School District 42
Maple Ridge & Pitt Meadows
Learning Today, Leading Tomorrow

CLIMATE CHANGE ACCOUNTABILITY REPORT 2023

MAPLE RIDGE-PITT MEADOWS SCHOOL DISTRICT

EXECUTIVE SUMMARY

This Climate Change Accountability Report (CCAR) for the period January 1 to December 31, 2023, summarizes the Maple Ridge-Pitt Meadows School District's (SD42) emissions profile, the total offsets to reach net-zero emissions, the actions taken in 2023 to minimize greenhouse gas (GHG) emissions, and plans to continue reducing emissions in 2024 and beyond. By June 30, 2024, the final 2023 CCAR for SD42 will be posted on the district website at https://www.sd42.ca/energy-environmental-sustainability/.

The Board of Education is committed to environmental sustainability and ensures that every effort is made to conserve energy and natural resources while exercising sound financial management. SD42 continues to fully support BC Climate Action Legislation and the targets established by the Greenhouse Gas Reduction Targets Act of 2007. As part of this commitment, the school district has developed an Environmental Sustainability Policy (Policy 6530) that acknowledges sustainability and the joint responsibility of trustees, administrators, teachers, students, and support personnel to achieve goals identified under the policy. One of the key principles of this policy is to monitor the implementation of an environmental sustainability plan. The existing Environmental Sustainability Plan (2022-2026) focuses on reducing GHG emissions by 22% by 2026 compared to the baseline of 2007. To prepare the district for 2027 and beyond, the existing plan will be converted into a Low Carbon Strategic Action Plan (LCSAP) with a focus on promoting energy management, sustainability, and climate change and creating pillars and action plan items that focus on meeting GHG emission reduction targets set by the provincial government based on funding availability within the district.

SD42 continues to pursue capital investments that will result in reducing the district's greenhouse gas emissions and support environmental sustainability education initiatives. Previously, as part of the environmental sustainability policy, the district developed a strategic energy management plan focused on meeting GHG emissions targets for 2030 and beyond.

The SD42 sustainability mandate continues to be based on the guiding principles outlined in Policy 6530: Environmental Sustainability.

For the 2023 calendar year, the district's emissions have dropped significantly by 11% from 4222 tonnes of carbon dioxide equivalent (tCO_2e) in 2022, to 3783 tCO_2e. The cost to purchase carbon offsets at $25 per tonne totaled $94,575, allowing the district to achieve carbon neutrality.

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INTRODUCTION

Maple Ridge – Pitt Meadows School District No. 42 (SD42) owns and operates 34 facilities that accommodate over 15,000 students and nearly 2,500 employees. The annual greenhouse gas emissions for the school district were calculated to be 3,783 tCO2e in 2023. This is the equivalent of having an extra 800 cars on the road every year. As an educational organization, the school district has an opportunity to increase sustainability awareness and support environmental leadership for future generations.

Relative to emission levels in 2007, the Province of British Columbia is working towards reductions of 40 percent by 2030 for public sector buildings. In SD42, total emissions in 2007 were 4,000 tCO2e/year, meaning the 2030 emission target is 2,400 tCO2e/year. To achieve this goal, the school district will have to reduce emissions by 35% in just 7 years.

Besides greenhouse gas emission reduction targets, natural gas, electricity, carbon tax, and carbon offset costs are likely to continue to increase in the future and the implementation of additional energy efficiency measures will mitigate the impact of these increased costs on school district operations.

To achieve the greenhouse gas emission reduction targets and ensure the sustainable use of resources by the school district, a comprehensive environmental sustainability plan needs to be implemented to achieve the provincial targets.

The goals of the existing environmental sustainability plan are to reduce greenhouse gas emissions by 22% by 2026 and improve building efficiency by 20% by 2026.

We intend to modify the existing plan to convert it into a Low Carbon Strategic Action Plan focused on promoting energy management, sustainability, and climate change. The intent is to make our schools' heat pumps ready as funding becomes available to meet emission reduction goals for 2030 and beyond.

PART 1: LEGISLATIVE REPORTING REQUIREMENTS

1A. DECLARATION STATEMENT

This Climate Change Accountability Report for calendar 2023 summarizes our emissions profile, the total offsets to reach net-zero emissions, the actions taken in 2023 to reduce greenhouse gas (GHG) emissions, and plans to continue reducing emissions in 2024 and beyond.

A. EMISSIONS REDUCTIONS: ACTIONS AND PLANS

Maple Ridge-Pitt Meadows School District has developed an environmental sustainability policy that highlights the Board's commitment to cultivating a sustainable school district that provides safe and secure environments for the effective delivery of educational services. This commitment forms the basis for the district to undertake actions and create plans to reduce emissions, meet provincial GHG emissions targets, and have a positive impact on schools through the creation of sustainable learning spaces. The district's actions and plans to reduce emissions can be segregated and understood the through following three sections:

a. Stationary Sources (Building/Heating Plants)

The district's buildings are getting older, and so are assets such as boilers, Domestic Hot Water (DHW) heaters, unit ventilators (UVs), rooftop units (RTUs), Air Handling Units (AHUs), and Direct Digital Control (DDC) systems. SD42 recognizes this and continuously upgrades its buildings based on needs and funding availability. Energy projects are aligned with the district's facility plans and planned capital upgrades to ensure a synchronized approach to achieving emission reduction goals. The district continues to undertake the following capital upgrades to reduce emissions:

1. DDC upgrades to improve the operations of equipment in schools and enhance the equipment life while reducing energy costs.
2. Recommissioning (RCx) of the existing heating plants with a focus on reducing gas consumption and, therefore, reducing GHG Emissions.
3. Fuel-switching technologies that help reduce GHG emissions and meet the requirements of BC Hydro (BCH) and FortisBC.
4. DHW upgrades by replacing existing DHW tanks with tankless water heaters to reduce our gas consumption.

