



Royal Roads
UNIVERSITY



Royal Roads University

2019 CARBON NEUTRAL ACTION REPORT

May 2020

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Declaration statement:

This Carbon Neutral Action Report for the period January 1, 2019 to December 31, 2019 summarizes our emissions profile, the total offsets to reach net-zero emissions, the actions we have taken in 2019 to reduce our greenhouse gas emissions (GHG) and our plans to continue reducing emissions in 2020 and beyond.

Overview:

Royal Roads University is committed to its stewardship responsibilities and continues to take a sustainable approach to maintaining its campus and online environments while investing for the future. Balancing the demands of a growing and diverse student population, the university continues to be a leader in sustainability in the provincial post-secondary sector through its operations and capital program. Putting plans into practice, every year, the university undertakes projects that aim to reduce GHG emissions in accordance with the BC *Climate Change Accountability Act* and Carbon Neutral Government Regulation.

Significant GHG reductions achieved in 2019 were the result of several upgrades. This included repairs to the solar thermal systems on the Millward building and the Learning and Innovation Centre (LIC). In 2019, RRU upgraded the exterior and interior of the Grant Building, installing a new heating system and roof work to improve energy efficiency and protect against damage from weather.

Royal Roads will continue to work toward reducing its GHG emissions in 2020, the last year of the current five-year plan. Infrastructure initiatives such as building retrofits and electrical upgrades will contribute to further reductions in energy consumption and GHG emissions. The construction of the new Learning and Teaching Auditorium (LTA) will also continue. The LTA will meet the university's targets to reduce GHG emissions by implementing an open-loop geo-exchange system and honouring principles of the [BC Energy Step Code](#)¹. Contributing to sustainability objectives and consistent with all capital infrastructure project work on the Royal Roads campus, the university has confirmed approval of environmental assessments required for GHG reduction project work.

¹ The BC Energy Step Code is an optional compliance path in the BC Building Code that local governments may use, if they wish, to incentivize or require a level of energy efficiency in new construction that goes above and beyond the requirements of the BC Building Code. Builders may voluntarily use the BC Energy Step Code as a new compliance path for meeting the energy-efficiency requirements of the BC Building Code.

Actions taken in 2019 to minimize emissions:

- ✓ **Repaired the solar hot water panels on campus buildings.** Repairs to the solar thermal systems on the Millward Building and the Learning and Innovation Centre (LIC) improved solar heating of the domestic hot water system and reduced emissions by approximately ten tonnes per year.
- ✓ **Completed upgrades to horizontal infrastructure.** Improved efficiencies to power, data, water and drainage systems throughout the campus. This included more modern systems; more efficient, higher levels of service; and lower requirements for operations and maintenance.
- ✓ **Continued construction of the Learning and Teaching Auditorium (LTA).** The LTA is scheduled for completion and building opening in 2020, including installation and service provided by a geothermal heat exchange which is anticipated to reduce emissions by about 50 tCO₂e annually.
- ✓ **Lowered thermostats in campus buildings** over lengthy periods of time to help reduce consumption of natural gas.
- ✓ **Included energy efficient upgrades** in the university's capital and operating priority planning and project-delivery processes.
- ✓ **Purchased 30% post-consumer recycled content paper and sugar cane paper.** Of all paper purchased, 70% was recycled content and 30% was sugar cane paper. RRU switched to sugar cane paper in fall 2019 and has committed to purchasing paper with lower emissions going forward.
- ✓ **Fleet management and optimization** led to significant reductions in emissions. In 2019, RRU purchased 4 electric golf carts to replace the use of gas-powered fleet vehicles to help lower GHG emissions. This is in line with ongoing fleet lifecycle management plans to retire inefficient gas/diesel vehicles and replace with electric vehicles.
- ✓ **Updated printer/copier services.** The new services require individuals to send a print job to a central print queue, allowing individuals to print from any printer. This helps reduce wasted print jobs and paper.
- ✓ **Upgraded the exterior and interior of the Grant Building.** In 2019, RRU replaced several hot water boilers with more energy efficient variants. The new heating system reduced energy use, and roof work improved energy efficiency and protects against damage from weather into the future.
- ✓ **Updated waste & recycling signage.** Marketing created new clearer signage for centralized waste and recycle bins. Pilot signage was installed at 7B and Arbutus locations, and some personal bins were removed with noticeable improvements to waste diversion rates.
- ✓ **Staffing the Royal Roads "Resilience Team".** Integrating the sustainability function with the evolving enterprise risk management framework and capital program to position the university to be a more resilient organization.

Sustainability highlights, 2019

In addition to the building retrofits and energy upgrades through the university's capital program, several other sustainability projects and initiatives at Royal Roads fostered a culture of change and encouraged positive environmental outcomes in 2019.

Climate Conversations

In September 2019, Royal Roads hosted a Campus Conversation about climate action at the university. Bringing together staff and faculty both in-person and virtually, the conversation focused on our response as an institution and learning community to the climate crisis. Facilitated by the ResiliencebyDesign Research Innovation Lab (RbD), along with Communications and Advancement, the conversation was a starting point for dialogue within the University community about strategic direction. A significant array of climate initiatives at RRU at RRU were highlighted which reflect the depth and breadth of work that we can build on.

Building from the Campus Conversation, RbD initiated smaller climate dialogue sessions focused on key



issues and opportunities. The summary was presented to the President in late 2019. Moving forward, a university-wide task force will be convened to develop a new five-year *Climate Action Plan*.

