Carbon Neutral

2025

PSO Climate Change Accountability Report

BCIT™

EDUCATION
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BCIT

Contents

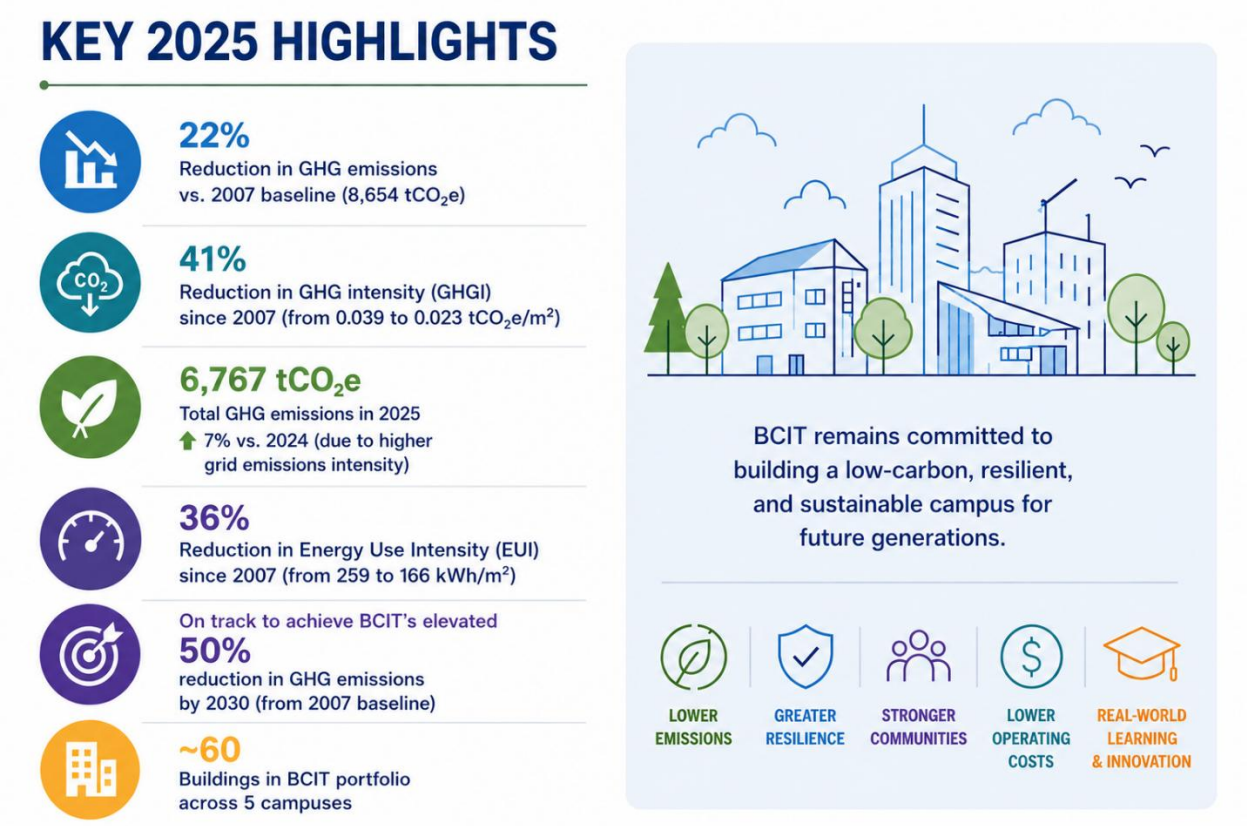
PART 1. Legislative Reporting Requirements

Declaration statement:

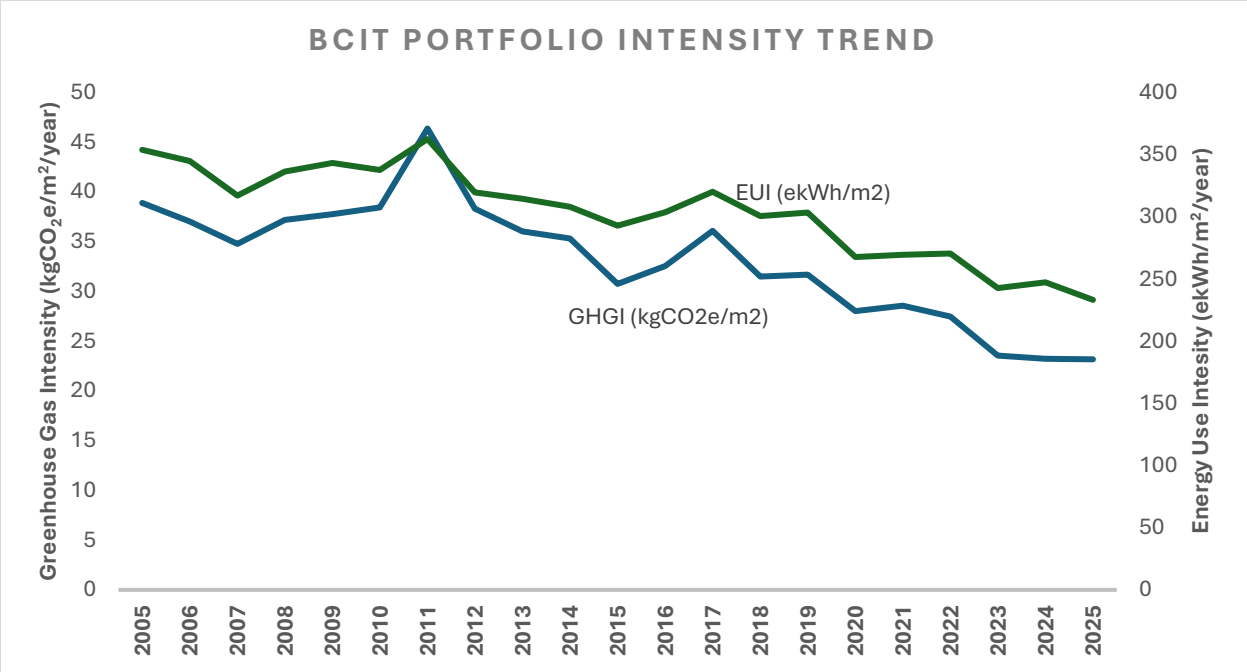
This Climate Change Accountability Report (CCAR) for the period January 1, 2025, to December 31, 2025, presents the Institute's greenhouse gas (GHG) emissions profile, the actions undertaken to reduce emissions, and the offsets required to meet carbon neutrality obligations under the Carbon Neutral Government Regulation. The report also outlines BCIT's ongoing and future strategies to support sustained emissions reductions in alignment with provincial climate targets.

