New Westminster Schools

2022 PSO Climate Change Accountability Report

SD40 New Westminster

Table of Contents

PART 1. Legislative Reporting Requirements

Declaration Statement

This PSO Climate Change Accountability Report for the period of January 1, 2022 to December 31, 2022 summarizes our greenhouse gas (GHG) emissions profile, the total offsets to reach net-zero emissions, the actions we have taken in 2022 to reduce our GHG emissions, and our plans to continue reducing emissions in 2023 and beyond.

Overview

At New Westminster Schools, we recognize and acknowledge the Qayqayt First Nation, as well as all Coast Salish peoples, on whose traditional and unceded territories we live, we learn, we play and we do our work. The City of New Westminster sits in the centre of the Greater Vancouver Regional District between the larger communities of Burnaby, Coquitlam, Surrey and Richmond. While the city is relatively small, New West has retained a strong sense of history and community, with a passion for taking on big challenges.

The student population is reflective of the city's population, with a full range of social and cultural backgrounds forming a diverse presence in our schools. As one of the fastest growing districts in Metro-Vancouver, we continue to support a wide-range of learners.

Our learners are taught and supported by almost 1000 dedicated employees, including teachers, education assistants, clerical staff, crossing guards, maintenance, custodians and administrators. We have 12 schools: 8 elementary, 3 middle, and one secondary school. We also offer alternate education programs, adult and online learning options, and a Home Learners Program.

Our growing enrollment is creating capacity issues, as we're working hard to expand or maximize use of existing sites, while we also build new schools. As a growth District, we're working as hard as we can to build schools that will support the kids we currently have enrolled, while also making strategic choices when it comes to projected growth as well. And we're proud to be building schools in a way that will enable us to lead into the future by creating spaces that will foster innovation, collaboration and take advantage of updated curriculum guidelines and teaching theories.

Emission Reductions: Actions & Plans

A. Stationary Sources (e.g. buildings, power generation)

2022 saw the closure of the 25 Hydro Therm modular gas-fired atmospheric cast iron water heating boilers located in 4 boiler plants throughout the old New Westminster Secondary School (upgraded boilers in the late 1990s/early 2000s) heating over 20 000 sq. m. or two city blocks of building. The old high school had insufficient insulation, single-pane windows, poor roofing membrane, plus other factors hindering the school district's efforts to reduce GHG emissions.

The closure of Richard McBride Elementary school (c. 1929) with an older boiler plant of De Dietrich high mass water power burner boiler from the 1990s/2000s combined with the closure of the boiler plant in the old high school in March of 2022 greatly contributed to the decrease of school district's direct fuel combustion (GJ) by over 30%.

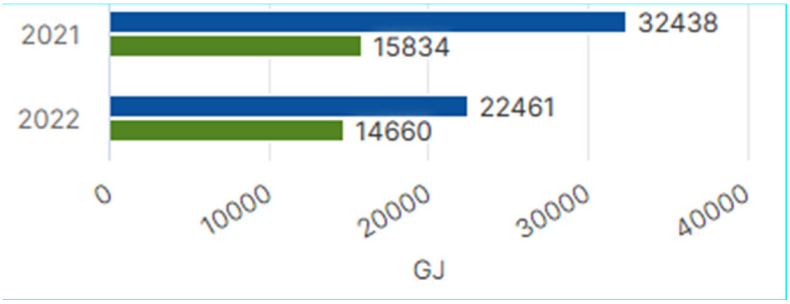

Figure 1 – Decrease of SD 40's Direct Fuel Combustion (GJ)

The new Skwo:wech Elementary school opened in March 2022 following Spring Break, which the school district is very excited about as this was the final old school replacement. The school has two heat pumps, HRV fan coil units, VFD for motors, VFD for pump motors, ECM variable speed pumps, 2 back up Lochinvar high efficient fire tube boilers, and plate heat exchangers to preheat water to electric hot water tanks.

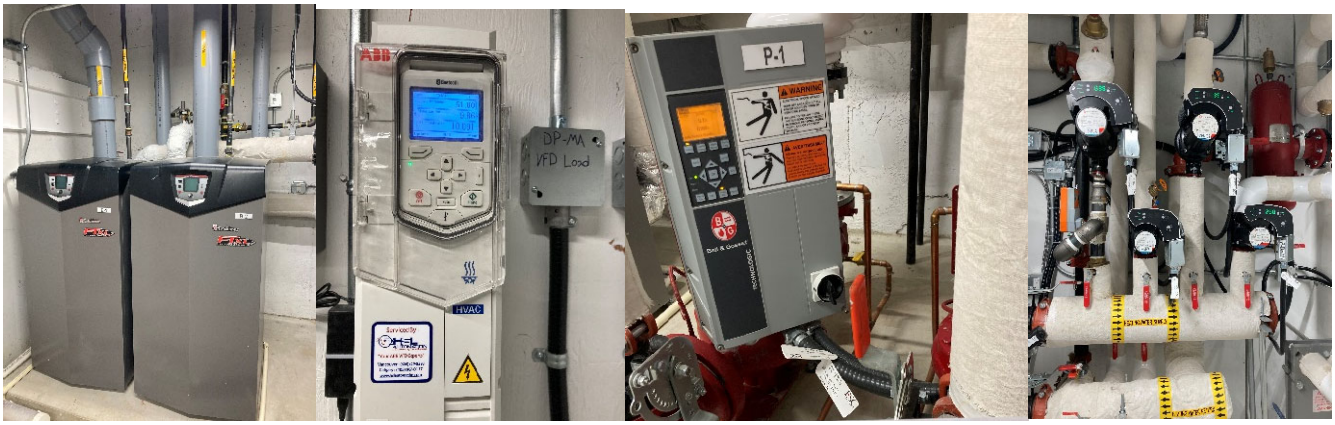

Figure 2 – Skwo:wech Elementary energy efficient heating system.