Resilience Office

The staffing of the new Resilience Office in late 2019 will support RRU's work on sustainability, climate action and emergency planning and preparedness. The work of the office will support the integration of these priorities into capital and operational planning, as well as across the institution.

Waste and Recycling

In 2019, RRU developed and piloted new recycling signage that focuses on images as opposed to icons, and wording was introduced on campus to simplify the education and decision-making process of discarding/recycling waste. In addition, there was a small-scale pilot to test the success of the removal of desk-side bins in favour of more centralized recycling stations. Successful results from this project will lead to larger process changes to be rolled out broadly across the organization in 2020.

Plans to continue reducing emissions in 2020 and beyond

- **Building upgrades and retrofits.** RRU will implement the following building system improvements over the next two years to improve efficiency, save energy, and reduce GHGs:
 - Upgrade electrical infrastructure from single phase to three phase distribution. This upgrade will enable the conversion from natural gas systems (boilers) to electric systems (boilers and unit heaters), providing substantial reductions in greenhouse gas emissions.
 - Upgrade mechanical systems: Following electrical upgrades (above), RRU will convert gas boilers in House 3, 10, 27 and 28 to electric boilers, reducing emissions by approximately 42 tCO₂e annually.
 - Update exhaust fans in Grant and Nixon leading to approximately 57 tCO₂e reductions annually.
- **Complete the Learning & Teaching Auditorium (LTA).** This new building will feature many sustainability features and, through the geothermal exchange system, save approximately 50 tCO₂e annually.
- **Reduce printing and office paper.** Through the development of electronic systems, strategically targeted paper reduction campaigns, and shifting sourcing to sugarcane paper, RRU will further reduce GHG emissions associated with paper procurement.
- **Electric Vehicle Charging Infrastructure improvements.** An EV charging hub for four public charging stations is planned for the plaza of the Learning and Innovation Centre. In addition, RRU has plans to install 12 chargers at 7B to support the phase out of gas vehicles and the transition to electric.
- **Fleet Management:** RRU will replace gas vehicles with electric utility vehicles. In 2020, RRU will trial electric utility trucks, and two pick-up truck gas variants. In 2020, the goal is to retire two gas minivans and replace them with the new electric truck variants.

Climate & Sustainability initiatives planned for 2020

In 2020, Royal Roads will focus on both strategic and operational initiatives that promote sustainability and resilience, and support the goals to reduce GHG emissions as set out in the final year of the current five-year plan, including:

- **Renew the institutional sustainability plan and develop a new climate action plan.** Begin consultation, research and analysis to develop a five-year plan that sets new GHG reduction targets and strategies in alignment with the university's long-term vision, assesses climate risk, and outlines strategies to mitigate and adapt to the changing climate in BC.
- **Evaluate progress on sustainability.** Recap the progress and achievements of the 5-year Sustainability Plan (2015 – 2020) and determine next steps and targets as it relates to strategic priorities.
- **Implement a sustainable procurement policy.** RRU will implement a new sustainable procurement policy and accompanying guide. One of the objectives of this policy is to reduce the environmental and social impacts of the products, services and supplies that RRU purchases, as well as influencing overall environmental effects more broadly.
- **Optimize pandemic recovery benefits.** Business process changes and operating adaptations due to COVID-19 will be evaluated for their potential benefit to providing long-term reductions to GHG emissions on campus and overall improvement to sustainability.
- **Improve waste management and recycling.** In 2020, RRU will initiate additional tracking and reporting for its waste and recycling streams. RRU will also deploy additional centralized bin locations with improved signage, along with removing personal waste bins to improve waste diversion as demonstrated by pilot in 2019.
- **Establish waste and water metrics.** Waste and water audits will be completed to determine Royal Roads' waste diversion rate and water consumption, as well as opportunities to improve both.
- **Launch and host the new Cascade Institute.** A new institute at Royal Roads University will identify intervention points that have the potential to positively influence global crises. Led by renowned Canadian author and professor Dr. Thomas Homer-Dixon, the Cascade Institute will focus on humanity's critical problems, including climate change, pandemics, growing wealth inequality, economic disruption, political instability and social upheaval and how these crises are interconnected.

Emissions and Offset Summary Table:

Royal Roads University GHG Emissions and Offsets for 2019	
As per the Directive issued March 31, 2020, each PSO will use their 2018 GHG Emissions as a placeholder for the purposes of their 2019 CNAR.	
Total Emissions (tCO ₂ e)	1,125
Total BioCO ₂	9
Total Offsets (tCO ₂ e)	1,116
Offset Investment (\$25 per tCO ₂ e)	\$27,900

Retirement of Offsets:

In accordance with the requirements of the *Climate Change Accountability Act* and Carbon Neutral Government Regulation, Royal Roads University (**the Organization**) is responsible for arranging for the retirement of the offsets obligation reported above for the 2019 calendar year, together with any adjustments reported for past calendar years (if applicable). The Organization hereby agrees that, in exchange for the Ministry of Environment and Climate Change Strategy (**the Ministry**) ensuring that these offsets are retired on the Organization’s behalf, the Organization will pay within 30 days, the associated invoice to be issued by the Ministry in an amount equal to \$25 per tonne of offsets retired on its behalf plus GST.

Executive sign-off:

Signature Date

Name (please print) Title

Please scan and email the completed form to Carbon.Neutral@gov.bc.ca