Executive Summary

BCIT continues to advance a comprehensive and evolving approach to energy management and greenhouse gas reduction, reflecting both its institutional mandate and its role as a leader in applied sustainability. The Institute's sustainability commitments are formalized through its Strategic Plan, Sustainability Vision, and Policy 1010, which collectively establish long-term objectives to achieve greenhouse gas neutrality and ultimately transition toward becoming a net energy producer.



Over the past decade, BCIT has made consistent progress in reducing its carbon footprint through a combination of energy efficiency improvements, building modernization efforts, and targeted operational initiatives. These efforts have resulted in a sustained downward trend in emissions, particularly through reduced reliance on natural gas and improvements in building performance.



BCIT continues to reduce both energy use and emissions intensity across its building portfolio. While a small number of buildings account for higher energy and emissions intensity, overall performance has improved significantly. Greenhouse gas intensity has declined by approximately 40% since 2005, demonstrating sustained progress driven by efficiency, optimization, and system upgrades.

However, the 2025 reporting year reflects a transition into a more complex phase of decarbonization. While historical emissions reductions were largely achieved through efficiency gains and incremental fuel switching, BCIT is now navigating a broader transformation of its energy systems. Electrification of heating, increasing cooling demand driven by climate change, campus growth, fugitive emissions reporting and changes in electricity emissions intensity are collectively reshaping the Institute's emissions profile.

As a result, BCIT's approach to sustainability has evolved beyond a singular focus on reducing energy consumption. The Institute now operates within a more integrated framework that balances emissions reduction with infrastructure capacity, electrical demand management, system resilience, and operational performance. This transition requires careful coordination between capital planning, operations, and energy management functions.

In 2025, BCIT maintained relatively stable overall energy consumption compared to the previous year, despite increased cooling demand and continued campus development. Natural gas consumption continued to decline, reflecting ongoing progress in reducing fossil fuel dependence, while electricity consumption increased due to a combination of electrification initiatives, new building loads, and climate-related factors. At the same time, changes in the provincial electricity emissions factor contributed to an increase in total reported emissions, highlighting the growing influence of external system conditions on institutional carbon performance.

To address this, BCIT has adopted a structured and forward-looking energy management strategy that prioritizes:

- Reducing energy demand through optimization and efficiency
- Electrifying systems where it delivers meaningful carbon and operational benefits
- Strengthening building controls and automation
- Expanding metering and data systems to support evidence-based decision-making
- Integrating energy considerations into capital planning and infrastructure development

This approach ensures that the Institute continues to make progress toward long-term climate targets while maintaining operational reliability, occupant comfort, and financial sustainability.

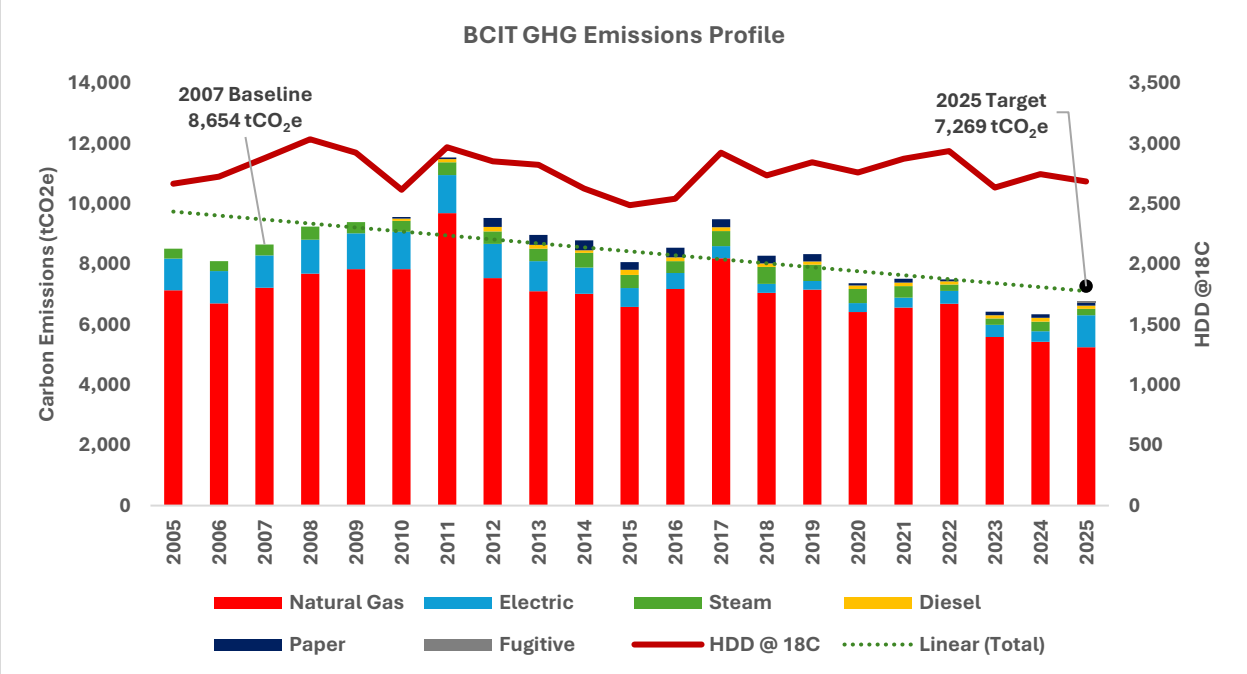
BCIT Emissions Profile and Long-Term Trends

