
2020 CLIMATE CHANGE ACCOUNTABILTY REPORT



May 2021



TABLE OF CONTENTS

DECLARATION STATEMENT	3
OVERVIEW.....	4
ENVIRONMENTAL POLICY	5
ACTIONS TAKEN IN 2020.....	6
LOOKING FORWARD	8
2020 WE MEAN GREEN IN BURNABY SCHOOLS	9
EMISSIONS AND OFFSET SUMMARY TABLE.....	11
RETIREMENT OF OFFSETS	12

DECLARATION STATEMENT

Declaration statement: This Climate Change Accountability Report for the period of January 1, 2020 to December 31, 2020 summarizes our emissions profile, the total offsets to reach net-zero emissions, the actions we have taken in 2020 to reduce our greenhouse gas emissions and our plans to continue reducing emissions in 2021 and beyond.

OVERVIEW

On behalf of Burnaby Schools, we are pleased to submit our Carbon Neutral Action Report for 2020. This report has been created during the 2020 - 2021 COVID-19 pandemic and is reflective of the year and its challenges. This unique year has created situations unlike any this generation has experienced. During this time of hopeful denouement, sustainability will continue to be at the core of our recovery.

During 2020, Burnaby School District's pandemic response greatly affected the impacts on energy efficiency and emission reduction. In response to COVID-19 the District increased its ventilation requirements serving our classrooms. Other highlights of the year include, implementing the first phase of a re-engineering mechanical upgrade at Burnaby South Secondary, the largest school in British Columbia, the District's first high efficiency Roof Top Unit, two lighting upgrades, and several energy projects. The projects implemented support the work started in 2008 with the goal of reducing the District's carbon impact.

Like many Districts, our greatest carbon footprint contributor is natural gas. The District's goal is to use the natural gas as efficiently as possible. This has been made possible through upgrading existing boiler systems, ensuring accurate building scheduling, and where applicable system retrofits. As our building's heating infrastructure ages, the District has adopted retrofitting with high efficiency boilers. The primary objective is maintaining occupant's comfort while increasing overall energy efficiency and in turn lowering GHG emissions.

Recognizing the big picture in efforts to further decrease our carbon influence, the District has made choices that embrace green technologies. Over the years this has included, early adoption of high-efficiency heating systems, solar panels, the use of geothermal exchange systems, the use of electric fleet vehicles, 24 electric vehicle charging stations, and various water conservation initiatives.

The on-going commitment to reducing emissions cannot be stated without mentioning efforts to promote sustainability, community stewardship, and accountability at every level. This became apparent with the number of school and community groups in Burnaby at the We Mean Green Conference held in March 2020. These remarkable groups and the communities in which they serve range from Green Teams, to the local chapter of Environmental Educators Provincial Specialist Association (EPPSA), school gardens, and many other groups. They all separately work toward a common theme of proliferating awareness and education initiatives that have in turn generated strong ties within the community and its guardianship.

ENVIRONMENTAL POLICY

In 2010, the Burnaby School District was one of the leaders to implement an official Environmental Sustainability Policy which in part states:

“The Board acknowledges that Environmental Sustainability is a joint responsibility of trustees, students and staff and is committed to sound practices that focus on minimizing pollution and refuse, reducing energy use and water consumption, and promoting a healthy environment for students and staff within the limited financial resources available.”¹

Furthering this policy, in 2019 the Burnaby Board of Education released its 5-year Strategic Plan which includes as part of its directives, “(a) Modern, Safe, and Sustainable Learning Environment.” As part of this Strategic Priority, the District has stated:

“...Increase District awareness of climate change and decrease the District’s environmental impact

- I. Reduce the overall green-house gas output and carbon footprint of the District.*
- II. Reduce the District’s overall physical waste, diversion, and consumption.*
- III. Engage the Burnaby Youth Sustainability Network (BYSN) to deliver quantifiable environmental outcomes*
- IV. Build awareness of the efforts undertaken by the Burnaby School District as a model for environmental awareness and sustainability.*
- V. Review and strengthen policies and practices related to environmental impact.”²*

This platform will guide the District in its manner of conducting business moving forward and the stewardship of the micro communities tied to the District and city of Burnaby.

¹ <https://burnabyschools.ca/wp-content/uploads/2014/08/770.pdf>

² https://burnabyschools.ca/wp-content/uploads/2019/10/StrategicPlan2019-24_Detailed_Web.pdf

ACTIONS TAKEN IN 2020



Figure 1 Lunch program at Edmonds Community School during COVID-19

The sudden onset of COVID-19 impacted how the District reacted to the Provincial Protocols for health and safety. This resulted in the District implementing various changes to ventilation programming, suspending all outside facility rental groups, and utilizing facilities as community hubs where needs were greatest.

