



# Delta School District #37

## 2019 CARBON NEUTRAL ACTION REPORT





## EXECUTIVE SUMMARY

"The Delta Board of Education, through the Delta Green Committee, is committed to instilling in it's students, staff, parents, and community an awareness of an commitment to *sustainability* by leading environmental stewardship and fostering a holistic approach towards climate change, energy optimization, waste reduction, and water conservation.

The board is committed to improving its performance in sustainability and will endeavor to conduct its operations and make decisions based upon five priorities: conservation, protection, education, regulation, and recognition.

Within the scope of Environmental Stewardship, the District will actively promote, model and advise decision making, professional learning and actions that will meet these five outcomes."

Due to the COVID-19 pandemic, Neil Dobson, Executive Director, Clean BC Implementation Climate Action Secretariat, issued a directive "that all ministries and Public Sector Organizations covered by the Carbon Neutral Government requirement shall use their 2018 GHG emissions as a temporary estimate for their actual 2019 GHG emissions, for the purpose of the 2019 Carbon Neutral Actions Reports and 2019 Carbon Neutral Government reporting required under the Climate Change Accountability Act.

"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 and our plans to continue reducing emissions in 2020 and beyond."

Emissions reduction measures in 2019 included:

- Replacement of gas fired rooftop units with dual fuel air source heat pumps with auxiliary gas
- Replaced fluorescent lighting with LED technology
- Offered Energy Conservation Grants to schools for running energy conservation initiatives

Emissions Reduction Measures Planned for the Future:

- Replacement of gas fired rooftop units to incorporate heat recovery and heat pumps
- Continue lighting upgrades to LED technology
- Upgrade HVAC equipment and controls to improve operational efficiency
- Replace domestic hot water systems with more energy efficient equipment

We present the following report on our continued pursuit of becoming carbon neutral.

Doug Sheppard,  
Superintendent of Schools

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# EMISSIONS REDUCTION PROGRAM

## JOURNEY OF CARBON REDUCTION

Because of the urgency of Climate Change, investment in sustainable systems must be at the core of all renovations and new construction initiatives within the Delta School District.

For more than 20 years, the Delta School District has been striving to reduce our carbon footprint through countless projects ranging from fine-tuning equipment operation to replacing rooftop units and lighting fixtures. In addition to hardwire replacement programs, the District has continued to encourage our stakeholders to practice resource conservation within schools as well as in the home.

## PLAN FOR 2020

### LIGHTING UPGRADES AND BUILDING SYSTEMS OPTIMIZATION

The Delta School District will continue to perform lighting upgrades to LED technology wherever feasible, and continue with building systems optimization wherever opportunities are available.

### STAKEHOLDER ENGAGEMENT

The Delta School District will continue supporting the ongoing Energy Conservation Grant, Energywise Network, Green Mentorship Program, and Delta Green Committee initiatives to foster sustainable behavior.

## PLANS FOR FUTURE

### REPLACEMENT OF GYMNASIUM & SECONDARY SCHOOL SHOP RTUS

Antiquated gas fired rooftop heating units serving gymnasiums and secondary school shops will be replaced within the next 5 years to more efficient systems.

### REPLACEMENT OF DOMESTIC HOT WATER SYSTEMS

Mid-efficiency gas fired domestic hot water heaters and boiler plants will be replaced with high efficiency options including high efficiency heaters and boilers with smaller storage capacity. Decentralization will also be visited as an option to reduce heat loss through hot water stored in piping throughout buildings.



## EMISSIONS AND OFFSETS

### Emissions and Offsets Summary Table:

Delta School District #37 GHG Emissions and Offsets for 2019	
As per the <a href="#">Directive</a> 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 <sub>2</sub> e)	2593.68
Total BioCO <sub>2</sub>	6.68
Total Offsets (tCO <sub>2</sub> e)	2587
Offset Investment (\$25 per tCO <sub>2</sub> e)	\$64,675

### Retirement of Offsets:

In accordance with the requirements of the *Climate Change Accountability Act* and Carbon Neutral Government Regulation, Delta School District **(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

May 28, 2020  
Date

Doug Sheppard

Superintendent of Schools

Name (please print)

Title



**Confirmation number:** 00B77C34

**Submitted date:** 2020-06-30 15:42:16 Pacific Daylight Time

# Carbon Neutral Action Report Survey - 2019

Public sector organizations (PSOs) are required to complete this survey, in addition to a Carbon Neutral Action Report (CNAR) as mandated by BC's [Climate Change Accountability Act](#) and the [Carbon Neutral Government Regulation](#).