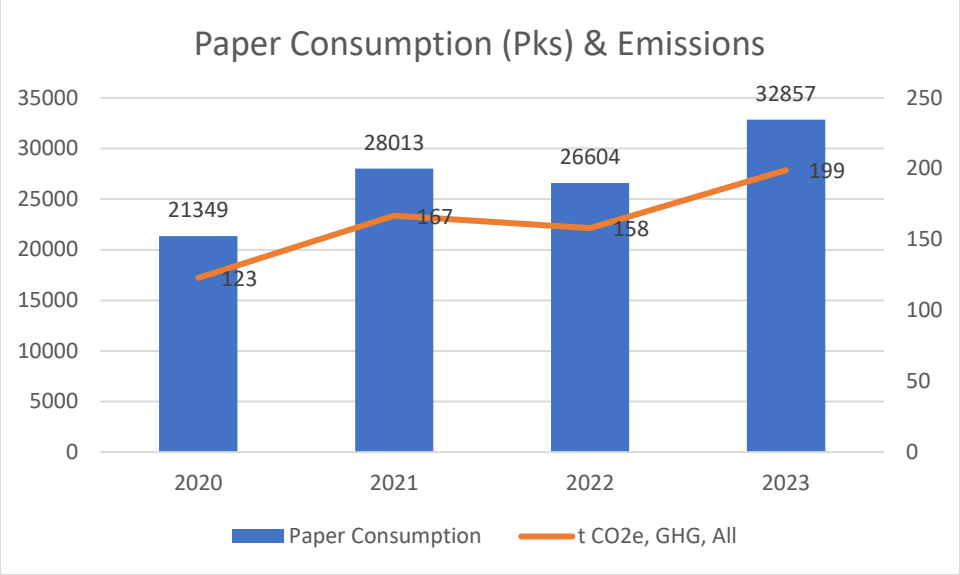
b. Mobile Sources (Fleet)

1. In 2023, SD42 bought its first electric vehicle (EV), a Ford E-transit van, to replace an existing fleet vehicle. With charging infrastructure in place, replacing the fleet vehicle helps the district reduce tailpipe emissions and save on rising fuel costs. A comparative analysis of Ford Transit Cargo van v/s Ford E Transit shows a lifetime savings of approximately $66,000 if gas prices remain at $1.899/liter.

2. With the addition of 4 new EV chargers at the Maintenance Office, SD42 now has 8 EV chargers within the district. The district is considering the feasibility of rolling out a new EV charging plan that will benefit students, employees, and the community at large.
3. School administrators will be surveyed to gauge interest in the possible installation of additional EV chargers in the district. The intent is to install more EV chargers across the district, set up a revenue model, and support the transition of vehicles to electric.
4. SD42 is also earning carbon credits as a Part-3 Fuel supplier under the Low Carbon Fuel Standard (LCFS). The district earns these credits by offering EV charging facilities to employees. The district has accumulated 17 credits to date which are saleable in the market.

c. Paper Consumption:

Paper is the third biggest contributor to the district's emissions profile. SD42 is in the process of finding ways to reduce paper consumption. For the last five years, the district has been using Papercut to sensitize users about their paper consumption. The district's paper consumption has been on the rise for the last 4 years. The district plans to reduce paper consumption by encouraging staff to go paperless using digital signing as a norm and by having double-sided printing as the default setting on all printers.



The district is also exploring the possibility of replacing its existing 8.5" to 11" paper (white), which has the maximum usage in the district (approx. 89%), with Sugar Sheets paper. Sugar Sheets are manufactured from Sugarcane bagasse, which is a fibrous material containing cellulose as its main component. No trees are cut in manufacturing this paper. When comparing the GHG Emissions footprint (based on the Report "Environmental Performance of Sugar Sheet Paper" prepared by Trucost) of Sugar Sheets to 100% PCR (Post-Consumer Recycled) paper, Sugar Sheets have lower emissions. Assuming our future annual consumption remains the same as 2023, by switching 8.5" x 11" 20 lb white paper to sugar sheets, it is estimated that SD42 will be able to reduce annual GHG emissions by ~65 tonnes and achieve a net annual savings of ~$30,000.

The district is reviewing the feasibility of using Sugar Sheets. This will include undertaking a pilot study at the Maintenance Office to assess its performance against expectations. It will also include reviewing the potential impact on the warranty of the printing devices.

2023/2024 Environmental and financial cost comparison
between wood fibre paper and Sugar Sheet copy paper

Environmental impact of one 5000 sheet box of copy paper

	0% RECYCLED	30% RECYCLED	100% RECYCLED	SUGAR SHEET
Paper Type	Uncoated Freesheet	Uncoated Freesheet	Uncoated Freesheet	
Quantity	50 Pounds	50 Pounds	50 Pounds	50 Pounds
% Recycled	0%	30%	100%	100%
Wood Use	0.1 U.S. short tons Equivalent to 0.6 trees	0.07 U.S. short tons Equivalent to 0.4 trees	0 U.S. short tons Equivalent to 0 trees	0 U.S. short tons Equivalent to 0 trees
GHG	449 pounds (203.6 kg) CO2 equiv.	372 pounds (168.7 kg) CO2 equiv.	190 pounds (86.1 kg) CO2 equiv.	0 pounds (0 kg) CO2 equiv. (29.4 kg before offset)

* Environmental impact estimates for Uncoated Freesheet were calculated using the Environmental Paper Network Paper Calculator Version 4.0. For more information visit www.papercalculator.org
**Environmental impact estimates for Sugar Sheet are from S&P TruCost's Environmental Performance Report. For more information visit www.socialprint.com/lca

Canadian Carbon Tax calculations of one 5000 sheet box of copy paper at $65 /mt CO2e

Carbon Tax	203.6 kg CO2e x $65 /mt **$13.23 /box**	168.7 kg CO2e x $65 /mt **$10.96 /box**	86.1 kg CO2e x $65 /mt **$5.59 /box**	0 kg CO2e x $65 /mt **$0 /box**

IN SUMMARY

The environmental and financial costs associated with the purchase of 100 boxes of copy paper are shown below

	0% RECYCLED COPY PAPER	30% RECYCLED COPY PAPER	100% RECYCLED COPY PAPER	SUGAR SHEET COPY PAPER
Trees Required	60 trees	40 trees	0 trees	0 trees
CO2 Emissions	20,360 kg That's over 20 tonnes!	16,870 kg	8,610 kg	0 kg 2940 kg before offset
CAD Carbon Tax	$1323	$1096	$559	$0

For more information please visit socialprint.com or email info@socialprint.com

1B. EMISSIONS AND OFFSET SUMMARY TABLE 2023

For the year 2023, the district's total emissions were 3,791 tCO_2e. Of those emissions, 7.89 tCO_2e were from low-carbon biogenic mobile equipment fuels which do not require an offset payment. Therefore, the total offsets required to be retired to become carbon neutral for 2023 is 3,783 tCO_2e.