The District completed two lighting upgrades at Moscrop Secondary and at Burnaby South Secondary, the largest school by physical size in the province. These upgrades use LED technology along with innovative lighting control technology and create a smart space. This is achieved with the use of dimmability and vacancy sensors that maximize energy savings from occupancy.

Burnaby South Secondary also implemented the first of a two-phase mechanical/HVAC upgrade. Burnaby South is the largest school in the District and the province at over 29,000m² therefore these measures are no small undertaking. These Energy Conservation Measures (ECMs) to the building's mechanical systems will improve the overall efficiency of both natural gas consumption and electrical consumption. The second phase of ECMs will be taking place in 2021.

Through efforts with FortisBC and the District, a pilot project was implemented at Edmonds Elementary. This project saw the introduction of the first high efficiency RTU in the District and aims to augment an overused, aged boiler system. This situation is like several of the District's schools where the inability to zone off a specific area means that the whole school must be heated in order to provide comfort to only one or two rooms. This pilot project will be replicated at other schools going forward to provide "zoning" in the schools where otherwise would not be possible.

In 2019 the position of Energy Foreman was added to the District's Energy Team. This position further proved its merit during the onset of the pandemic at the end of March 2020. The District relied heavily on the foreman's skills to ensure that facilities energy usage corresponded with drastically reduced building occupancy. As a result, this reduced overall consumption and GHG emissions. As COVID-19 progressed and the Ministry guidelines adjusted its ventilation recommendations, the Energy foreman responded accordingly. This position has proven to be invaluable to the District's ongoing conservation efforts.

Construction of the new Burnaby School District Admin Office's continued during 2020 with completion expected in fall of 2021. The building's geothermal exchange plant will be the third installation of its kind in the District, joining the company of Burnaby Mountain Secondary and Burnaby Central Secondary.³

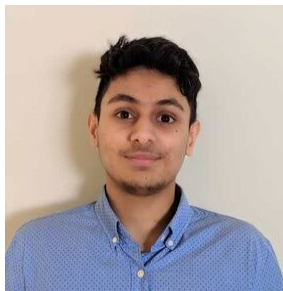
Construction of Burnaby North started in the Spring of 2020. This cutting-edge geothermal exchange approach may prove to be a model for GHG reduction in future school design. This project is scheduled for completion in 2022^{4,5}.

The District has embraced EV adoption, supporting its users through installation of infrastructure. 2020 saw the continued integration of Electric Vehicles (EV) charging stations. The District now has 24 EV stations available for use to staff, students, and visitors to assist in their daily commute.

In October 2020, the City of Burnaby presented Environmental Stars in the category of Youth to



Emily Ng



Azzam Haq

Azzam Haq and Emily Ng for their exemplary efforts with the District's Burnaby Youth Sustainability Network (BYSN). Azzam Haq of the Burnaby Youth Sustainability Network (BYSN), in the category of Youth, was recognized for leading the Burnaby South Green Team in creating a school-wide gardening program and re-instating a soft plastics collection program. Emily Ng of the Burnaby Youth Sustainability Network (BYSN), was

³ https://burnabyschools.ca/wp-content/uploads/2018/05/NewAdminOffice_OpenHouse_May.18_web.pdf

⁴ <https://burnabyschools.ca/wp-content/uploads/2018/10/Press-release-Burnaby-North.pdf>

⁵ <https://www.burnabynow.com/news/breaking-minister-announces-79-million-to-replace-burnaby-north-secondary-1.23462453>

also recognized in the category of Youth, for her commitment to protecting local species and fostering awareness of sustainable consumption and waste reduction⁶

LOOKING FORWARD

In the years ahead, the District will further focus on the reduction of GHG emissions while incorporating the new parameters within a post COVID-19 world. Impacts will be seen on the schools' daily operations, ventilation systems, heating, electricity use, and many other facets. These challenges will be faced with safety, conservation, and efficiency at the forefront.

In 2021, the second phase of the Energy Conservation Measures (ECMs) at Burnaby South Secondary School will be completed. This will finish the multi stepped project whose ambition is to reduce natural gas, electricity consumption, and overall GHG emissions.

2021 will continue with LED lighting upgrades along with initiatives based on ensuring the schools electrical systems are functioning as efficiently as possible. Going past 2021, the District intends on staying the course of converting to LED technologies.

Into the years ahead, retrofitting heating systems to high efficiency will also stay the course where applicable. Furnace replacement is also a top priority in schools where aging infrastructure can be changed to higher efficiencies and improve occupant comfort levels.

