



School District No. 5 (Southeast Kootenay)

2021 PSO Climate Change Accountability Report

Emissions Reduction Report

Declaration statement

This PSO Climate Change Accountability Report (CCAR) for the period January 1, 2021 to December 31, 2021 summarizes our greenhouse gas (GHG) emissions profile, the total offsets to reach net-zero emissions, the actions we have taken in 2021 to reduce our GHG emissions and our plans to continue reducing emissions in 2022 and beyond.

By June 30, 2022, School District No. 5 (Southeast Kootenay) final CCAR Report will be posted to our website at www.sd5.bc.ca

Overview

School District No. 5 has continued to work towards reducing emissions this year. As you will read, we have been working towards our goal of carbon neutrality.

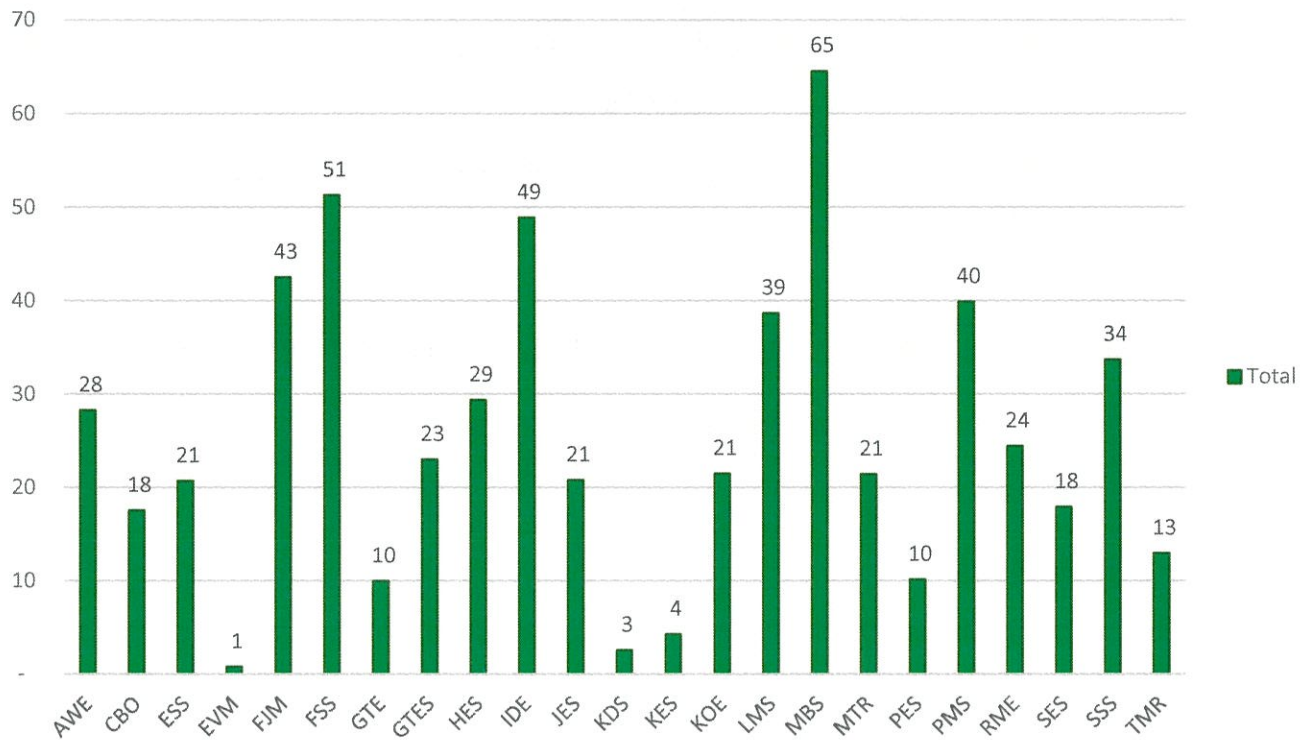
All our departments continue to be in the mindset of reducing unnecessary emissions where they can. This is from removing inefficient printers to purchasing energy saving appliances. We believe our goal of working with staff and students to become more energy wise has paid off and will continue to pay off in the years to come.