An offset summary of the district's GHG Emissions for 2023 is tabulated below:

Maple Ridge-Pitt Meadows School District (SD42) 2023 GHG Emissions and Offsets Summary	
GHG Emissions for the period January 1 to December 31, 2023	
Total $BioCO_2$ (tCO_2e)	**7.89**
Total Emissions(tCO_2e)	**3791**
Total Offsets (tCO_2e)	**3783**
Adjustments to Offset Required GHG Emissions Reported in Prior Years	
Total Offsets (tCO_2e)	**0**
Grand Total Offsets for the 2023 Reporting Year	
Grand Total Offsets to be Retired for 2023 Reporting Year (tCO_2e)	**3783**
Offset Investment (Grand Total Offsets to be Retired for 2023 Reporting Year X \$25/tCO_2e)	**\$ 94,575**

1C. RETIREMENT OF OFFSETS

In accordance with the Climate Change Accountability Act and the Carbon Neutral Government Regulation requirements, School District No. 42 (the Organization) is responsible for arranging for the retirement of the offsets obligation reported above for the 2023 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.

PART 2: PUBLIC SECTOR LEADERSHIP

As a signatory to the climate action charter, the Maple Ridge – Pitt Meadows School District is committed to supporting continued planning for emission reduction and climate change adaptation initiatives across its operated schools. As part of this commitment, SD42 has undertaken several initiatives mentioned below.

2A: CLIMATE RISK MANAGEMENT

SD42 acknowledges the importance of environmental sustainability (Policy 6530) and focuses on business and individual practices that minimize energy and water consumption and maximize waste diversion resulting in utility cost savings and a smaller carbon footprint. One of the key important aspects of this policy is to monitor the implementation of the district's Environmental Sustainability Plan.

The existing Environmental Sustainability Plan (2022-2026) focuses on reducing GHG emissions by 22% by 2026 and improving building efficiency by 20% compared to the baseline of 2007. To prepare the district for the Net Zero journey in the future (2027 and beyond), the idea is to modify the existing plan to convert it into a Low Carbon Strategic Action Plan that acknowledges energy management, sustainability, and climate change and create pillars and action plan items that focus on meeting GHG emission reduction targets set by the provincial government based on funding availability with the district.

2B: OTHER SUSTAINABILITY INITIATIVES

The energy and environmental sustainability department has introduced several sustainable initiatives to engage students and staff across the district. These initiatives are listed below:

1. **Go Green Together Challenge**
   Each year on Earth Day, the Manager of Energy and Environmental Sustainability collaborates with participating schools to organize a Go Green Together challenge to help students and staff reduce their electricity, emissions, and waste footprints by competing in weekly sustainability activities. The four impact areas are Electricity, emissions, waste reduction, and sharing. The participants complete at least one activity to be eligible to win a $250 participation prize.

2. **Holiday Shutdown Campaign**
   Each year before holidays (summer, spring, and winter), the district holds a Holiday Shutdown campaign wherein all the lights and equipment (including projectors, coffee makers, etc.) are unplugged and the numbers are recorded. Schools with the highest amount of turned-off or unplugged equipment are rewarded.

3. **Training for HVAC trades team**
   Regular training for HVAC and Maintenance technicians is organized to promote energy management and incorporate it into maintenance work.

4. **Waste Management**
   The district has an ongoing waste management contract with Green for Life (GFL). Under the contract, GFL provides, at the beginning of each school year at each site, a presentation to educate students and staff on all the waste stream programs.

5. **Pro-D Day training for teachers and administrators focused on Sustainability, Climate Change and Waste Management**
   The energy and environmental sustainability department offers a training program for staff to equip them with the tools to create lesson plans that promote sustainability, climate change awareness, and effective waste management.

2C: SUCCESS STORIES

This year, the district successfully undertook a deep energy retrofit at Whonnock Elementary to convert the existing gas-heated school to a low-carbon heated school. This modification of the heating plant will reduce the annual natural gas consumption by 729 GJ, which is equivalent to 138 cars taken off the road. This will increase the district's annual electrical consumption by 37,529 kWh.

EXECUTIVE SIGN OFF

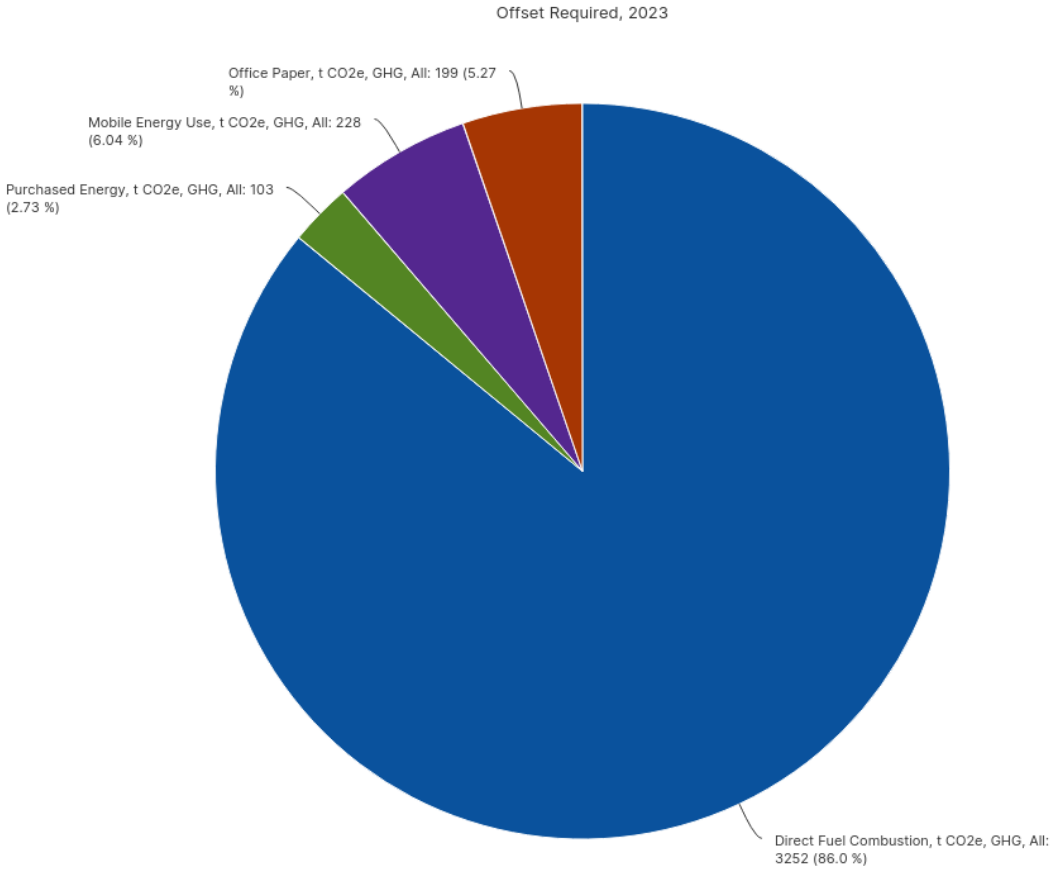
Richard Rennie Digitally signed by Richard Rennie Date: 2024.05.24 17:18:16 -07'00'	May 24, 2024
Signature	Date
Richard Rennie	Title: Secretary Treasurer