BCIT's greenhouse gas emissions are primarily driven by energy consumption within its building portfolio. Approximately 90–95% of total emissions are associated with stationary sources, with the majority originating from space heating, domestic hot water, and cooking systems. Over the long term, emissions have declined despite campus growth and increased building area. This sustained reduction reflects ongoing investments in energy efficiency, system modernization, and continuous building optimization.

Natural gas consumption has followed a gradual downward trend, driven by recommissioning efforts, equipment upgrades, and targeted retrofit projects. These reductions have contributed directly to the Institute's long-term emissions decline and remain a central component of BCIT's decarbonization strategy.

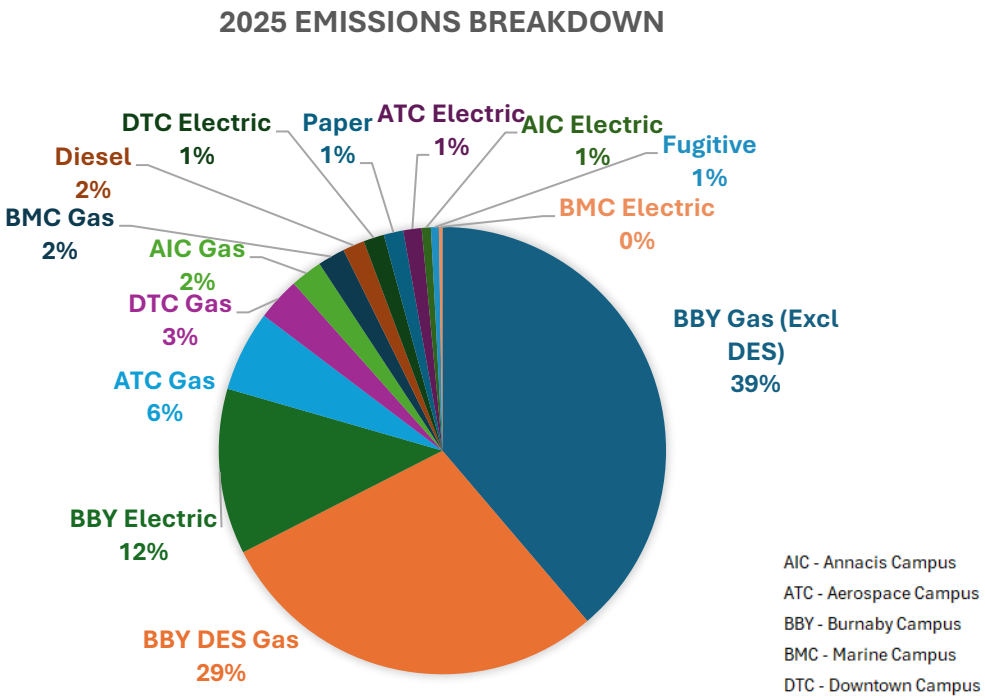
At the same time, electricity consumption has increased steadily. This reflects broader shifts in building operations and climate conditions, including warmer summers, higher ventilation requirements, increased reliance on electrically driven equipment, and the addition of new building capacity. These trends are consistent with sector-wide patterns and illustrate the inherent trade-offs associated with decarbonization, where reducing reliance on fossil fuels leads to increased dependence on electricity.

As BCIT transitions toward a more electrified energy system, managing electrical demand, infrastructure capacity, and peak loads is becoming increasingly important. This shift reinforces the need for an integrated approach that balances energy efficiency, electrification, and system resilience.



