstrates how transit services contribute to reducing community-wide GHG emissions. Throughout 2024 and into 2025, the model will be refined so that the total emissions benefit of transit can be measured.

While this work strictly measures avoided emissions from people switching from cars to buses, public transit offers broader environmental benefits. Beyond the direct mode shift, transit fosters denser, mixed-use communities and Transit-Oriented Developments, curbing urban sprawl and the need for extensive new roads, thus conserving land. Densification further boosts sustainability by reducing congestion, promoting compact living, decreasing car dependence, and improving active transportation. Although these densification and land-use benefits are outside the current scope of this project's measurement, they highlight the wide-ranging environmental advantages of public transit.

This work on avoided emissions is an action listed in BC Transit's Environmental Sustainability Plan and directly supports the goals of CleanBC, highlighting how essential public transit is in mitigating climate change and achieving lower emission levels within British Columbian communities.

Sustainability Team Events

In 2024, BC Transit's Sustainability Team organized several impactful events aimed at promoting environmental stewardship and community engagement.

STeam Waterway Cleanup

- *Gorge Waterway Cleanup* – BC Transit team members and community residents came together to clean the Gorge Waterway, removing various types of waste and enhancing the beauty of this local area.
- *Beat the Heat* – This event provided tips on energy conservation and climate resilience strategies, helping participants adapt to with the challenges posed by a changing climate such as wildfire smoke.
- *Food Preservation Basics* – Growing, buying bulk and preserving food reduces carbon footprints as it eliminates the need for transportation and packaging of store-bought food. This lunch and learn provided information on the basics of canning and dehydrating food for use in the winter months.
- *Fall/Winter Cycling* – This event was focused on how to best navigate fall and winter riding to encourage BC Transit team members to modeshift away from passenger vehicles and towards sustainable and active modes of transportation.
- *Energy Conservation Day* – BC Transit held an organization-wide Energy Conservation Day, offering educational activities and resources to encourage team members to reduce their energy consumption and carbon footprint.

BC Scrap-it Program

The Victoria Regional Transit System offered a monthly pass incentive for vehicle owners to scrap their older, heavier-polluting vehicles and adopt transit. As of mid 2024 this program integration has been ended, with two eco-passes being issued prior to conclusion of the program. These two passes removed approximately 18 tCO_2e that would have otherwise been emitted across the year.

CleanBC Integration

BC Transit is a vital partner in achieving the Province of British Columbia's CleanBC plan, actively contributing to its goals of reducing GHG emissions and fostering a sustainable future. In conjunction with the Government Leadership pathway, BC Transit's work integrates with CleanBC across several key areas:

Encouraging Sustainable Mobility Choices:

- Promoting Modal Shift: By providing reliable and accessible transit and initiatives such as free transit for children under 12 which foster long-term sustainable travel habits, BC Transit encourages a shift from carbon-intensive personal vehicles. This is a core strategy to achieve the CleanBC Transportation 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".
- Integrating with Active Transportation: BC Transit's planning considers and supports connections with walking and cycling networks, creating seamless sustainable travel options consistent with CleanBC's vision for active communities.

Decarbonizing Transportation through Fleet Transition:

- Clean Fleet Targets: BC Transit is aggressively transitioning its bus fleet to low and zero-emission technologies, including battery-electric buses, hybrid buses, and renewable fuels. This directly supports CleanBC's targets for reductions in emissions by 2030, 2040 and 2050.
- Operational Efficiency: Optimizing routes and fleet management minimizes fuel consumption, further aligning with CleanBC's aim for a more efficient transportation sector.

Minimizing Operational Environmental Footprint:

- Sustainable Infrastructure: BC Transit designs, builds, and maintains infrastructure with climate resilience and energy efficiency in mind (e.g. LEED equivalency, Climate Resilience Framework and Standards etc.), aligning with CleanBC's focus on reducing emissions from buildings and designing to address future climate conditions.
- Resource Management: BC Transit actively works to reduce waste, conserve water, and improve energy efficiency across operations, contributing to CleanBC's broader environmental stewardship objectives.
- Sustainable Procurement: Prioritizing environmentally responsible suppliers and products minimizes the environmental impact of the supply chain, supporting CleanBC's push for a cleaner economy.

Supporting Sustainable Communities and Land Use:

- Enabling Transit-Oriented Development (TOD): Public transit inherently fosters denser, mixed-use communities around stations. This TOD model, crucial for creating "complete communities" under provincial planning, reduces sprawl and reliance on personal vehicles, supporting better land-use planning under CleanBC's Community pathway.

2024 GHG Emissions and Offset Summary Table

BC Transit 2024 GHG Emissions and Offsets Summary	
GHG emissions for the period January 1 - December 31, 2024	
Total BioCO_2	*30,234*
Total Emissions (tCO_2e)	*73,417*
Total Offsets (tCO_2e)	*1,505*
Adjustments to Offset Required GHG Emissions Reported in Prior Years	
Total Offsets Adjustment (tCO_2e)	*0*
Grand Total Offsets for the 2024 Reporting Year	
Grand Total Offsets to be Retired for 2024 Reporting Year (tCO_2e)	*1,505*
Offset Investment ($)	*$37,625*

Declaration Statement

This PSO Climate Change Accountability Report for the period January 1, 2024 to December 31, 2024 summarizes our greenhouse gas (GHG) emissions profile, the total offsets to reach net-zero emissions, the actions we have taken in 2024 to minimize our GHG emissions, and our plans to continue reducing emissions in 2025 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 2024 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

	May 31, 2025
Signature	**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 – 2023/2024

https://www2.gov.bc.ca/assets/gov/british-columbians-our-governments/organizational-structure/crown-corporations/mandate-letters/bc_transit_2023_2024.pdf

BC Transit Service Plan – 2024/25 – 2026/27

https://www.bctransit.com/wp-content/uploads/2024/04/2024-25-BC-Transit-Service-Plan.pdf

BC Transit 2023/24 Annual Report

https://www.bctransit.com/wp-content/uploads/2024/08/bct.pdf

BC Transit Strategic Planning

https://www.bctransit.com/corporate-reports/strategic-plan/

BC Transit is a member of the Community Energy Association

http://communityenergy.bc.ca/

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

http://cutric-crituc.org/