The improved heating system, improved windows, cladding, insulation, etc., the efficiency of Skwo:wech Elementary is another contributor to the energy reduction as seen in Figure 1.

The HVAC system at Queensborough Middle School was upgraded in 2022 when the gas fired Hydro Therm atmospheric boiler was removed and a heat pump was installed for primary heating. The existing IBC high efficient boilers were turned in to backup boilers. Older pumps were replaced with ECM smart pumps. Gas fired AHU's were replaced with hydronic high efficiency AHU's and VFD motor controls. The old gas fired MAU were replaced with high efficient gas condensing units and VFD controls. The aging air conditioning units were replaced with high efficient heat pump /AC units. Crawlspace methane exhaust fans are now controlled by DCC in conjunction to the methane detectors; this will greatly reduce the heat wasted buy constantly exhausting the crawlspace. Installed DDC controlled solenoids for the water lines supplying the flush tanks on the urinals. These changes will reduce the consumption of water.

Lord Tweedsmuir Elementary went through a complete exterior upgrade in 2022. The building envelope was re-done with new insulation, cladding and double pane insulated windows. These changes will make the building more much more energy efficient and support emission reductions going forward.

B. Mobile Sources

Throughout the district we have installed EV charging stations to encourage our staff to transition to electric vehicles. We currently have a total of 12 charging stations located among 7 facilities. Eleven of the charging stations are level 2, and one is a level 1. We are looking forward to growing this initiative and installing more charging stations in 2023 at additional facilities.

In the future, we are looking to acquire zero emission district vehicles.

C. Paper Consumption

Many documents are created, sent, received, signed, and stored digitally. By embracing a culture of digital documentation, the amount of paper being used in the district is being reduced. The Paper reduction campaign continues with staff. Paper orders are restricted to a minimum 30% recycled wood content; alternative content paper products, such as wheat or sugar paper were reviewed with paper suppliers in the past, but based on their advice, it was decided that any reductions of GHG emissions these types of paper created could not be realized on paper that required raw materials to travel across the globe for manufacture before crossing again for the North American market and that these paper types could not be superior for GHG emission reductions where wood by-products were already available locally.

2022 GHG Emissions and Offsets Summary Table

New Westminster School District 40 - 2022 GHG Emissions and Offsets Summary	
GHG emissions for the period January 1 - December 31, 2022	
Total BioCO_2	*2.49*
Total Emissions (tCO_2e)	*1316*
Total Offsets (tCO_2e)	*1042*
Adjustments to Offset Required GHG Emissions Reported in Prior Years	
Total Offsets Adjustment (tCO_2e)	*0*
Grand Total Offsets for the 2022 Reporting Year	
Grand Total Offsets to be Retired for 2022 Reporting Year (tCO_2e)	*1042*
Offset Investment ($)	*$26,050*

Retirement of Offsets:

In accordance with the requirements of the Climate Change Accountability Act and Carbon Neutral Government Regulation, School District 40 New Westminster is responsible for arranging for the retirement of the offsets obligation reported above for the 2022 calendar year, together with any adjustments reported for past calendar years (if applicable). School District 40 New Westminster hereby agrees that, in exchange for the Ministry of Environment and Climate Change Strategy (the Ministry) ensuring that these offsets are retired on School District 40 New Westminster's behalf, School District 40 New Westminster 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

The changing climate is considered when making decisions on upgrades or renovations to our buildings. Upgrading the building envelope of Lord Tweedsmuir Elementary will allow the building to contain the warmth or keep the building cooler as temperatures become more extreme in both the Winter and Summer months. Skwo:wech Elementary was built with a lift and various measures were put into place to create pathways for excess snow and rain water to drain away from the building.

2B. Other Sustainability Initiatives

EV charging stations have been installed at many of our locations and we are committed to grow this initiative to encourage and support our staff that use electric vehicles.

To support sustainability within our buildings, we provide collection bins at various locations throughout all our buildings. Plastics, glass, used batteries and paper is collected district wide for recycling. Food scraps are also collected at each location to remove them from the landfill and put into compost.

2C. Success Stories

2022 saw the largest drop in carbon emissions since the reporting program started. Two of our older schools were replaced with new, energy efficient buildings. New Westminster Secondary School moved into the new building in 2021, however, the old building's utilities were not capped

until Summer of 2022. Richard McBride Elementary was closed and demolished in 2022 as the population of the school transitioned into the new school, Skwo:wech Elementary.

We are looking forward to seeing a drop of emissions at Tweedsmuir Elementary since the upgrade of the building envelope in 2022. We are also looking forward to the upgrades in the HVAC units at Queensborough Middle School to impact our overall energy efficiency and drop of emissions.

Through the ongoing initiatives, renovations and upgrades to our sites, we are expecting to see a continual decrease of CHG emissions from year to year.

Executive Sign-off:

	May 8, 2023
Signature	Date
Karim Hachlaf	Superintendent of Schools / CEO
Name (please print)	Title