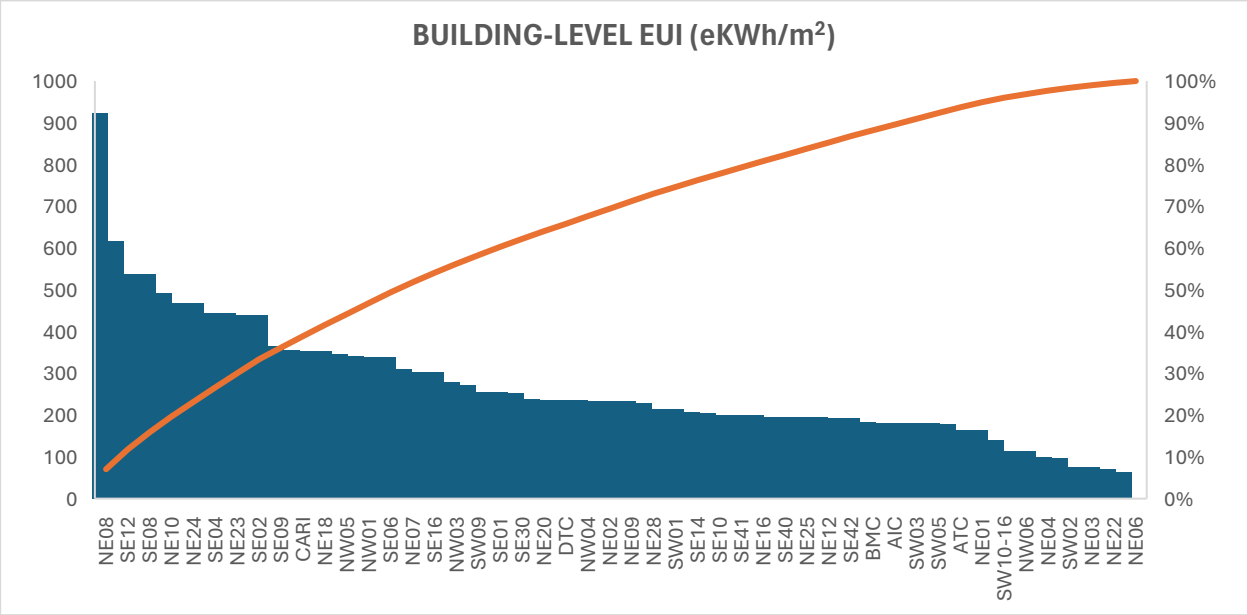
The graph above illustrates BCIT's carbon emissions profile from 2005 to 2025, highlighting a consistent long-term decline. Over this 20-year period, emissions reductions have been achieved through a combination of energy efficiency upgrades, continuous optimization initiatives, and the gradual adoption of lower-carbon energy sources. Each data point on the graph represents annual emissions, showcasing the progress made year after year towards achieving our long-term environmental goals.

In 2025, this long-term trend was temporarily influenced by external and reporting-related factors. Electricity-related emissions increased by approximately 700 tCO_2e, representing a three-fold (~200%) increase compared to 2024. This increase was primarily driven by a rise in the electricity emissions factor, as well as the inclusion of newly reported fugitive emissions.

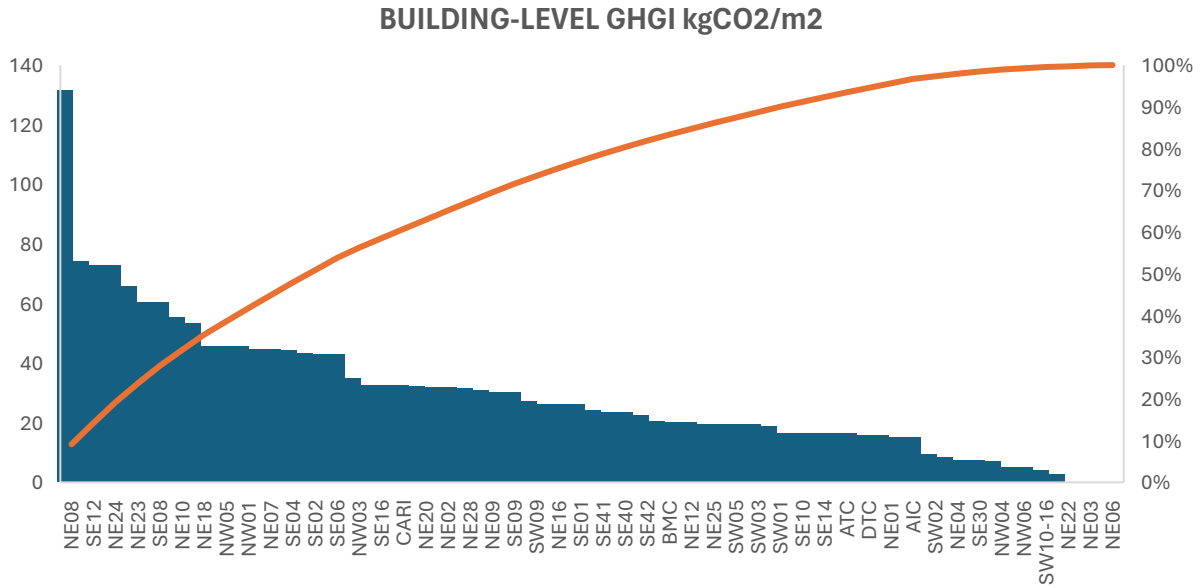


Despite these pressures, largely outside of BCIT's direct operational control, the Institute was able to moderate overall emissions growth through proactive energy management practices. Continuous optimization initiatives, including coordinated holiday shutdown strategies, improved HVAC scheduling, and ongoing system performance tuning, helped offset a portion of these increases. As a result, the net year-over-year increase in emissions was limited to approximately 420 tCO_2e, or 7% relative to 2024.

A small number of buildings account for a disproportionately high share of BCIT's energy use and emissions intensity. These buildings are the primary focus of targeted optimization and decarbonization efforts, while the majority of the portfolio continues to demonstrate stable or improved performance through ongoing efficiency initiatives.



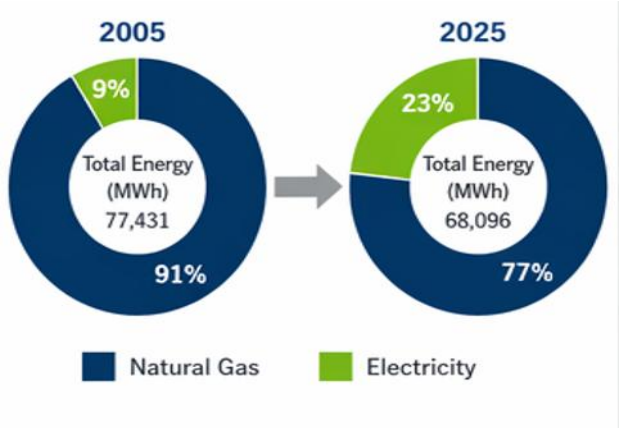
The distribution shows that a relatively small number of buildings account for a disproportionate share of overall energy and emissions intensity. These higher-intensity buildings are primarily associated with specialized spaces, higher ventilation requirements, or aging infrastructure, and therefore represent key opportunities for targeted energy efficiency and optimization efforts.