*Signature by a senior official such as CEO, COO, Secretary Treasurer, or Superintendent

GREENHOUSE GAS EMISSIONS SOURCE BREAKDOWN

The chart below shows the breakdown of Greenhouse Gas Emissions by source in 2023 at SD42.

School District 42 – Maple Ridge-Pitt Meadows
Greenhouse Gas Emissions by Source
for the 2023 Calendar Year (tCO_2e*)



Total Emissions: 3783 tCO_2e

Offsets Applied to Become Carbon Neutral in 2023 (Generated on April 16th, 2024 3:00 PM)

*Tonnes of carbon dioxide equivalent (tCO_2e) is a standard unit of measure in which all types of greenhouse gases are expressed based on their global warming potential relative to carbon dioxide.

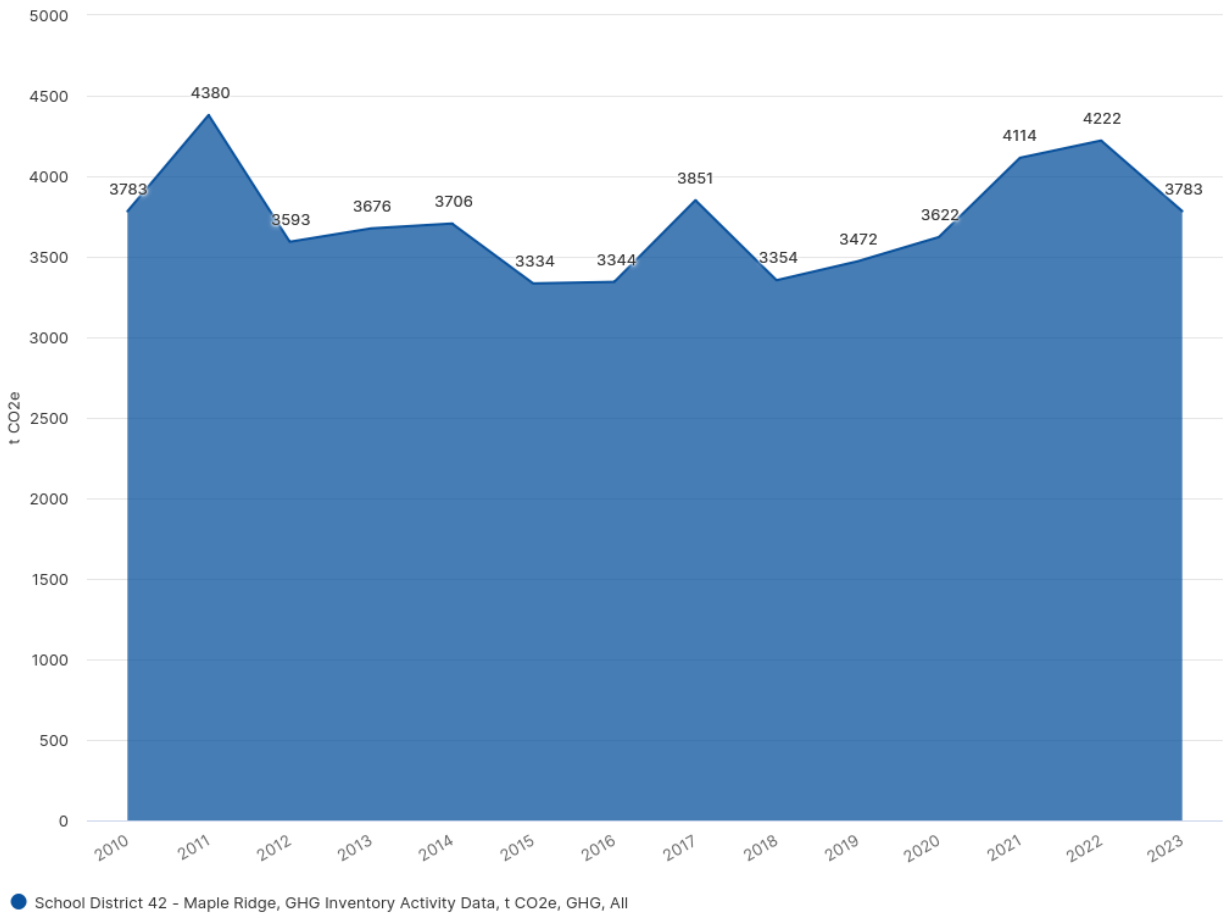
** Under the *Carbon Neutral Government Regulation* of the *Climate Change Accountability Act,* all emissions from the sources listed above must be reported. As outlined in the regulation, some emissions do not require offsets.

OFFSETS APPLIED TO BECOME CARBON NEUTRAL IN 2023

The total offsets required for 2023 including adjustments are 3783 tCO_2e. At the government offset price of \$25/tCO_2e, the total offset investment is \$94,575, which allows the district to achieve carbon neutrality for 2023.

ANNUAL EMISSIONS YEAR OVER YEAR

In 2010, the offsets required to achieve carbon neutrality by SD42 was 3783 tCO2e. In 2023, the district is at the same level of emissions. The graph below shows the district's annual carbon emissions.



