Energy Demand Management Plan
Loyalist College
2024 – 2028
March 18th, 2025

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About Loyalist College

Loyalist College is built upon the lands governed by the Dish with One Spoon wampum agreement. We affirm and thank the Haudenosaunee, Anishinaabeg and Huron-Wendat nations for their continued caretaking of the land. At Loyalist, we empower our students with wraparound support services and hands-on training to succeed on any path they choose.

Our academic programs are responsive and innovative, designed to solve pressing social and economic challenges and meet the evolving needs of our regional industry and community partners. Our graduates enter the workforce equipped with the knowledge they need to be better global citizens, and with future-focused skills to lead change in their fields. With a presence in Belleville, Bancroft, Port Hope and Tyendinaga, we believe our institutional responsibility extends beyond the classroom to seeing the big picture for the communities we serve.

Our expertise in applied research and deep connections to local industry support economic development, to the benefit of businesses, entrepreneurs, changemakers and innovators. Our commitment to decolonization, and the pursuit of a more inclusive, equitable world, means we hold ourselves accountable to the diverse perspectives, cultures and experiences that shape our communities.

Energy Demand Response at Loyalist College

Loyalist College is dedicated to advancing its energy efficiency and sustainability efforts while fostering a dynamic and supportive learning and working environment. This Energy Demand Management (EDM) Plan details initiatives that the College has undertaken to optimize energy use, reduce operational costs, and achieve milestones in environmental and sustainability efforts. The plan is aligned with provincial energy conservation objectives, industry best practices, and the newly introduced Ontario Regulation 25/23 (O.Reg. 25/23), which mandates that all post-secondary institutions prepare and implement an energy conservation and demand management plan. Through this commitment, Loyalist College aims to lead by example in promoting sustainability, reducing energy consumption, and contributing to a greener future.

Referencing the historical energy efficiency projects and energy utilization details, the implementation of the energy efficiency improvement projects has enabled the College to maintain a steady state of energy use despite the growth in campus size and occupancy. This demonstrates the effectiveness of the measures in optimizing energy consumption and highlights the College's commitment to sustainability.

Applicable Loyalist College Buildings

Picture 1. Belleville Campus – Kente Building
376 Wallbridge Loyalist Rd, Belleville

Picture 2. Port Hope Campus
10 Pine Street, Port Hope

Picture 3. Bancroft Campus
195 Hastings Street, Bancroft

Picture 4. Port Hope Campus
34/36 Walton Street, Port Hope

Picture 5. Port Hope Residence
9 Pine Street, Port Hope

Picture 6. Port Hope Residence
230 Walton Street, Port Hope

Picture 7. 54 Dundas Street E, Belleville

Picture 8. Belleville Campus – Pioneer Building
376 Wallbridge Loyalist Rd, Belleville

Picture 9. 284a Wallbridge Loyalist Rd, Belleville

Table 1: Campus Details

Location	Address	Building Utilization	SQFT	Hours of Operations	2024 Energy Usage	2024 GHG Emissions (CO2e)
Belleville Campus – Kente Building	376 Wallbridge Loyalist Road, Belleville, ON, K8N 5B9	Classrooms and related facilities	551,230	7am – 10pm	4,201,200	1,109.58
Belleville Campus – Pioneer Building	376 Wallbridge Loyalist Road, Belleville, ON, K8N 5B9	Classrooms and related facilities	55,789	7am – 10pm	541,593	61.93
Belleville Campus – Residence Village Building	284a Wallbridge Loyalist Road, ON, K8N 5B9	Residence Complex	168,366	24/7/365	2,136,000	373.35
Port Hope Campus	10 Pine Street, Port Hope, ON, L1A3E7	Classrooms and related facilities	15,385	7am – 10pm	59,889	New lease agreement incomplete dataset
Bancroft Campus	195 Hastings Street North, Bancroft, ON, K0L 1CO	Classrooms and related facilities	8,621	8:30am – 4:30pm	42,904	35.78
Port Hope Campus	34/36 Walton Street, Port Hope, ON, L1A 1N1	Classrooms and related facilities	3,200	Operational hours depend on academic scheduling	Utility details unavailable	New lease agreement incomplete dataset

Location	Address	Building Utilization	SQFT	Hours of Operations	2024 Energy Usage	2024 GHG Emissions (CO2e)
Port Hope Residence	9 Pine Street, Port Hope, ON, L1A3E6	Student Residence	4,916	24/7/365	1,039	Newly purchased incomplete dataset
Port Hope Residence	230 Walton Street, Port Hope, ON, L1A 1P2	Student Residence	6,138	24/7/365	19,440	New lease agreement incomplete dataset
Community Employment Services	54 Dundas Steet E, Belleville, ON K8N 1B8	Community Employment Services	3,500	8:30am – 4:30pm	23,449	6.07