Technology

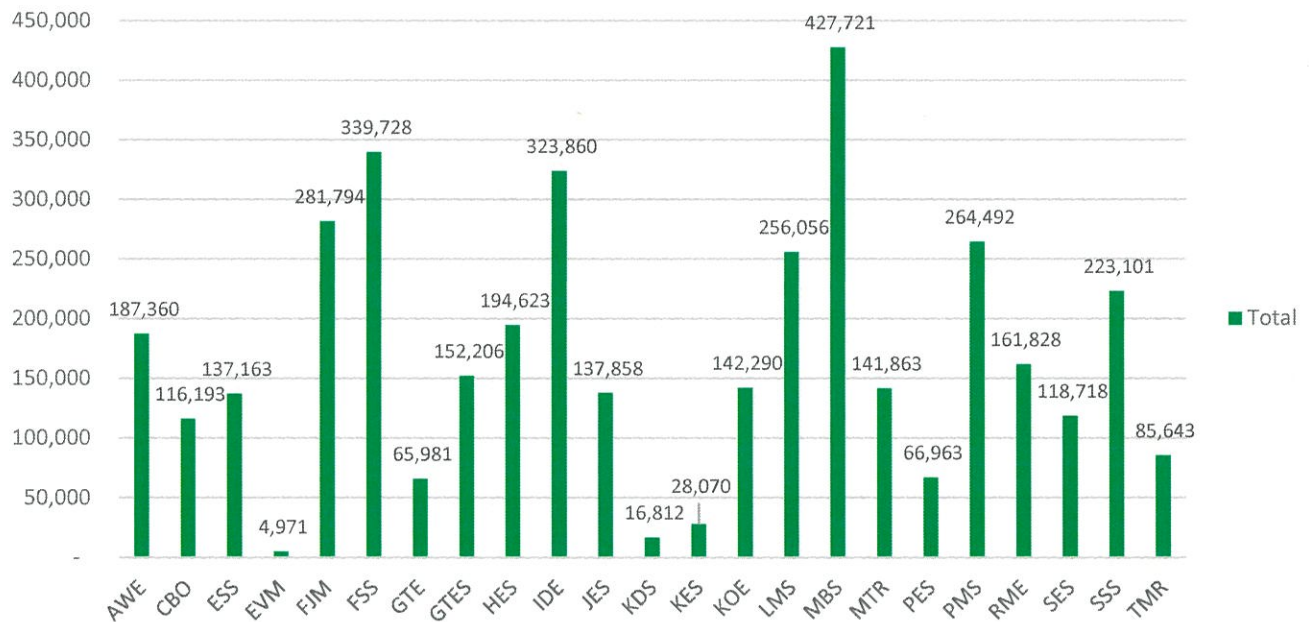
We have now moved forward with our revised Five-Year Tech Plan. Replacing older computers and photocopiers with new ones.

- Have invested in Paper Cut software to reduce the amount of printing and paper from all printers, and copiers in the district which helped with reduction of paper, ink and servicing of machines
- Permission Click on-line forms to reduce the amount of paper sent home to families;
- Following is a summary of the printer environmental impact:

Total Number of Trees Consumed by School

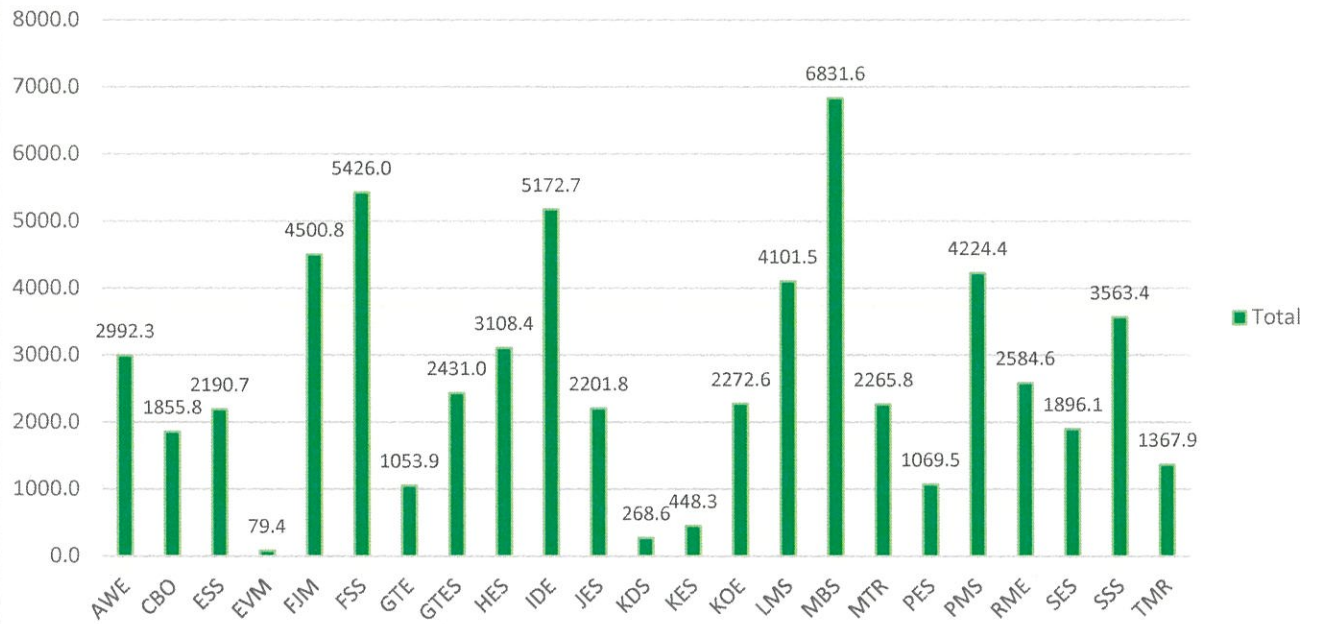


The manufacturing energy used to produce the paper, represented as the energy consumed by a standard light bulb in hours