Few key points to be noted here:

1. The trajectory delineates the importance of an energy management program in the district and how it can help achieve success in meeting the provincial reduction targets.
2. Despite increasing enrolments, building additions, and the addition of new portables, the emissions trajectory is relatively flat-lined, indicating that SD42's efforts to reduce district-wide emissions have been successful.
3. With 86% emissions from Natural Gas, the district is focusing its efforts on low-hanging fruits such as boiler plant upgrades and making school heat pumps ready by converting them into low-temperature loops. This will help prepare SD42 schools for the future.

ACTIONS TAKEN TO REDUCE GREENHOUSE GAS EMISSIONS IN 2023

SD42 has been a Power Smart Partner with BC Hydro since 2010, employing an Energy Manager and engaging in the BC Hydro (BCH) Energy Manager Program. The district's energy and environmental sustainability department works within the facilities department providing resources to develop a variety of carbon reduction initiatives such as lighting retrofits, HVAC upgrades, DDC improvements, and building energy studies. The energy and environmental sustainability department also works with students and staff on numerous behavioral and educational initiatives to further both the organization's and the community's understanding and adoption of sustainability and the reduction of our carbon footprint to mitigate climate change. Going forward, the focus will be on leveraging both FortisBC and BCH programs to support business cases to reduce emissions in the district.

HEATING PLANT UPGRADES

In 2023, much as in almost all other years, approximately 86% of greenhouse gas emissions were from the combustion of natural gas for heating. This is one of the key drivers to retrofitting heating systems by replacing mid-efficiency plants with high-efficiency condensing boilers, installing variable frequency drives, changing over to electrification by way of heat pumps, and improving DDC controls and scheduling. These projects have multiple benefits, including increased energy efficiency, a high turn-down rate, and a far greater ability to meet building load. All these measures reduce natural gas consumption and, in turn, reduce GHG emissions. To maximize the incentive inflow from FortisBC and BCH, the school district aligns energy studies and projects with planned capital projects. This measure helps the district achieve additional energy conservation measures while undertaking necessary capital upgrades.

Whonnock Elementary

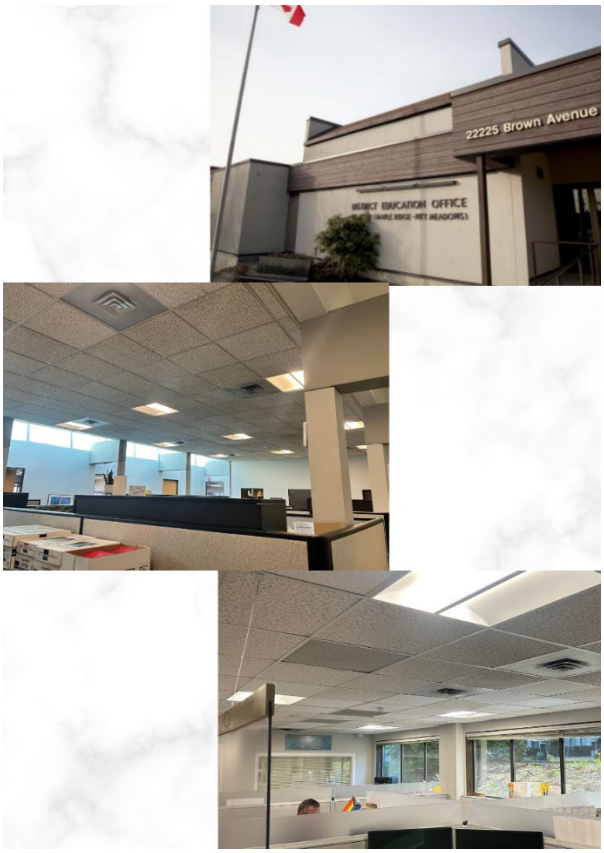
- The boiler plant was upgraded with high-efficiency condensing boilers.
- Existing heating coils were upgraded to low-temperature coils.
- Completed a DDC upgrade.
- Variable speed drives were added to the AHUs and pumps.
- Addition of ASHP to the heating plant to provide.
- Expected Energy Savings: 729 GJ and expected rise in electrical consumption is 37,589 kWh

LIGHTING UPGRADES

Every year, SD42 undertakes several lighting upgrade projects with funding support from BC Hydro to reduce energy consumption and improve learning spaces. These upgrade projects include changing over from existing HID, incandescent, and fluorescent lights to LEDs. In 2023, the district continued to implement LED upgrades across numerous sites, and this program will continue for years to come.

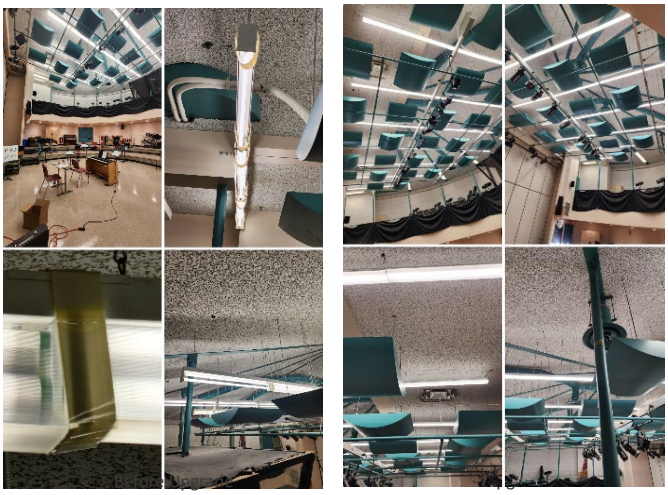
Lighting upgrades were completed at:

- **District Education Office (DEO)**
  This upgrade reduced the DEO's electrical consumption by 19,568 KWh and introduced a dimming capability to allow a better working environment for the employees.



The Total project cost was $151,391 and the upgrade resulted in total annual energy cost savings of $ 3,489 and annual energy savings of 19,698 kWh.

- **Thomas Haney Secondary Music Room**
  The district upgraded the lighting fixtures in the Thomas Haney Secondary School music room for better illumination and to meet seismic requirements. It replaced 42 fixtures (2 32W lamps ea.) with 18 - 8’ fixtures (58.8 W ea.) and 6 - 4’ fixtures (29.3 W ea.). The overall annual energy savings is 3394 kWh.