Energy Transition Context and Emerging Challenges

The 2025 reporting year highlights several important trends that are shaping BCIT's energy and emissions profile.

One of the most significant changes is the increasing influence of climate conditions on building operations. Cooling demand has increased measurably in recent years, driven by higher average temperatures and more frequent extreme heat events. Many BCIT buildings rely primarily on ventilation systems for cooling rather than conventional mechanical cooling. During prolonged heat events, these systems must operate continuously to maintain indoor temperatures, and their effectiveness is limited when outdoor temperatures remain elevated overnight.



As a result, additional operational measures have been required in certain buildings, including extended system operation and temporary cooling solutions to maintain safe and functional indoor environments. These conditions have contributed to increased electricity consumption and highlighted the need for climate-responsive building strategies.

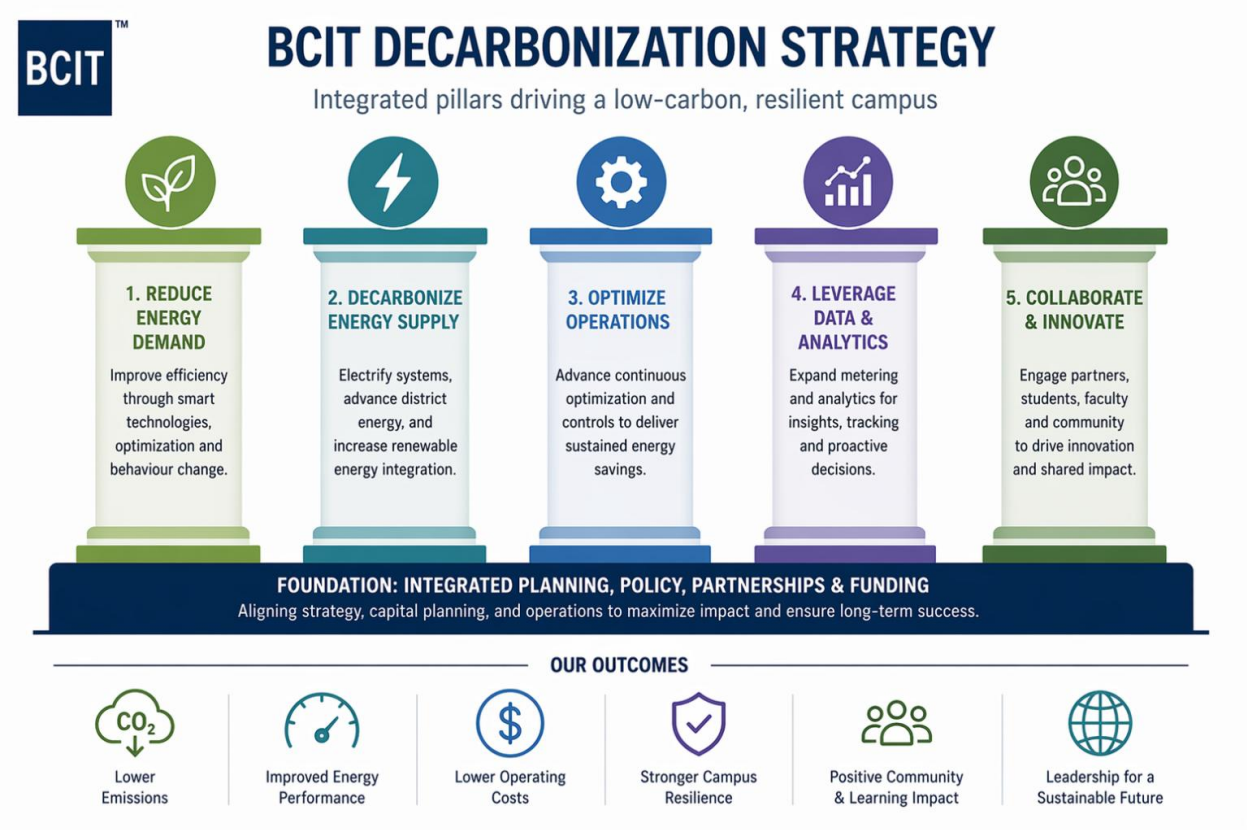
At the same time, electrification is becoming an increasingly important component of BCIT's decarbonization pathway. Electrifying heating systems offers significant long-term emissions reduction potential but also introduces new challenges. Increased electrical demand places additional pressure on infrastructure, particularly during peak periods, and requires careful coordination with system capacity and utility programs.

Another important factor influencing emissions in 2025 is the change in electricity emissions intensity. Variations in the carbon intensity of the grid can significantly impact reported emissions, independent of changes in energy consumption. In 2025, an increase in electricity emissions factors contributed to higher overall emissions, despite reductions in natural gas use and stable overall energy consumption.

These trends underscore the importance of adopting a systems-level approach to energy management. BCIT's strategy increasingly focuses on balancing demand reduction, electrification, infrastructure planning, and operational resilience.