Utility Utilization Trends

Table 2: Historical Energy Consumption

Location	Address	Energy Utilization (kwh)					
		2019	*2020*	*2021*	*2022*	*2023*	*2024*
Belleville Campus – Kente Building	376 Wallbridge Loyalist Road, Belleville, ON, K8N 5B9	*4,172,400*	*3,542,400*	*3,912,000*	*4,226,400*	*4,180,800*	*4,201,200*
Belleville Campus – Pioneer Building	376 Wallbridge Loyalist Road, Belleville, ON, K8N 5B9	*588,405*	*425,525*	*457,856*	*475,032*	*452,435*	*541,593*
Belleville Campus – Residence Village Building	284a Wallbridge Loyalist Road, ON, K8N 5B9	*2,103,600*	*1,632,000*	*1,786,800*	*2,019,600*	*2,164,800*	*2,136,000*
Port Hope Campus	10 Pine Street, Port Hope, ON, L1A3E7						*59,889*
Bancroft Campus	195 Hastings Street North, Bancroft, ON, K0L 1CO	*71,309*	*38,702*	*37,720*	*37,319*	*45,575*	*42,904*
Port Hope Campus	34/36 Walton Street, Port Hope, ON, L1A 1N1	*Utility Details Unavailable*					
Port Hope Residence	9 Pine Street, Port Hope, ON, L1A3E6						*1,039*
Port Hope Residence	230 Walton Street, Port Hope, ON, L1A 1P2						*19,440*
Community Employment Services	54 Dundas Steet E, Belleville, ON K8N 1B8	*51,003*	*29,084*	*23,573*	*14,225*	*24,456*	*23,449*

Table 3: Historical Gas Consumption

Location	Address	Gas (m3)					
		2019	*2020*	*2021*	*2022*	*2023*	*2024*
Belleville Campus – Kente Building	376 Wallbridge Loyalist Road, Belleville, ON, K8N 5B9	*610,553*	*528,134*	*613,324*	*551,254*	*464,130*	*478,772*
Belleville Campus – Pioneer Building	376 Wallbridge Loyalist Road, Belleville, ON, K8N 5B9	*25,970*	*17,036*	*44,591*	*28,163*	*20,556*	*22,339*
Belleville Campus – Residence Village Building	284a Wallbridge Loyalist Road, ON, K8N 5B9	*264,527*	*169,041*	*220,838*	*306,915*	*203,733*	*214,984*
Port Hope Campus	10 Pine Street, Port Hope, ON, L1A3E7						*60*
Port Hope Campus	34/36 Walton Street, Port Hope, ON, L1A 1N1	*Utility Details Unavailable*					
Port Hope Residence	9 Pine Street, Port Hope, ON, L1A3E6						*1507*
Port Hope Residence	230 Walton Street, Port Hope, ON, L1A 1P2						*3216*
Community Employment Services	54 Dundas Steet E, Belleville, ON K8N 1B8	*4,046*	*3,660*	*5,449*	*3,262*	*3,983*	*3,182*

Table 4: Historical Oil Utilization

Location	Address	Oil (L)					
		2019	*2020*	*2021*	*2022*	*2023*	*2024*
Bancroft Campus	195 Hastings Street North, Bancroft, ON, K0L 1CO	*17,351*	*15,068*	*17,730*	*13,418*	*14,563*	*6,860*

Sustainability At Loyalist College:

The College is committed to embedding the United Nations Sustainable Development Goals (SDGs) into every facet of its operations. In 2022 Loyalist became official signatories to the Sustainable Development Goals Accord. By actively recognizing and incorporating these goals, the institution seeks to foster a robust culture of sustainability within the College community. Enhancing awareness and engagement among students and staff but also positioning Loyalist as a

proactive contributor to a more sustainable present and future for all. Through this commitment, the College aims to inspire positive change and create lasting impact, ensuring that sustainability becomes a shared value that resonates throughout the entire institution.

Belleville, Ontario, May 18, 2022 – Recognizing the essential role of educational institutions as catalysts for change, Loyalist College has officially signed the Sustainable Development Goals Accord, committing to embedding the United Nations Sustainable Development Goals (SDG) into our education, applied research, leadership, operations, administration, and engagement activities.