OTHER UPGRADES FOCUSED ON THE REDUCTION OF ENERGY CONSUMPTION

SD42 has been investing heavily in upgrading terminal units that have aged to improve occupant comfort while reducing energy consumption.

- **Maple Ridge Secondary UV (Unit Ventilator) Replacement**
  This project was carried out in the second Quarter of 2023. The existing 9 UVs were replaced with new units. 3 UVs of 750 CFM and 6 UVs of 1250 CFM were installed.

- **Garibaldi Gym/Theatre RTU Upgrade**
  This project was also carried out in the second Quarter of 2023. Two 7.5-ton gas-fired RTUs were replaced a one 5-ton gas-fired RTU with 3x10-ton air-to-air heat pumps with gas-fired back-ups, new duct distribution, air balancing, and DDC controls.

CONTINOUS OPTIMIZATION (C.OP.) STUDIES

As buildings and systems age, their performance deviates from the required levels, and their energy consumption increases, requiring a focused review and correction. BCH offers a continuous optimization program that provides funding to help improve the efficiency of energy-intensive systems such as HVAC. Through a retro-commissioning or recommissioning process, the focus is on identifying and implementing simple, low-cost solutions without having to undertake a major capital investment. In 2023, the district undertook the following C.Op. studies and implemented the following Energy Conservation Measures (ECMs):

Albion Elementary (implementation in progress):

- Disable heating plant during unoccupied hours
- Adjust pump operation during heating demand
- Adjust weekly schedules and implement optimal start
- Install Variable speed drives on AHU-1 (Air Handling Unit) Supply and Return Fans

Electrical Savings (KWh/yr)	Fuel Savings (GJ/year)	Cost Savings ($)	Emission Reduction (tCO2e)
40,597	693	13,165	35

Garibaldi Secondary (implementation in progress):

- Revise AHU 6 Unoccupied Operations
- AHU Occupancy controlled ventilation
- Reinstate AHU Holiday Schedule
- Shutdown Heating Pumps when not required

Electrical Savings (KWh/yr)	Fuel Savings (GJ/year)	Cost Savings ($)	Emission Reduction (tCO2e)
61,252	768	16,201	38.9

EV (ELECTRIC VEHICLE) CHARGING FACILITY AT SD42

In 2021, SD42 began gradually implementing EV chargers at selected sites. Through various incentive programs, four EV chargers have been installed at two locations namely, c̓əsqənelə Elementary and the District Education Office. In 2023, four new chargers were installed at the Maintenance office. SD42 now has eight EV chargers in total.

EV Chargers at c̓əsqənelə Elementary

With an idea to gradually electrify its fleet, in 2023, the district purchased its first EV fleet vehicle, an Electric Ford Transit. The district will continue to add more EVs to its fleet.

The district will also continue to add charging at other locations, including at all new sites. The school district is considering the feasibility of rolling out a plan to offer charging support to its staff and students. A survey will be rolled out as a part of this plan so that the district can better understand EV charging interest from schools without EV chargers.

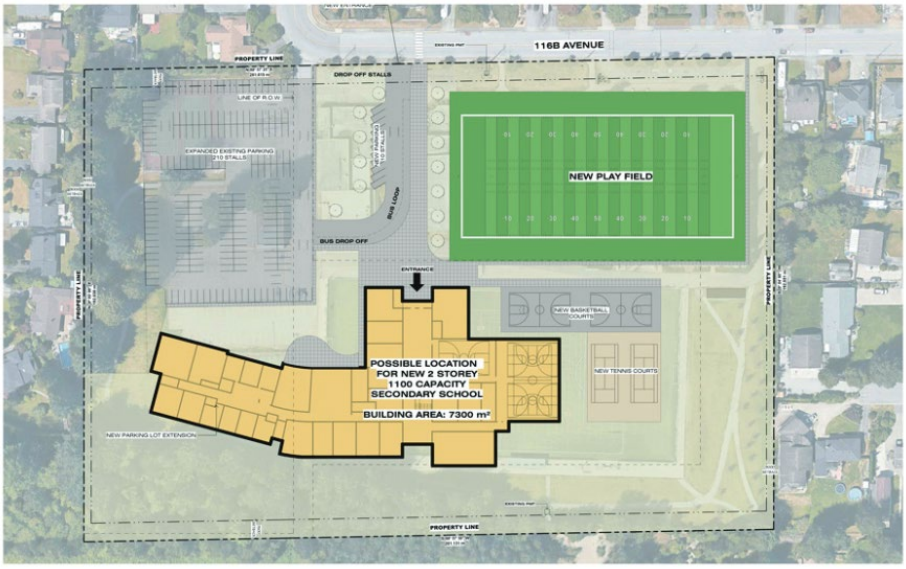
NEW CONSTRUCTION

At SD42, all new capital construction projects continue to employ innovative and sustainable design practices with consultation from Katie First Nation, Kwantlen First Nation, the Métis community, urban Indigenous organizations, and the public at large.

In 2023, the Ministry of Education and Child Care approved the replacement of Eric Langton. The new school facility will include design elements by a local Indigenous artist and have elements reflective of the seven ancestral teachings of courage, wisdom, honesty, humility, truth, love, and respect. The design of the school gymnasium is inspired by a traditional longhouse. The new school will have an air-to-air-source heat pump as its primary source of heating, supported by back boilers. All lighting at the school will be LED and the electrical infrastructure will be Solar PV-ready (for future installation). Furthermore, the energy and environmental sustainability department plans to propose a business case for RNG (Renewable Natural Gas) to promote it as the district's first green school.

In March 2023, the Ministry of Education and Child Care announced that the replacement of Pitt Meadows Secondary School had been identified as a supported project and instructed the district to complete a business case (Project Definition Report - PDR). The district has initiated a consultation process and is working with Station One Architects to submit the PDR for the new school. The PDR will include options for equipment and systems that reduce GHG emissions beyond those required by the National Building Code.

POSSIBLE SCHOOL SITE CONTEXT



BEHAVIOURAL PROGRAMS

Student engagement is the key to the success of sustainability and behavioral programs. The energy and environmental sustainability department has been at the forefront of organizing initiatives that focus on sustainability and educate students on the importance of sustainability and climate change.