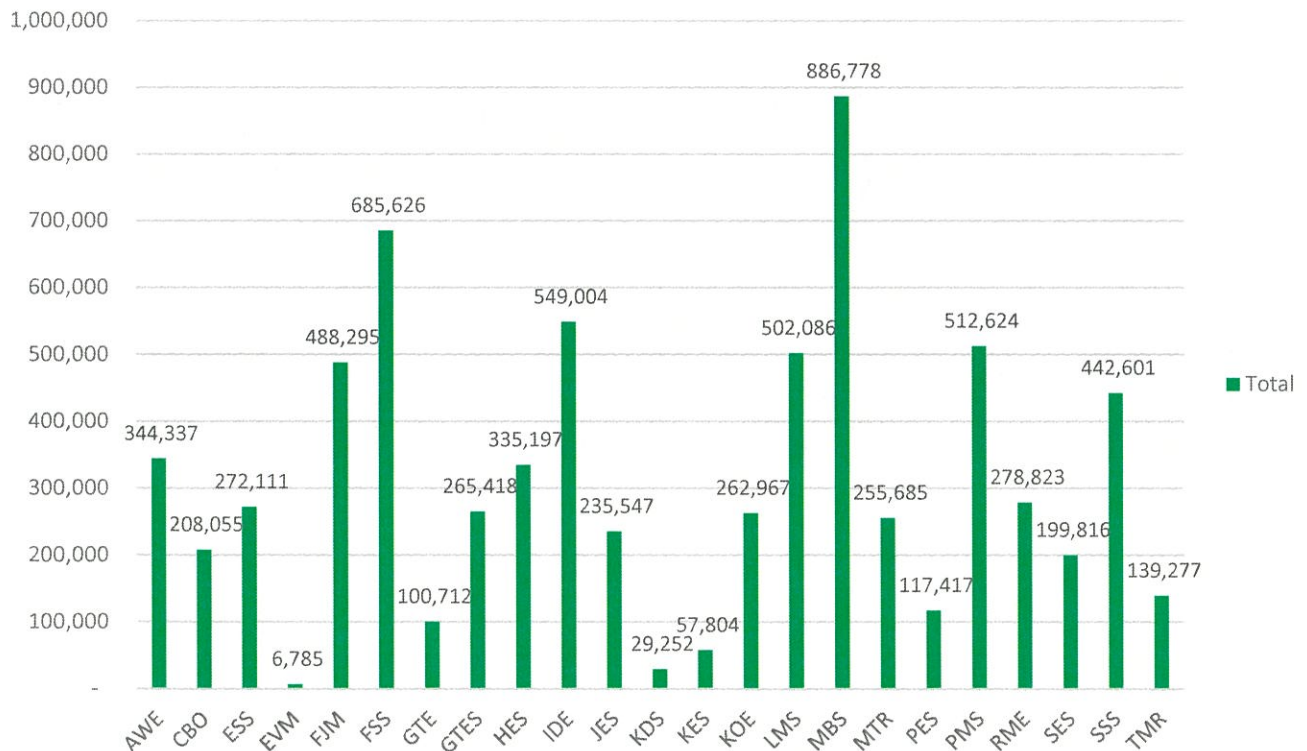


CO2 Produced

The amount of greenhouse gases released in the production of the paper



Total Sheets of Paper Used



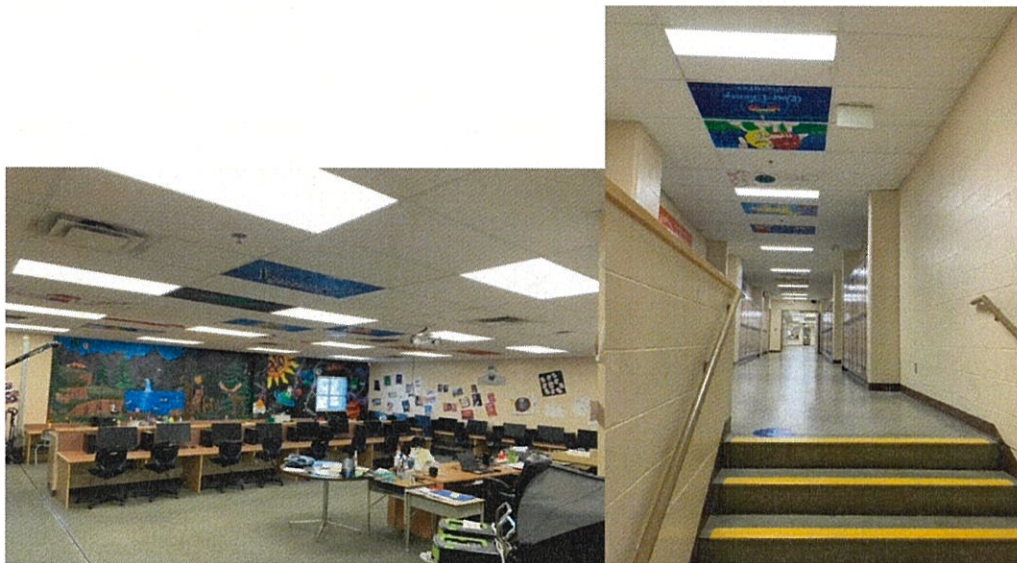
Electrical

Our district has been replacing older light fixtures with LED lights and kits where possible. This reduces the use of KWH by an average of 40%.

- We have completed one (1) lighting upgrade this year. (PMS)
- Changing to LED technology from older fluorescent lighting. With this change, we put in dimming switches in all the classrooms allowing the teachers to lower the light levels as needed.
- The response we received from the staff has been very positive as well as lowering our overall energy costs.

Parkland Middle School completed from old lighting to LED in the whole school as shown in pictures below:





- The new lighting brightened up the rooms as well as the hallways.
- The staff tell us that not only does the lighting in the hallways allow the staff to see what is going on better but also seems that the students are better behaved.

HVAC

Mount Baker Secondary School finished a HVAC upgrade at the gymnasium boiler room, where we removed five aging Weil Mclain boiler units and replaced them with four IBC high efficiency boilers.



We also, replaced two hot water tanks as shown below for the Mount Baker School gymnasium:



With the upgrade of the Boiler at the Mount Baker Secondary School Gymnasium helped improved the system with the following savings and reduction:

Mount Baker Secondary Gym									
1,519 sq.m					2022-05-12				
Consumption Based on 2013 to 2015 Data, Projected For New Boilers									
	GJ	kWhr	Tonne CO2	GJ/sq.m.	kWhr/sq.m	\$	\$/GJ	\$/kWhr	\$/sq.m
Natural Gas	1,048	291,157	52.0	0.69	192	\$69,660	\$66.46	\$0.239	\$45.86
Electricity	346	96,193	2.1	0.23	63	\$72,680	\$209.90	\$0.756	\$47.85
TOTAL	1,394	387,350	54.2	0.92	255	\$142,340	\$102.08	\$0.367	\$93.71