Decarbonization Strategy and Emission Reduction Actions

BCIT's decarbonization approach has continued to evolve in 2025, reflecting a transition from a collection of individual initiatives toward a more integrated and programmatic model of energy management. While the Institute's core objectives remain focused on reducing greenhouse gas emissions and improving overall energy performance, increasing emphasis has been placed on aligning operational activities, capital planning, and long-term infrastructure strategies to ensure sustained and scalable outcomes.



At the foundation of this approach is a continued focus on reducing energy demand through targeted efficiency and optimization measures. BCIT has expanded its use of demand-side analysis to identify high-impact opportunities across its building portfolio, while also advancing the deployment of energy-efficient technologies in HVAC systems, lighting, and related infrastructure. These improvements are supported by the growing application of smart building technologies, including occupancy-based controls, demand-controlled ventilation, and variable frequency drives, enabling more responsive and efficient system operation.

A central component of BCIT's strategy is its Continuous Optimization (COp) program, which has matured into a core operational practice across the Institute. In 2025, the program has placed increased

emphasis on standardizing control strategies and operational practices across diverse buildings and systems to ensure consistency and persistence of savings. The implementation of ASHRAE Guideline 36–aligned control sequences, combined with enhanced oversight of system performance, has strengthened BCIT's ability to reduce avoidable energy use while maintaining occupant comfort and operational reliability.

These strategic principles are translated into implementation through a coordinated portfolio of capital projects and operational initiatives. Capital investments continue to play a critical role in delivering long-term emissions reductions. In 2025, BCIT advanced several key projects, including the electrification of district energy systems, building-level retrofits, and the development of high-performance new construction. The transition from natural gas–based heating systems to electric alternatives represents a significant step in addressing one of the largest sources of emissions within the Institute's portfolio. This transition is being implemented in a phased manner, aligned with infrastructure capacity and asset lifecycle considerations to ensure long-term viability.

In addition to major infrastructure investments, BCIT continues to integrate energy and carbon considerations into its capital planning processes. By aligning energy efficiency upgrades with scheduled equipment replacements and building renewals, the Institute is able to minimize incremental costs while embedding long-term sustainability outcomes into its asset management strategy. This lifecycle-based approach ensures that decarbonization is addressed systematically rather than through standalone interventions.

1. District Energy System Modernization and Electrification
    - Upgrades to central heating systems and transition toward low-carbon energy infrastructure
    - Expansion of district energy connections to reduce reliance on standalone gas systems
2. High-Performance New Construction
    - Development of low-carbon buildings such as Tall Timber Student Housing and Trades & Technology Complex
    - All-electric design, high-performance envelopes, and mass timber construction to reduce operational and embodied carbon
3. Deep Energy Retrofits Across Existing Buildings
    - HVAC system upgrades including demand-controlled ventilation (DCV) and variable frequency drives (VFDs)
    - Building automation system (BAS) modernization and control improvements
4. Metering and Smart Building Infrastructure
    - Deployment of building-level electrical sub-metering across campus
    - Integration with building automation systems to improve monitoring and control
    - Enhanced data analytics to support performance tracking and decision-making

Operational initiatives complement these capital investments by delivering near-term energy savings and maintaining system performance over time. Continuous optimization activities are being applied across a significant portion of BCIT's building portfolio, focusing on refining system schedules, improving control sequences, and identifying performance gaps. The expansion of in-house expertise in building automation systems has further strengthened BCIT's ability to implement and sustain these improvements. Regular review of system overrides, improved coordination with facility operators, and ongoing system tuning have become embedded practices within day-to-day operations.

Targeted initiatives are also underway in high-energy-intensity systems, including ventilation systems in large and specialized spaces, compressed air systems, and key mechanical equipment. These systems represent a disproportionate share of overall energy use, and focused optimization efforts in these areas continue to yield measurable reductions in both energy consumption and emissions.

BCIT's decarbonization efforts are further supported by its role as a leader in applied research and innovation. Through its "Campus as a Living Lab" initiative, the Institute collaborates with faculty, students, and external partners to test and implement new technologies and operational strategies. These initiatives contribute not only to emissions reductions but also to knowledge development and workforce training aligned with the province's climate objectives.

External partnerships and funding programs continue to play an important role in enabling implementation. BCIT actively engages with utilities, government agencies, and industry partners to align its initiatives with available incentive programs, leveraging external funding to support project delivery and reduce financial barriers. These collaborations also help ensure that BCIT's efforts are consistent with broader provincial and sectoral priorities.

A key enabler of this integrated approach is the continued expansion of BCIT's data, metering, and analytics capabilities. Recognizing the importance of accurate and timely information, the Institute is advancing a campus-wide metering strategy that improves visibility into building-level energy consumption. Enhanced data systems support more accurate emissions reporting, enable performance benchmarking, and allow for targeted identification of optimization opportunities. The integration of metering systems with building automation platforms further strengthens BCIT's ability to monitor, manage, and continuously improve building performance.

Overall, BCIT's 2025 approach reflects a more mature and coordinated model of energy management—one that combines strategic planning, operational execution, and continuous performance monitoring. This integrated framework positions the Institute to manage the increasing complexity of its energy transition while continuing to deliver sustained reductions in greenhouse gas emissions and supporting long-term institutional resilience.