1. **Go Green Together Campaign**

   Like the previous year, the school district organized a Go Green Together Campaign to foster student leadership, support curriculum, and engage students in climate action. The challenge was organized for elementary schools April 3 – 28, 2023, to help students and faculty reduce their electricity, emissions, and waste footprints through competition in weekly sustainability activities.

2. **Holiday Shutdown Campaign**

   This year, the school district organized a spring break holiday shutdown campaign to raise awareness and prompt behavioral change. Impactful posters and shutdown checklists were distributed throughout the school district. Participating schools were asked to complete checklists for their school and submit behavioral action photos.

   The winners of this campaign were Davie Jones Elementary and Harry Hooge Elementary.

3. **Pledge Tree Campaign (Energy Wise Network Program)**

As a part of the school's Pledge Tree Campaign, participating students at Thomas Haney Secondary were asked to take a pledge written on a leaf and paste it on a tree. The intent of the campaign was to support the idea that small changes and collective actions can have a big impact.

WINTER 2023

SD42 Earth Week Pledge Drive

School District 42

Small Changes + Collective Action = Big Impact

How to participate

1. Take a leaf from the pile.
2. Pick one (or more) of the pledges listed to the right or make up one of your own and write it on the leaf. Please pick the one(s) that represent new habits you would like to try and adopt (rather than things you already consistently do). *You can put one or multiple pledges on a leaf and take more than one leaf if you want to make multiple pledges.*
3. Use the tape provided to attach your leaf to our school pledge tree.
4. Encourage your friends to do the same so that we can help green our school even more!

Want to do more?

If you'd like to start or be a part of a green team at your school or want to learn more about what the School District is doing around reducing our carbon footprint, visit the Energy & Environmental Sustainability Page (https://www.sd42.ca/energy-environmental-sustainability) or reach out to Alexandra Tudose at Alexandra_Tudose@sd42.ca

I Pledge to…

These pledges represent your commitment to take action in one (or more) way(s) to help reduce your carbon footprint.

Carbon Emissions / Nature

- Use public transit or walk/bike to school this week.
- Plant something in my garden / in a planter pot this week.
- Stop idling my car / ask my parents/guardian to stop idling their car.
- Add feeders / habitat for wildlife to my back yard / deck.
- Spend more time outside this week.

Waste

- Put any recyclables in the proper bin at school (pop, juice boxes etc.).
- Use the green bin at school for anything that is compostable.
- Have no single use plastics in my lunch.
- Say "No thank-you" to single use shopping bags.
- Stop using plastic straws.
- Pick-up trash from the street/sidewalk/park when I see it.

Water

- Shut off the water while brushing my teeth.
- Limit my showers to 5mins each this week.
- Refrain from buying bottled water and use a reusable water bottle instead.
- Ask/remind my parents to get/set a timer for any sprinklers in our yard

Energy

- Turn off more lights in my house.
- Turn off more lights in my class this week (if its empty or sunny).
- Turn off my computer / tablet etc. at the end of the day instead of just letting it go to sleep.
- Unplug the chargers for electronics (e.g., phone, laptop etc.) when no in use.
- Ask/remind my parents to turn down the thermostat at night.

PLANS TO CONTINUE REDUCING GREENHOUSE GAS EMISSIONS IN 2024

The Maple Ridge – Pitt Meadows School District will continue to support GHG emission reductions by educating students, staff, and families, by facilitating actions, and by promoting innovations that lead to sustainable behavioral change throughout the community.

As part of our overall strategy to reduce GHG emissions, SD42 has made energy management and environmental sustainability a priority. Facilities and maintenance departments will continue with HVAC and lighting upgrades to contribute to more energy-efficient buildings and better learning and working environments for students and staff. As part of the design process for new schools, the district will also continue to consult with energy modelers to ensure that all new buildings perform at optimal levels of energy efficiency.

In 2024, the following projects will take place:

MECHANICAL UPGRADES

Edith McDermott Boiler Plant Upgrade

- Replace existing boilers with 3x 399 MBH IBC boilers.
- Replace existing (Direct Hot Water Heaters) DHWs with tankless instantaneous Water Heaters
- Expected Gas savings: 400 GJ/year

Laity View RTU Replacement

- Replace existing 4-ton gas-fired RTU with 8.5-ton Dual fuel heat pump
- Expected Gas savings: 24 GJ/year

Laity View Boiler Plant Upgrade

- Replace existing boilers with 3x399 MBH IBC boilers
- Expected Gas Savings: 300 GJ/year

Maintenance Office Boiler Upgrade

- Replace existing boilers with 4x399 MBH IBC boilers
- Expected Gas Savings: 400 GJ/year

The district will also undertake the following DDC upgrades to improve the operational performance of existing buildings

- Riverside Centre DDC upgrade
- Thomas Haney DDC Upgrade
- Samuel Robertson Technical DDC Upgrade

LIGHTING UPGRADES

The district will continue to invest in lighting upgrades to convert existing lights to LED fixtures with low-voltage controls including occupancy sensors and dimmers. For 2024, it is considering the feasibility of undertaking lighting upgrades for the following sites:

- **Thomas Haney Secondary Lighting Upgrade.** Upgrade school lighting and low-voltage controls
- **Glenwood Elementary.** Upgrade school lighting and low-voltage controls

C.OP. STUDIES

The district continues to review its facilities with the intent to improve overall building performance and reduce GHG emissions. In 2024, it will review the following schools:

- Maple Ridge Elementary
- Yennadon Elementary
- Westview Secondary

BEHAVIOURAL CAMPAIGNS

In 2024, the district will continue to sensitize students and staff on sustainability and climate change and plans to launch several campaigns to promote the same.

The campaigns planned for 2024 are as follows:

1. **Teachers training on sustainability, climate change, and waste management:**
   This training will be undertaken on a professional development day next year to help give teachers tools focused on sustainability, climate change, and waste management.

2. **DDC training for the HVAC trades team:**
   A training program focused on learning DDC operation while reviewing it with a lens of energy conservation.

3. **Sustainability Star and Leader Stickers:**
   To appreciate and celebrate Earth Day and sensitize staff and students about energy conservation and sustainability, the district has started issuing Energy Star and Energy Leaders stickers for students of all age groups and schools.

4. **Launch Energy Catalyst Newsletter:**
   A bimonthly newsletter focused on highlighting sustainability initiatives being undertaken throughout the district.