Due to the COVID-19 pandemic, the following [Directive](#) was issued on March 31, 2020. Certain deadlines were also extended for the 2019 reporting year (see below).

## March 31, 2020 Directive:

*Under my authority as the Director for the purposes of the Act, and under the authority delegated to me in Section 6 of the Carbon Neutral Government Regulation, I hereby direct that all ministries and Public Sector Organizations covered by the Carbon Neutral Government requirement shall use their 2018 GHG emissions as a temporary estimate for their actual 2019 GHG emissions, for the purposes of the 2019 Carbon Neutral Action Reports and 2019 Carbon Neutral Government reporting required under the Climate Change Accountability Act.*

Neil Dobson, Executive Director, Clean BC Implementation  
Climate Action Secretariat

Although 2018 emissions data will be used as a placeholder for 2019, **all other (qualitative) components of the CNAR and CNAR Survey are to be completed with information from 2019 (e.g., actions taken or planned to reduce emissions)**. The only change to the survey is that the deadline was extended by one month to June 30, 2020.

This survey is divided into two parts:

**Part 1** - Will be made public on the Climate Action Secretariat (CAS) [website](#) after June 30, 2020; however, it will not be appended directly to each individual PSO CNAR as was done in previous years. This section collects details about actions taken or planned to reduce emissions and is intended to supplement the legislative requirements in your CNAR.

**Part 2** - Will NOT be made public. Information you provide in this section is important and will be used internally to help CAS staff with planning for emissions reduction and climate change adaptation initiatives. Although not required, PSOs are highly encouraged to complete Part 2.

**Note:** Survey progress can be saved at any time by clicking the "Save and continue later" button at the bottom of each page. A new window will open and you will be asked to provide your name and email. An email will be sent to you from [Carbon.Neutral@gov.bc.ca](mailto:Carbon.Neutral@gov.bc.ca) with the subject line: "Questionnaire Link", which will include a hyperlink for the "Project: Carbon Neutral Action Report Survey – Broader Public Sector 2019". You can then continue responding at another time or email the hyperlink to a colleague to complete remaining section(s).

May 29, 2020	<ul style="list-style-type: none"><li>The final, signed version of the <b>CNAR</b> (or Small Emitters Form) must be submitted by email to: <a href="mailto:Carbon.Neutral@gov.bc.ca">Carbon.Neutral@gov.bc.ca</a></li></ul>
June 30, 2020*	<ul style="list-style-type: none"><li>Ministry of Environment and Climate Change Strategy must post a final CNAR for each organization on the BC Government's CNG <a href="#">website</a> and each PSO is encouraged to post the report on their website.</li><li>The <b>CNAR Survey</b> (optional for Small Emitters) must be completed and submitted online.</li></ul> <p>*Deadline extended from May 29, 2020.</p> <ul style="list-style-type: none"><li><u>All offset invoice payments must be submitted to CAS.</u></li></ul>
Sept 30, 2020*	<ul style="list-style-type: none"><li><b>Clean Government Reporting Tool (CGRT) Data Entry</b> must be completed for the 2019 reporting year.</li></ul>



	*Deadline extended from April 30, 2020.
Oct 15, 2020*	<ul style="list-style-type: none"> <li>• <b>Self-Certification checklist</b> must be completed, signed and submitted by email to: <a href="mailto:Carbon.Neutral@gov.bc.ca">Carbon.Neutral@gov.bc.ca</a>.</li> </ul> *Deadline extended from May 15, 2020.

\*See the [Carbon Neutral Government – Program Requirements website](#) for more information on program requirements, timelines and templates.

## PART 1 - Included as part of your public CNAR report.

Reminder that Part 1 will be made public on the CAS [website](#).

Contact Name:
Maurice Bedard
Contact Email:
mbedard@deltasd.bc.ca
Organization Name:
Delta School District
Role – Please select the best category for your current role with your organization. If more than one individual completed the survey, multiple categories may be selected:
Energy Manager
Please select your sector:
School District (SD)

## Stationary Sources (e.g. Buildings, Power Generators): Fuel Combustion, Electricity use, Fugitive Emissions.

Actions taken by your organization in 2019 to support emissions reductions from buildings

Do you have a strategy to reduce emissions from stationary sources?
Yes

Whether you have a strategy or not, briefly describe your organization's plans to continue reducing emissions from stationary sources:

Over the medium-term term (1-5 years)
<p>Replace gas fired heating units with energy efficient units, and whenever possible install dual fuel units using electricity to run heat pumps to generate heating during warmer shoulder seasons, with gas fired backup for use in colder periods.</p> <p>Replace existing outdated lighting systems with more energy efficient technology such as LED.</p> <p>Optimize use of existing solar walls.</p> <p>Optimize operation of existing HVAC systems and automated controls to improve energy efficiency.</p> <p>Redesign and replace existing domestic hot water heating and distribution systems with more energy efficient options.</p>



Over the long term (6-10 years)

*Replace gas fired heating units with energy efficient units, and whenever possible install dual fuel units using electricity to run heat pumps to generate heating during warmer shoulder seasons, with gas fired backup for use in colder periods.  
Replace existing outdated lighting systems with more energy efficient technology such as LED.  
Redesign and replace existing domestic hot water heating and distribution systems with more energy efficient options.*

Please describe your strategy's goals (if any) related to energy audits.

*The Delta School District is currently working with a lighting consultant supported by BC Hydro, to conduct lighting opportunity assessments, and energy audits at ten schools, and will continue to cyclically go through each school within the district periodically, as part of a continuous optimization process.*

What % on average of your building portfolio has an energy audit completed each year (if any)?

5%

Please describe your strategy's goals (if any) related to building retrofits.

*The Delta School District focuses on optimization through technology upgrades to improve efficiency and reduce carbon emissions, whenever building retrofits take place.*

What % on average of your building portfolio is retrofitted each year in the following categories (if any) - click here for further information:

35%

Minor retrofits (e.g. low cost, easy to implement measures including caulking, lighting, adding roof insulation, etc.)

20%

Major retrofits (e.g. replacing windows and doors, equipment replacement such as boilers, etc.)

10%

Deep retrofits (e.g. replacing roof, replacing the heating, ventilation and air-conditioning system with a renewable technology like a ground-source heat pump, etc.)

5%

Please describe your strategy's re/retro-commissioning goals (if any)?

*The Delta School District focuses on optimization through technology upgrades to improve efficiency and reduce carbon emissions, whenever building retrofits take place.*

What % on average of your building portfolio do you recommission each year?

0%

Do you keep records of Refrigerant gases<sup>1</sup> category and refilling volumes?

[1] Fugitive emissions from stationary cooling equipment are attributed to the leakage and loss of HFC and PFC based coolants from air conditioning and commercial type refrigeration systems. Coolant loss can occur during the manufacturing, operation, and disposal of such equipment. Gases that may be reported via CGRT include HFC R-134, HFC R-134a, HFC R-404a, HFC R-407c, HFC R-410a.

Yes

If yes, have you quantified and reported the associated emissions? What, if any, mitigation approaches have been considered? Please describe

No

What, if any, mitigation approaches have been considered? Please describe.

*Refilling volumes of refrigerants have been so small, that the total amount of associated emissions has not created a significant concern.*

How many newly constructed buildings received at least LEED Gold certification in 2019?

0

How many newly constructed buildings did not receive LEED Gold certification?

0

Please explain why LEED Gold certification was not obtained for those new buildings.

*There has been no new construction in the Delta School district.*

Other actions? Please describe briefly:

*None*

## Mobile Sources (Fleet Vehicles, Off-road/portable Equipment): Fuel Combustion:

Actions taken by your organization in 2019 to support emissions reductions from mobile sources?

Do you have a strategy to reduce emissions from mobile sources?

Yes

Whether you have a strategy or not, briefly describe your organization's plans to continue reducing emissions from mobile sources:

Over the medium-term term (1-5 years)

*The Delta Board of Education, through the Delta Green Committee, is committed to instilling in it's students, staff, parents, and community an awareness of a commitment to sustainability by leading environmental stewardship and fostering a holistic approach towards climate change, energy optimization, waste reduction, and water conservation. The board is committed to improving it's performance in sustainability and will endeavor to conduct it's operations and make decisions based upon five priorities: conservation, protection, education, regulation, and recognition. Within the scope of Environmental Stewardship, the district will actively promote, model and advise decision making, professional learning and actions that will meet these five outcomes. With this in mind, we will trade in older vehicles for more fuel efficient or electric models, as funding and technology improvement opportunities become available.*

Over the long term (6-10 years)

*The Delta Board of Education, through the Delta Green Committee, is committed to instilling in it's students, staff, parents, and community an awareness of a commitment to sustainability by leading environmental stewardship and fostering a holistic approach towards climate change, energy optimization, waste reduction, and water conservation. The board is committed to improving it's performance in sustainability and will endeavor to conduct it's operations and make decisions based upon five priorities: conservation, protection, education, regulation, and recognition. Within the scope of Environmental Stewardship, the district will actively promote, model and advise decision making, professional learning and actions that will meet these five outcomes. With this in mind, we will trade in older vehicles for more fuel efficient or electric models, as funding and technology improvement opportunities become available.*