Anticipated Consumption after Boiler Upgrade									
	GJ	kWhr	Tonne CO2	GJ/sq.m.	kWhr/sq.m	\$	\$/GJ	\$/kWhr	\$/sq.m
Natural Gas	740	205,523	36.7	0.49	135	\$49,172	\$66.46	\$0.239	\$32.37
Electricity	346	96,193	2.1	0.23	63	\$72,680	\$209.90	\$0.756	\$47.85
TOTAL	1,086	301,716	38.9	0.72	199	\$121,852	\$112.19	\$0.404	\$80.22

Savings									
	GJ	kWhr	Tonne CO2	GJ/sq.m.	kWhr/sq.m	\$	\$/GJ	\$/kWhr	\$/sq.m
Natural Gas	29%	308	85,634	15.3	0.20	56	\$20,488	\$66.46	\$0.239
Electricity	0%	0	0	0.00	0	\$0	\$209.90	\$0.756	\$0.00
TOTAL	22%	308	85,634	15.3	0.20	56	\$20,488	\$66.46	\$0.239

Transportation

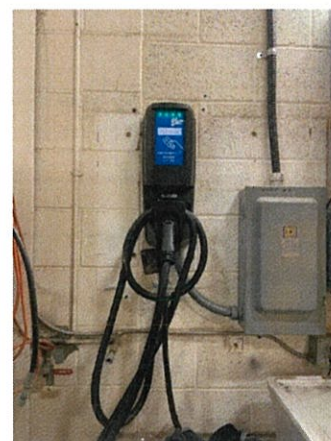
Our School District was one of the 14 school districts to receive the CE Electric School Bus as part of the British Columbia's mandate of a 40% greenhouse gas reduction for public fleets by 2030. We have acquired one electric bus during the year.



For the electric bus, we changed the AC charging station that was installed in prior year to DC charging station in current year.



We also installed a second charger for our electric bus as shown on the right.



Five Year Plan

Our 5-year plan will include more energy efficient boilers for schools with older systems. We will be continuing with replacing older light fixtures with LED lights and kits in other schools and offices.

We continuing to use an energy monitoring company to watch over the use of our energy systems. Prism Engineering gives us an overview for year-to-date performance immediately through a customizable dashboard. This can clearly identify utility spending and savings among multiple sites.

We are investing more in technology as well:































- More video conferencing via Zoom and Teams helping to decrease mileage and travel cost throughout the District.
- Share-Ed Remote Resources will increase remote learning resources helping to decrease the need for paper-based resources and transportation of physical resources.


































We are also looking into Geo-fields at Highland Elementary School and at Kootenay Orchard Elementary School. We are also looking into some solar initiatives.







































Our Schools






































We have invested in a Foodcycler – indoor composter that works overnight for the Board Office and a few pilot schools across the district to reduce food waste volume;
Supporting schools with garden beds, greenhouse projects and planting of trees to reduce environmental impacts.




































The following are some of the initiatives our schools have taken during the year:

School	Administrator	Comments
Amy Woodland Elementary	Scott Holt	 Recycling bins in the school hallways, classrooms and common spaces.  Grade 6 leadership group does all of the recycling  Maximize the number of students on school bus trips.  Walk to swimming pool and skating rink (weather permitting)
KDS/KLC	Andrea Graham	 Recycling program for all user groups  No vending machines in either building to encourage bringing food from home  Staff/student participation in cycling/ride to work week  Promote 'paperless' homework/assignments  Motion activated lighting in some areas at KLC  LED lighting at Cranbrook Campus  All user groups at KLC encouraged to use dishes in kitchen rather than disposable dishes/cups  Filtered water fountain to encourage filling water bottles
Elkford Secondary	Michael Kelly	 Students ride bikes daily  Collect recyclable bottles on a daily basis. Bins are placed in hallway  Earth Day – Community Clean Up  Any new lights changed to LED  New, more efficient refrigerator  Replaced dishwashers with new, energy efficient units  Keep the heat at a low temperature  New recycling bins placed outside of school on property  Filtered water fountains encouraging students to bring their own water bottles
Fernie Secondary	Erin Hay	 Ongoing Environmental awareness campaign by student council  Paper recycling in all workspaces  Staff usually does Ride your Bike to Work Week- May 28th- June 1st  Students ride bikes daily  Resource room students collect recyclable bottles on a daily basis. Bins are placed in hallway (re-starting after COVID)  Earth Day – Recycled clothes fashion show; Celebrate Earth Week. Community Clean Up.  Cafeteria uses all biodegradable one-use containers (will be exploring options in future)  Lights in Traynor Hall and gym have been changed to LED; transition to more LED are happening on an ongoing timeline.  Filtered water fountains encourage students to bring their own bottles