5. **Summer Holiday Shutdown Campaign**:
   The Holiday Shutdown Campaign for summer 2024 focuses on teaching students about unplugging switches and lamps before going to summer break.

6. **Tree Planting Drive and Outdoor Learning Spaces:**
   This year, the energy and environmental sustainability department plans to launch a tree planting drive to provide an opportunity for schools to develop lessons around the importance of trees, maintaining a balanced environment, and the effects and remedies for climate change.

CONCLUSION

The district continues to invest in emission reduction technologies and to focus on creating energy-efficient and sustainable buildings. It strives towards a combination of both technical and behavioral projects to reduce energy consumption and emissions across its portfolio.

With sustained executive support and the enthusiasm of students and educators, the district will continue to focus efforts required to meet its GHG reduction goals as set up by the province.

ANNEXURES: EXTRACT FROM PORTAL FOR REPORTING

ANNEXURE - A: CCAR REPORT

CCAR Total GHG & Bio GHG

	School District 42 - Maple Ridge 2023
t Bio CO2e, GHG, All	
GHG Inventory Activity Data	7.89
GHG Inventory Estimates	
Total	7.89
t CO2e, GHG, All	
GHG Inventory Activity Data	3,783
GHG Inventory Estimates	
Total	3,783
Total	3,791

Calculated: 16.04.2024 12:07

CCAR Total Offsets

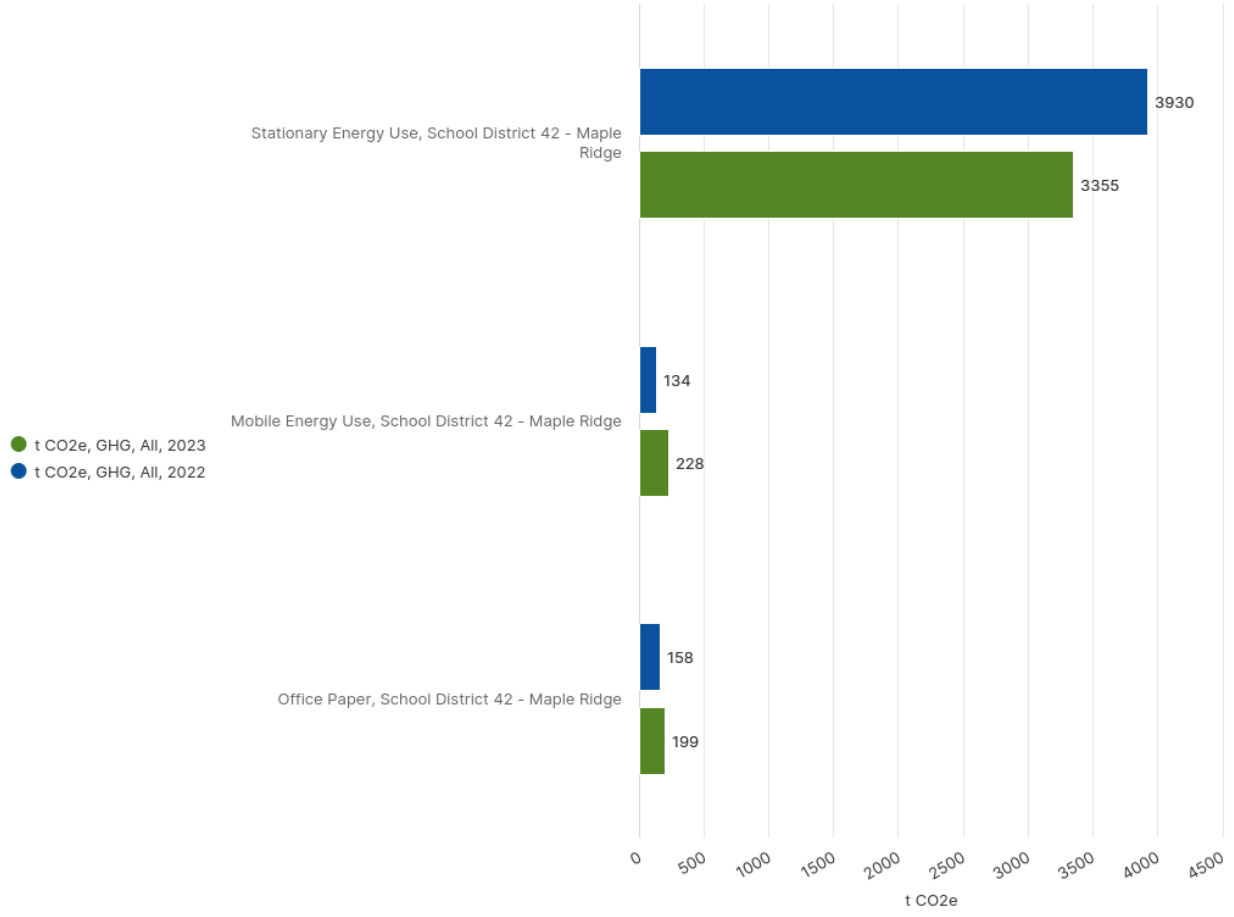
CCAR Total Offsets

	2023 Offset Required t CO2e, GHG, All
GHG Inventory Activity Data	3,783
GHG Inventory Estimates	
Total	3,783

Calculated: 16.04.2024 12:05

ANNUAL COMPARISON ORG - ALL CATEGORY SOURCES

	t CO2e, GHG, All	
	2022	2023
School District 42 - Maple Ridge		
Stationary Energy Use	3,930	3,355
Mobile Energy Use	134	228
Office Paper	158	199



ANNEXURE - B. GHG EMISSION SOURCE DETAILS REPORT FOR 2023

	2023				
	GJ	kg	unit	l	t CO2e, GHG, All
Direct Fuel Combustion					
Offset Exempt					
Offset Required	64691	5999		1657505682	3252
Total	64691	5999		1657505682	3252
Purchased Energy					
Offset Exempt					
Offset Required	32927				103
Total	32927				103
Mobile Energy Use					
Offset Exempt					
Offset Required				102053	228
Total				102053	228
Office Paper					
Offset Exempt					
Offset Required			32857		199
Total			32857		199
Fugitive Emissions					
Offset Exempt					
Offset Required					
Total					
Total	97618	5999	32857	1657607735	3783