Addressing a range of global social, economic, and environmental challenges from climate change to food security, the 17 SDGs provide a blueprint for governments, businesses, institutions and individuals who seek to build a more equitable and sustainable world.

"As our region's only postsecondary institution, Loyalist College takes its responsibility as an agent of change very seriously. We recognize that, as educators, we have a central and transformational role to play in reducing inequality, supporting economic growth, and fostering sustainable development," said Dr. Ann Marie Vaughan, Loyalist College President and CEO. "We're proud to officially align our programming and campus initiatives with this global movement, propelling our students, employees, and community partners into a better, brighter future."

Weaving the SDGs into the fabric of student life, applied research projects and hands-on learning opportunities at the College, Loyalist will participate in annual reporting and information-sharing with other learning institutions and SDG signatories in the Accord.

Picture 10. SDG Accord Announcement 2022

In 2024, Loyalist commissioned four new electric vehicle charging stations on campus. This initiative not only furthers our commitment to Sustainable Development Goals (SDG) but also demonstrates our dedication to supporting sustainable practices within our community. By providing these charging stations, we are encouraging our campus members to adopt eco-friendly transportation options, thereby reducing our overall carbon footprint. This step aligns with our broader sustainability strategy and reflects our ongoing efforts to create a greener, more sustainable campus environment.

Picture 11. Electric Vehicle Commissioning Event

Since 2016, the Skills Building on the Belleville campus has been equipped with a solar panel array. This array harnesses solar energy, converting sunlight into electricity. The energy generated by these panels is then fed back into the Skills Building, providing a renewable source of power that helps reduce the building's reliance on non-renewable energy sources. This initiative not only supports our sustainability goals but also serves as a practical example of how renewable energy can be integrated into campus infrastructure. By utilizing solar power, we are taking steps towards reducing our carbon footprint and promoting environmental stewardship within our community.

Picture 12. Skills Building Solar Panels

Historical Energy Efficiency Projects:

Table 5: 2019 – 2020 Projects

2019 – 2020 Energy Efficiency Projects		
Project Location	Project Name	Project Description
Belleville Campus	Outdoor LED Lighting Upgrades	Upgraded ~120 outdoor light fixtures throughout campus with LEDs.
Belleville Campus	Soft Joint Sealant	Replace the grannex panel caulking to reduce heat lost throughout the Kente building
Belleville Campus	Roof Replacement – Lennox Wing	Removed and replaced existing roof. Increased insulation R-value to reduce heat loss.
Belleville Campus	Interior LED Lighting Upgrades	Replacing old lighting with LED fixtures well assist in reducing the electricity use.
Belleville Campus	T1 Transformer Replacement	Upgrading to a new model will result in energy efficiency improvements.
Belleville Campus	1L1 Heater Replacement	Replaced old heating unit with a modern heating unit designed to use less energy while providing the same or better heating performance.
Belleville Campus	Residence Washroom Renovation	64 washrooms between McFarlane and Reilly residence buildings received washroom renovation that included both water and electrical fixture upgrades
Belleville Campus	Pioneer Building	Upgraded all pumping fixtures achieving energy efficiency improvement

Table 6: 2020 – 2021Projects

2020 – 2021 Energy Efficiency Projects		
Project Location	Project Name	Project Description
Belleville Campus	Interior LED Lighting Upgrades	Replacing old lighting with LED fixtures well assist in reducing the electricity use.
Belleville Campus	Health and Wellness Building Expansion	Constructed an addition to the building and ensured that energy-efficient components, such as LED lights and lighting sensors, were standard in the design.
Belleville Campus	Library Corridor Washroom Renovation	Renovated washroom to meet AODA standards which included new energy efficient lighting controls and new plumbing fixtures.
Belleville Campus	Mechatronics Lab Renovation	Created a net new laboratory space with integrated energy-efficient design elements.
Belleville Campus	Technology Access Centre Laboratory Renovation	Resigned an existing laboratory space and incorporated energy efficiency design elements, such as energy efficiency lighting controls and HVAC components.

Table 7: 2021 – 2022 Projects

2021 – 2022 Energy Efficiency Projects		
Project Location	Project Name	Project Description
Belleville Campus	Culinary Renovation	Constructed an addition to the building to include a bake lab, food market and chocolate lab. Space designs included energy-efficient components, such as LED lights and lighting sensors, were standard in the design. The culinary equipment purchased for the space were compliant with energy efficiency standards.
Belleville Campus	Varsity Changeroom Renovation	Completed a substantial renovation to the varsity changing rooms, resulting in energy efficiency optimizations from lighting and controls to HVAC improvements
Belleville Campus	Window Replacement	Replaced 408 windows throughout the Kente Building, anticipating a reduction in heat loss based on improved insulation and energy efficiency standards
Belleville Campus	Door Replacement	Replaced 14 exterior doors throughout the Kente Building to enhance insulation and improve thermal performance.
Belleville Campus	Makerspace Renovation	Created a tech-based innovation space on campus. Design elements of the space incorporated energy efficiency lighting and controls. The state-of-the-art technology in the space also meets energy efficiency standards.
Belleville Campus	Roof Replacement	Removed and replaced existing roof. Increased insulation R-value to reduce heat loss.