FJ Mitchell Elementary	Jaslene Atwal	 Paper recycling program  Milk and juice container recycling program  Recyclable containers in lunch kits which are sold at beginning of the year  Foods to Farm program - each class puts food scraps in after lunch. Buckets are collected and sent off to a local farm to feed the animals  Filtered water fountains  Motion activated lights  Ride your bike to school initiative  Walk vs bus to swimming and skating (weather permitting)
Gordon Terrace Elementary	David Martin	 A recycling and composting program that the classes run  Filtered water fountains  Garbage free lunch incentives  Walking field trips as much as we can  When busses are needed for field trips, we only book when we need and can fill them
Highlands Elementary	Bill Johnson	 Recycling program for both refundable and non-refundable materials  A garden, traditional and worm composting program.  Waste-less Wednesday with challenges for classes to bring no garbage (only reusable containers) for lunches and snacks.  Motion activated room lights  Filtered water fountain (reduced use of plastic water bottles)  Idle-free zones  Encourage students and staff to walk or bike to school  LED lighting installed
Isabella Dicken Elementary	Laura-Lee Phillips	 Yearlong Recycling Program - Gr 6's  Yearlong Composting Program - Gr 4's  Earth Day "Remote" Clean Up's - promoted by teachers for interested families  School yard Clean Up - April (and yearlong with various classes)  Filtered water fountain stations  Encouraging personal water bottles vs single use in all classes (has created a significant reduction in bottle recycling according to Gr 6 classes!)  Many grades walk to outings (swimming pool, skating, library, arts station)  Garden Boxes made from school recycled stairs wood & grew pumpkins (that were ready last fall!!)  Many classes grow plants from seeds for family gifts  Lots of staff bike & walk to school (especially during Bike to Work Week... this year is a bit different but lots of "Green" commuting to work)  Bike Road-rodeo & biking activities (ex: to tennis courts for Gr 6's)  Environmental Club (Mr. Hanson & Mme. Kujit)

		 Outdoor Classroom  Litterless Lunch  Plastics Recycling that Mr. Hanson & Ms. Degagne's class have started
Jaffray Elementary Secondary	Erin Boehm	 School wide recycling program  Composting grade 3/4  Boxed garden project  Earth Day - school yard and community cleanup  Recycling bins in the school hallways, classrooms and common spaces  Grade 5 Eco Team – various projects  Grade 6 – Beyond Recycling  Concession – no single use plastics  Motion activated room lights
Kootenay Orchards Elementary	Judi Poole	 Composting for the school garden  Encourage biking to school (participate in “WE Bike” yearly)  Encourage walking to field trips  Filtered water fountains  Gr. 6 recycling program  LED lighting installed  Participate in Earth Day – ‘Spring Spruce Up’ the community  School garden  Use of water bottles
Laurie Middle	Aaron Thorn	 Recycling - early stages of greater buy in  Cardboard, paper and plastics refundable sold to support an African school project (Kimmi Toyota)  Composting - started last year -beginning stages of promoting awareness  Battery recycling  Stewardship grade 7 class –promoting reduction, social awareness, whole school buy in  Garden boxes - herbs & flowers  LED low lighting pilot project  Band class Community Garbage Clean-Up in conjunction with Tim Hortons – garbage trucks are called in to deal with the waste from this neighbourhood clean up  Compass Class  Increasing classroom recycling
Mount Baker Secondary	Dave Hill	 Earth Day - cleaning garbage around the community.  Bee garden in our courtyard to encourage bees.  Ride your Bike to Work week.  Idle-free zones.  Leadership students are doing a reusable straw campaign  Green Alliance Club  Mason Bees and our indigenous pollinator garden

