Climate Crisis Impacts and Response of CMTN 2021 – 2030

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Coast Mountain College (CMTN) is a rural two-year college based in Tsimshian Territory that serves 34 communities including 21 Indigenous communities in northwest British Columbia. This paper discusses the efforts of mitigating carbon emissions at CMTN between the years 2021 and 2030, how those efforts impacted the institution and how the college responded. The climate crisis mitigation strategies that impacted the college to the largest degree were the implementation of Canadian right to repair legislation, planned obsolescence laws and new provincial requirements to reduce the total carbon emissions (TCEs) that post-secondary institutions generated. This paper reviews the actions taken between the years 2021 and 2030 imagining a hopeful future where the college was proactive and responded to the pressures posed from climate mitigation strategies.

In 2021 the CMTN team became aware that right to repair and planned obsolescence legislation would be implemented in Canada within the next decade following the lead of European countries in the late 2010s' (Young, 2021). This was the catalyst for northern institutions including Coast Mountain College to enter into a research partnership agreement with the University of Northern British Columbia (UNBC) in 2023 to answer the question "what are ways that rural post-secondary institutions can adapt to this incoming legislation?" (Young, 2019). The research project helped fund the adoption of a system of shared knowledge and aligned technology decisions between UNBC, the College of New Caledonia and Northern Lights College. Due to their locations these institutes allowed analysis from a rural perspective, engaging with solutions for digital resilience in an era where technologies were increasingly understood as what Selwyn describes as an "environmentally destructive process" (2021, p.501) and predicted to be less abundant (Selwyn, 2021). The organizations aligned their

technology purchases during a pilot and shared knowledge establishing repair centres at each institution. Information about the operations of the centres and the technical aspects of repair were shared between the institutions. By 2028, right to repair and planned obsolescence legislation came into effect. Post-secondary IT departments needed to rethink their approaches to digital technology in what Selwyn et. al describe as “a radically leaner and ecological approach” (2019, p.3). The rural research helped shape the alignment of BC post-secondary institution response. The technology purchasing consortium expanded provincially and because of the now anticipated purchase cycles, and the creation of open sources to share knowledge about the repair and replacement of technology, costs of technology for the post-secondary sector in BC decreased. One-time purchases were more expensive but the predictable nature of the purchase replacement and the options available for repair lowered costs as technology lasted longer.

Between 2008 and 2024 CMTN reported total carbon emissions generated by the operations of the school as required by the climate change accountability act for the Province of BC Ministry of Environment and Climate Change Strategy (2021). This act required post-secondary institutions to report only the direct emissions from sources the college owned or controlled (Caird & Roy, n.d.). Up until 2022 the Ministry of Environment as part of their Climate Change Strategy (2021) permitted offsets to be purchased within certain emission categories. In 2022 the province announced what they called “True Net Zero” for post-secondary greenhouse emissions. This program required the rural colleges, including CMTN to have a maximum of 500 total carbon emissions (TCEs) beginning in 2028 and no offsets were permissible. According to CMTNs carbon neutral action report (2020) the largest source of

emissions from operations was inter-campus travel and the institution had an average of 1008 TCEs annually. In response to the new restrictions, the college downsized their physical space from 7 campuses to 2; one in Terrace, one in Prince Rupert and one learning centre based in Smithers.

Distance delivery of courses uses 87% less energy and produce 85% fewer carbon emissions than face to face delivery as cited by Caird et al., 2012 (Wright, N. 2016). With this understanding CMTN moved primarily to online models of delivery, shifting operations to what Timmons and Weil describe as a "decarbonization - cost effectiveness framework" (2021, p.15) strategy with experiential face to face and land-based learning incorporated into select courses. Each course required emissions projections before being added to the semester offerings. In the past, course offerings were planned based on FTE forecasts and campus space availability, but by 2028 coordinators were required to project the emissions each course would generate as a third consideration in the planning. Course resources, including technology use were no longer considered infinitely available (Widdicks & Pargman, 2019). Considerations about carbon emissions from paper use, internet use, travel, and computer use time were all considered in the planning of courses. An internal system of sharing emissions between courses and programs based on predicting the amount of emissions stemming from course activities was established so equal opportunities for land based, face to face and experiential opportunities were aligned with course outcomes, program priorities and equitable opportunities throughout the region.

With the new requirements for measuring carbon emissions CMTN, along with other provincial post-secondary institutions adopted carbon footprint tracking technologies for

carbon emission reporting. The Centre of Learning Transformation at CMTN provided support to all staff involved with teaching and learning to use carbon footprint calculators in 2024 (Edstrand, 2016) and in 2026 all students declaring a completion pathway were required to enroll in the carbon footprint analysis micro credential. This micro credential, the first offered at CMTN, aligned with the call for green skill modules the Colleges and Institutes Canada called for in 2021 (Colleges and Institutes Canada, 2021) and the UN Sustainable Development Goal 12, Responsible Consumption and Production (United Nations, n.d.). Students measured their individual carbon emission impacts, analyzed and compared their results and then contributed to an open resource that is used in part to report out the TCEs as part of the institutions' reporting obligations (Edstrand, 2016).

In late 2027 individual disciplines begin to break down in the course offerings as colleges aspired to train students for complex issues. This was initiated as faculty began to understand the sentiment expressed by Miller that when facing the climate crisis "individual disciplines cannot understand these complex issues and have proven completely unsatisfactory in providing solutions"(Gleason, 2018). Course offerings grew, breaking down the individual disciplines into learning encounters, grounded in experiential education and systems thinking approaches. For example, course offerings were now up to 9 credits, covering multiple course learning outcomes focussing on cross disciplinary problems that could take an entire semester to solve.

Looking back on the past decade, CMTN responded to the changing environment and the demands of mitigating the climate crisis in ways that fundamentally changed the operations and the learning and teaching at the college. Partnering with rural institutions for technology

solutions, a reduction in physical space management and measuring activities' TCE generation, increasing online offerings and centering sustainability goals in teaching and learning were all approaches that allowed CMTN to respond to the impacts of climate crisis mitigation strategies required of the college.

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