2025 GHG Emissions and Offsets Summary Table

British Columbia Institute of Technology 2025 GHG Emissions and Offsets Summary	
GHG emissions for the period January 1 - December 31, 2025	
Total $BioCO_2$	0
Total Emissions (tCO_2e)	6,767
Total Offsets (tCO_2e)	6,767
Adjustments to Offset Required GHG Emissions Reported in Prior Years	
Total Offsets Adjustment (tCO_2e)	42
Grand Total Offsets for the 2025 Reporting Year	
Grand Total Offsets to be Retired for 2025 Reporting Year (tCO_2e)	6,809
Offset Investment ($)	**$170,225.00**

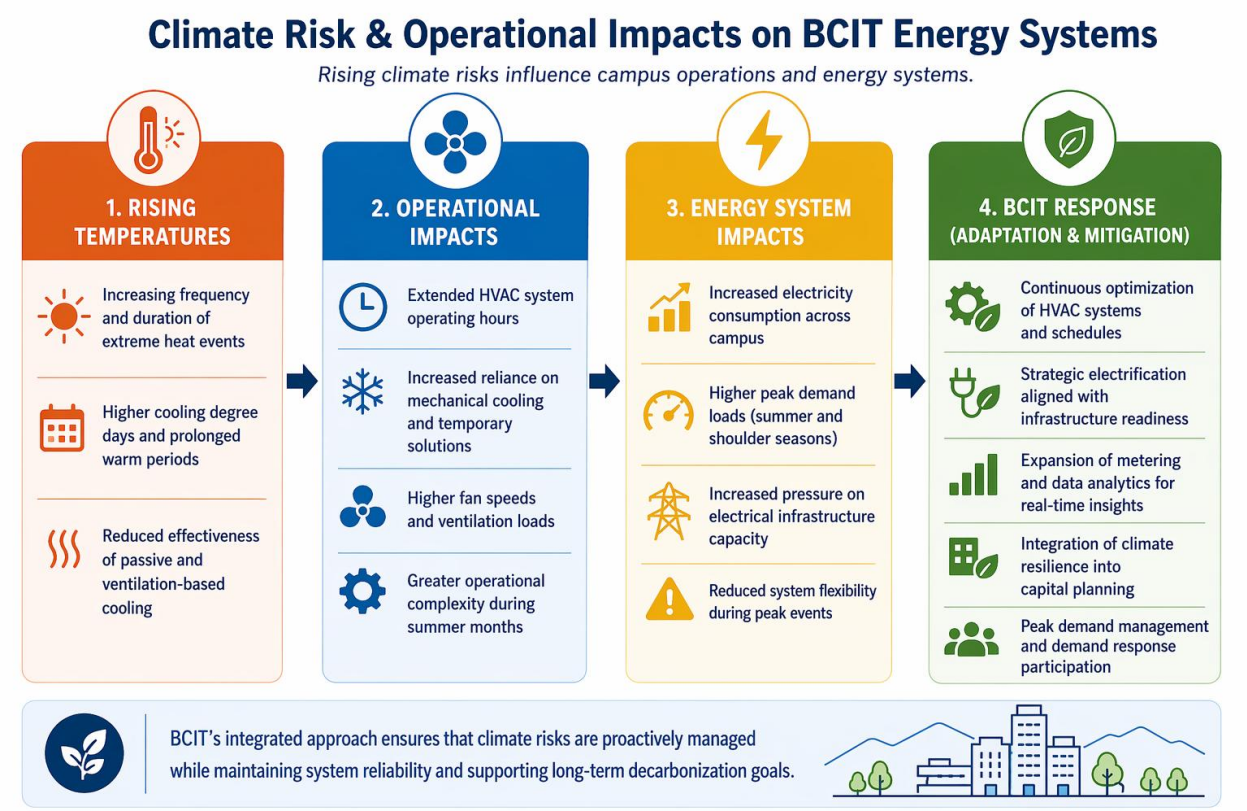
Retirement of Offsets:

In accordance with the requirements of the Climate Change Accountability Act and Carbon Neutral Government Regulation, British Columbia Institute of Technology (**the Organization**) is responsible for arranging for the retirement of the offsets obligation reported above for the 2025 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.

PART 2. Public Sector Climate Leadership

2A. Climate Risk Management

BCIT recognizes that climate change presents not only mitigation challenges, but also operational risks that must be actively managed. Increasing temperatures, extreme weather events, and evolving energy system conditions all have the potential to impact campus operations.



In recent years, rising cooling demand has been one of the most significant operational impacts. Extended periods of high temperatures require prolonged operation of ventilation systems and, in some cases, supplementary cooling measures. These conditions place additional stress on building systems and increase electricity consumption, particularly during peak demand periods.

At the same time, the transition toward electrification introduces new considerations related to electrical infrastructure capacity and system reliability. As more building systems rely on electricity, managing peak demand and ensuring adequate infrastructure becomes increasingly important.

BCIT is addressing these challenges by integrating climate resilience into planning and operations. This includes incorporating future climate conditions into infrastructure design, improving system flexibility, and enhancing coordination between energy management, operations, and capital planning functions.

2B. Organizational Considerations

While BCIT has made significant progress, several considerations continue to influence the pace and scope of emissions reduction efforts.

Technical challenges exist, particularly in the integration of building systems with digital infrastructure and data platforms. These integrations are essential for enabling advanced control strategies and performance monitoring but require alignment across multiple departments and systems.

Finally, the transition to a low-carbon energy system must be managed within an evolving external environment, including changes in energy costs, regulatory requirements, and grid characteristics. BCIT's approach acknowledges these constraints and emphasizes long-term planning, flexibility, and continuous improvement.