How many fleet vehicles did you purchase from the following categories:



Electric Vehicle – EV - (e.g., Nissan Leaf, Chevy Bolt)

0

“Plug In” Electric Vehicle – PHEV (e.g., plug-in Prius, Chevy Volt)

0

Hybrid vehicle – HEV – non “Plug In”- (e.g., Toyota Highlander Hybrid)

0

Hydrogen fuel cell vehicle

0

Natural gas/propane

0

Gas/diesel vehicle

4

If you purchased new gas/diesel vehicles, can you briefly explain why vehicles from the other categories were not chosen?

*They were not an option given the resources and infrastructure currently available.*

Actions taken by your organization in 2019 to support emissions reductions from mobile sources? (Continued)

How many existing EV charging stations does your organization have in each category:

Level 2?

0

Level 3?

0

How many level 2 stations (if any) are specifically for your fleet vehicles?

As defined as Level 2 stations only your organization's fleet vehicles may use

0

How many level 3 stations (if any) are specifically for your fleet vehicles?

As defined as Level 3 stations only your organization's fleet vehicles may use

0

How many EV charging station(s) did you install in 2019 in each category:

Level 2?

0

Level 3?

0

How many level 2 stations (if any) were installed specifically for your fleet vehicles?

As defined in the previous section

0

How many level 3 stations (if any) were installed specifically for your fleet vehicles?

As defined in the previous section

0

Please briefly describe any other related actions, (e.g. charging station feasibility studies, electrical panel upgrades, etc.)

*Explored options and costs involved with installing charging stations at six locations within the school district, where proximity to power supply presented a possibility for consideration.*

Please indicate the total number of the vehicles in the following vehicle classes that are in your current fleet

**Definitions:**

- Light duty vehicles (LDVs) are designated primarily for transport of passengers <13 and GVWR<3900kg
- Light duty trucks (LDTs) are designated primarily for transport of light-weight cargo or that are equipped with special features such as four-wheel drive for off-road operation (include SUVs, vans, trucks with a GVWR<3,900kg )
- Heavy duty vehicles (HDV) includes vehicles with a GVWR>3,900 kg (e.g. ¾ tonne pick-up truck, transport trucks)

Light duty vehicles (LDVs)

Electric Vehicles – EV - (e.g., Nissan Leaf, Chevy Bolt)

0

“Plug In” Electric Vehicle – PHEV -- (e.g., plug-in Prius, Chevy Volt)

0

Hybrid vehicles – HEV – (e.g., non “Plug In”- older Toyota Prius, Toyota Camry hybrid)

0

Hydrogen fuel cell vehicles

0

Natural gas/propane

0

Gas/diesel

0

Light duty trucks (LDTs)

Electric Vehicles – EV

0



"Plug In" Electric Vehicle – PHEV

0

Hybrid vehicles – HEV – (e.g., non "Plug In"- older Ford Escape Hybrid, older Chevrolet Silverado pickup hybrid, etc)

0

Hydrogen fuel cell vehicles

0

Natural Gas/propane

0

Gas/diesel

49

Heavy duty vehicles (HDV)

Electric Vehicles – EV

0

"Plug In" Electric Vehicle – PHEV

0

Hybrid vehicles – HEV – (e.g., non "Plug In")

0

Hydrogen fuel cell vehicles

0

Natural Gas/propane

0

Gas/diesel

4

Actions taken by your organization in 2019 to support emissions reductions from paper supplies.

Briefly describe your organization's plans to continue reducing emissions from paper use:

Over the medium-term (1-5 years)

*End users are made aware of their paper use with the printing/copying system metrics(papercut system). Reports are generated for the schools by the Principals and they share the numbers with the teachers and staff. Users are accountable for the amount they use, some may implement quotas. The papercut system eliminates "accidental" print jobs by not releasing them until the user scans their ID card and then confirms the queued print job for printing.*

Over the long term (6-10 years)

*End users are made aware of their paper use with the printing/copying system metrics(papercut system). Reports are generated for the schools by the Principals and they share the numbers with the teachers and staff. Users are accountable for the amount they use, some may implement quotas. The papercut system eliminates "accidental" print jobs by not releasing them until the user scans their ID card and then confirms the queued print job for printing.*

Do you have an awareness campaign focused on reducing office paper use?

Yes

Purchased alternate source paper (bamboo, hemp, wheat, etc.)

No

Other 2019 actions, please specify

*None*