Table 8: 2022 – 2023 Projects

2022 – 2023 Energy Efficiency Projects		
Project Location	Project Name	Project Description
Belleville Campus	Boiler and Chiller Replacement	The replacement of the boiler and chiller will enhance the reliability of campus heating and cooling systems. Additionally, advancements in technology will lead to significant improvements in energy efficiency
Belleville Campus	Interior LED Lighting Upgrades	Replacing old lighting with LED fixtures well assist in reducing the electricity use.

2022 – 2023 Energy Efficiency Projects		
Project Location	Project Name	Project Description
Belleville Campus	H Wing Roof Replacement	Removed and replaced existing roof. Increased insulation R-value to reduce heat loss.
Port Hope Campus	Campus Building Renovation	Completely renovated a 1960s elementary school, incorporating energy efficiency upgrades to the building envelope, including HVAC systems, lighting and controls, roofing, and doors.

Table 9: 2023 – 2024 Projects

2023 – 2024 Energy Efficiency Projects		
Project Location	Project Name	Project Description
Belleville Campus	Classroom Renovations	As part of classroom and office upgrades and lighting replacements as required. The College is converting to LEDs
Belleville Campus	Continuous LED Lighting Upgrades	Replacing old lighting with LED fixtures well assist in reducing the electricity use.
Belleville Campus	Soft Joint Sealant	Replace the grannex panel caulking to reduce heat lost throughout the Kente building
Belleville Campus	Medical Radiation Technology Renovation	Renovated the 1st floor of the Northumberland wing to support the introduction of a new medical radiation technology program. Upgrades included new plumbing fixtures, HVAC systems to accommodate occupancy and equipment heat, and new lighting and controls to meet energy efficiency standards. All renovations were designed to comply with OBC standards.
Belleville Campus	Loyalist Entrance & Athletic Facility Expansion	Constructed a new main entrance for the College, including a gymnasium, washrooms, and student gathering spaces. All areas were designed to meet OBC standards for energy efficiency.
Belleville Campus	2L Washroom Upgrade	Upgraded washrooms with energy-efficient components, including new water fixtures, lighting, and controls.
Belleville Campus	Digital Media Centre Roof Replacement	Removed and replaced existing roof. Increased insulation R-value to reduce heat loss.
Belleville Campus	Shipping and Receiving Roof Replacement	

Future Projects:

Loyalist College is committed to integrating energy-efficient design concepts and infrastructure into applicable projects. Our goal is to enhance sustainability and reduce our environmental footprint. However, due to current economic challenges, the College has not planned any new specific energy efficiency projects at this time. The institution is carefully navigating changes in enrollment and business operations to ensure we can continue to provide high-quality education and services while managing our resources effectively.

As the College adapts to changes in business operations, it may indirectly achieve noteworthy improvements in energy efficiency. This can be attributed to a reduction in the demand for energy-intensive equipment, which is a result of modifications in educational programming. These changes could lead to a more sustainable and cost-effective operational model, benefiting both the institution and the environment.

The College has entered into an agreement with Blackstone Energy Management. Blackstone offers a comprehensive range of management services designed to help the College mitigate risk, improve utility budgeting, and achieve long-term carbon emission reductions. By leveraging Blackstone's expertise, the College will be able to make data-driven decisions that will be incorporated into strategic plans focused on energy efficiency improvements.

Potential projects with Blackstone include the development of new energy initiatives, negotiating renewable energy power purchase agreements, and conducting thorough evaluations to identify ways the College can manage its energy usage more effectively. This partnership aims to not only enhance the College's operational efficiency but also contribute significantly to its sustainability goals. Through this collaboration, the College is committed to adopting innovative solutions and technologies that will drive substantial improvements in energy management and environmental stewardship.

We remain dedicated to exploring future opportunities for energy efficiency improvements as circumstances allow.

The College is committed to incorporating energy-efficient design principles and infrastructure into its campus operations.

John Pinsent
Senior Vice President, Corporate Services & CFO