Implementing high-efficiency Roof Top Unit (RTU) projects at schools aims to compliment and alleviate load on heating systems. Replicating the Edmond's RTU pilot project at other schools aspires to utilize heating energy only where it is needed.

Burnaby North Secondary School will reach completion in 2022 and will operate with geothermal exchange technology. This project's innovative nature has involved the collaboration of many stakeholders and is a greatly anticipated endeavor.

⁶ https://www.burnaby.ca/About-Burnaby/News-and-Media/Newsroom/City-Recognizes-2020-Environmental-Awards-Recipients_s2_p7489.html

2020 WE MEAN GREEN IN BURNABY SCHOOLS

In early March of 2020, the Energy Team hosted a District wide, student led, sustainability



visioning conference: “We mean GREEN in Burnaby Schools”. This was held at Burnaby Central Secondary just weeks prior to schools being closed due to COVID-19. This student directed meeting, engaged 140 stakeholders with engagement from the School Board Trustees, the Senior Management Team, various environmental groups within the District, post-

Figure 2 We Mean Green Conference March 2020

secondary organizations, and the greater Burnaby community. The intent of this meeting was to gather information and envision a more sustainable District. From this session a Sustainability Strategy Plan will be created and will usher a blueprint for the District to follow and imbibe in the coming 5 years. The student driven initiatives will have both short- and long-term objective impacts at every level of the organization. ⁷

The event was opened and closed by Elder Dr. Roberta Price from the Coast Salish Territory of Snuneymuxw and Cowichan Nations. The visioning conference was emceed by BYSN students Emily Ng and Azzam Haq. Various other leaders from the community and the Burnaby School District also spoke to the importance of the event and what its goals are in creating the basis of the Sustainability Strategic Plan. Involving students from all eight high schools and students from two elementary schools that have active green teams, meant voices from all areas of Burnaby were gathered and heard.

⁷ <https://burnabyschools.ca/blog/2020/03/11/we-mean-green-our-first-sustainability-plan/>

Within the large foyer of Burnaby Central, an EXPO was set up for the conference participants, students of Burnaby Central, and nearby Gilpin Elementary students to engage in local groups dedicated to sustainability and conservation. Participation from outside the District included: Be the Change Earth Alliance, BC Bee Supply, BC Hydro, BCIT Sustainability Office, Burnaby Mountain Secondary School's Earthwise Club, Burnaby Youth Sustainability Network, Fortis BC, Plastic Bank, SFU's Embark Sustainability and Sustainability Office, Society for Protection and Environmental Conservation, Stream of Dreams Mural Society, Sustainable Produce Urban Delivery, Sustainabiliteens, Urban Salmon Project, and Youth4Action. There were also two art installations from students at Burnaby Central Secondary: "What does the environment mean to you?" from First Nations students and "True Cost of Fashion" from the Human Geography Class.

When complete, the Strategic Sustainability Plan for the District will lay out the direction for implementation of goals to increase our climate action response. It will also further empower our youth to be the leaders of today and tomorrow in sustainability.⁸

⁸ <https://burnabyschools.ca/blog/2020/03/11/we-mean-green-our-first-sustainability-plan/>

EMISSIONS AND OFFSET SUMMARY TABLE


<i>The Board of Education School District 41(Burnaby) 2020 GHG Emissions and Offsets</i>	
GHG Emissions created in Calendar Year 2020	
<i>[See Appendix 1 for instructions on how to access your 2020 emissions data from the Clean Government Reporting Tool (CGRT). Cells A through E below are identified in Appendix 1.]</i>	
Total Emissions (tCO ₂ e)	$5258 + 0 = 5258$
Total BioCO ₂	$0 + 7 = 7$
Total Offsets (tCO ₂ e)	5251
Adjustments to Offset Required GHG Emissions Reported in Prior Years	
Total Offsets Adjustment (tCO ₂ e)	69
Grand Total Offsets for the 2020 Reporting Year	
Grand Total Offsets (tCO ₂ e) to be Retired for 2020 Reporting Year	$5251 + 69 = 5320$
Offset Investment (\$25 per tCO ₂ e) <i>[Grand Total Offsets to be Retired x \$25/tCO₂e]</i>	$5320 \times \$25 = \$133,000$

RETIREMENT OF OFFSETS

In accordance with the requirements of the *Climate Change Accountability Act* and Carbon Neutral Government Regulation, The Board of Education School District 41 (Burnaby) **(the Organization)** is responsible for arranging for the retirement of the offsets obligation reported above for the 2020 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.

9

Executive sign-off:



Signature

June 10, 2021

Date

Russell Horswill

Secretary Treasurer

Name (please print)

Title