2C. Other Sustainability Initiatives

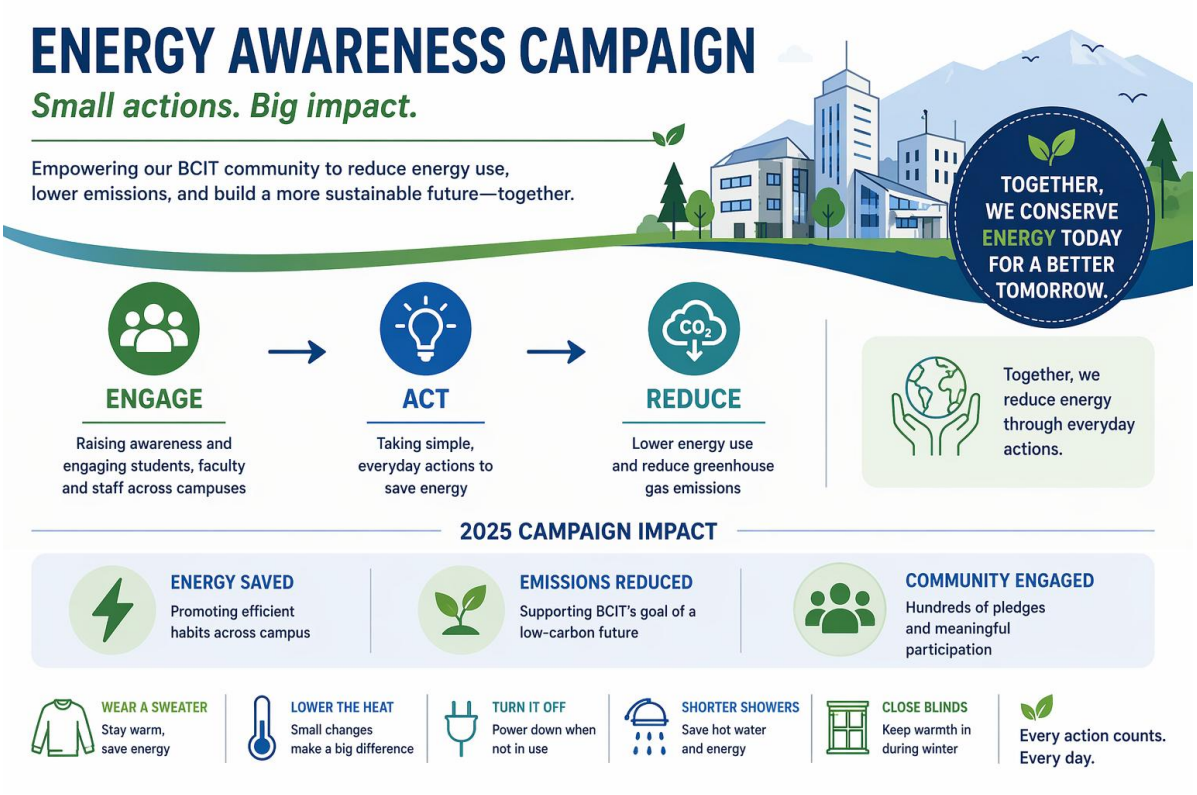
Beyond energy and emissions management, BCIT continues to advance a range of sustainability initiatives that support environmental performance and community engagement. These include waste reduction programs, sustainable transportation initiatives, and campus-wide engagement efforts that promote awareness and participation in sustainability activities.

The Institute's "campus as a living lab" approach continues to provide opportunities for students, faculty, and staff to engage with applied sustainability projects, reinforcing BCIT's role as both an operational leader and an educational institution.

2D. Success Stories

In 2025, BCIT achieved several notable milestones that reflect the strength and maturity of its energy management program. The Institute's Energy Management Assessment score improved significantly, demonstrating progress in program structure, governance, and implementation. BCIT has also prioritized transparent communication and a strong culture of collaboration across departments to maximize the impact of its energy initiatives.

BCIT's Energy Awareness Campaign introduced a behavioural dimension to its emissions reduction strategy by engaging the campus community in everyday energy-saving actions. Through multi-campus events, targeted communications, and over 300 energy-saving pledges, the initiative helped build awareness and ownership of energy use, reinforcing BCIT's broader decarbonization efforts and supporting a culture of sustainability across the Institute.



Participation in BC Hydro's peak demand response program provided an opportunity to contribute to grid stability while achieving measurable energy reductions and financial benefits. These efforts highlight the importance of collaboration with external partners and the role that BCIT can play in supporting broader energy system objectives.

In 2025, BCIT advanced its decarbonization strategy through the installation of a 1 MW electric boiler within its district energy system at the Burnaby campus. This project represents a key step toward transitioning to a lower-carbon energy system.

The district energy system serves a significant portion of campus buildings and accounts for approximately 30% of BCIT's total greenhouse gas emissions, making it a critical focus area for emissions reduction. By integrating the electric boiler into this central system, BCIT is able to offset a portion of thermal demand using low-carbon electricity, supporting emissions reduction at scale.

The system has been designed to operate alongside existing infrastructure, providing operational flexibility while enabling a gradual transition toward electrification. This hybrid approach allows BCIT to manage peak loads, maintain system reliability, and optimize energy use based on operational conditions and carbon intensity.

Beyond its immediate impact, the project establishes critical infrastructure required to support future electrification initiatives across campus. It also demonstrates BCIT's commitment to integrating long-term decarbonization objectives into capital planning and infrastructure renewal.

Overall, the installation of the 1 MW electric boiler represents a strategic shift in how thermal energy is supplied across the campus and highlights BCIT's leadership in advancing scalable, low-carbon solutions for campus operations.

Collectively, these accomplishments demonstrate a shift toward a more integrated and strategic approach to energy management—one that combines operational excellence, data-driven decision-making, and strong stakeholder engagement.

Executive Sign-off:

Signature	Date
Danica Djurkovic	May 26, 2026

Name (please print)	Title
Danica Djurkovic	Associate Vice President, Campus Planning and Facilities