Parkland Middle	Brenda Tyson	 Recycling bins in the school hallways, classrooms and common spaces.  Recycling program for both refundable and non-refundable materials  Food-Savers in three locations to collect and compost food waste/scraps  Students ride bikes, scooters, and walk daily  Students use public transportation system  Ride your bike to school initiative  Filtered water fountains encourage students to bring their own bottles  LED lighting installed  Motion activated lights  Battery recycling  Used pen, highlighter, white board marker recycling  Spring Spruce Up – neighbourhood clean up  Concession – no single use plastics
Pinewood Elementary	David Standing	 Recycling program  Filtered water fountains encourage bring your own bottle  Idle-free zones  School yard and community clean up – Earth Day  Foodcycler
Rocky Mountain Elementary	Lois Ehman	 Paper recycling program (done by students)  Milk and juice container recycling program (done by students)  Encourage all staff and students to bring their own bottle – do not sell juice boxes for events  Filtered water fountains  Motion activated lights  Composting program that the classes run  Walking field trips as much as we can  When busses are needed for field trips, we only book when we need and can fill them  Greenhouse  Earth Day clean up days  Idle free zones  Recycling bins in the school hallways, classrooms and common spaces.  Encouraging walking/biking to school
Sparwood Secondary	Frank Sopko	 Earth Day - school yard cleanup  Refundable and non-refundable recycling  Computer recycling - students use the old computers for parts and create new desktop computers to donate back to those in need in the community  Video game console recycling - refurbish and give to students in need  Hydroponics - science students grow food for the foods classes  Outdoor gardening

		 Motion light sensors in classrooms.  Walking to the swimming pool and skating rink  Worm Composting  Battery recycling  Bring your own water bottle  Bus sharing for trips with Elkford and Fernie  Idle-free zones
Steeple Elementary	Chris Catherall	 “Keepers of the Earth” (on-going school grounds clean-up)  Battery recycling  Photocopier supplies recycling  Walking to fieldtrips/events whenever possible  Recycling program for both refundable and non-refundable items  Courtyard garden  Worm composting  Motion-activated, LED lighting  Filtered water fountain  Recycling bins in classrooms and common spaces
TM Roberts Elementary	Michelle Sartorel	 Library teacher re-uses photo copy paper that has one side blank for her libraryclub  For pancake breakfasts and movie nights, students are asked to bring in their own plates and cutlery – this will continue  Garden beds for food  Garden Club, to teach students how to grow their own  Photocopier supplies recycling  Walking to fieldtrips/events whenever possible  Recycling program for both refundable and non-refundable items  Courtyard garden – clean up and maintenance  Participates in the refund-it program – reinstituting post covid  Many teachers teach students to plant food  Students encouraged to fill water bottles  Paper cups NOT Styrofoam for water emergencies  Students discouraged from bringing juice boxes and sugary drinks  Classes are learning about different ways to grow food  School yard clean up – garbage tongs for picking up have been supplied  Battery and (dead)Pen recycling  Motion-activated, LED lighting  Filtered water fountain refilling stations  Recycling bins in classrooms and common spaces

Conclusion

School District No. 5 (Southeast Kootenay) is working to reduce our use of energy and save resources where possible. In the future, we will become more energy efficient to reduce our consumption even more.

SD5 2020 GHG Emissions and Offset Summary Table

<i>School District No. 5 (Southeast Kootenay) GHG Emissions and Offset for 2021 (tCO₂e)</i>	
GHG Emissions created in Calendar Year 2021:	
Total Emissions (tCO ₂ e)	3,017
Total BioCO ₂	13.3
Total Offsets (tCO ₂ e)	2,695
Adjustments to GHG Emissions Reported in Prior Years:	
Total Emissions (tCO ₂ e)	N/A
Total Offsets (tCO ₂ e)	29
Grand Total Offsets for the 2020 Reporting Year:	
Grand Total Offsets (tCO ₂ e)	2,724

Retirement of Offsets

In accordance with the requirements of the *Climate Change Accountability Act* and Carbon Neutral Government Regulation, School District No. 5 (Southeast Kootenay) is responsible for arranging for the retirement of the offsets obligation reported above for the 2021 calendar year, together with any adjustments reported for past calendar years.

The Organization hereby agrees that, in exchange for the Ministry of Environment and Climate Change Strategy 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.

Public Sector Leadership

Climate Risk Management

- Currently our school district has not engaged in conducting a climate risk assessment to understand our organization's risk exposure. We are looking at forming a committee in the coming years;
- We are also investigating future opportunities to invest in thermal and solar energy;
- In terms of operational and infrastructure changes in preparation for future climate impacts, our district has been investing in energy efficient boilers and hot water tanks in our old schools to improve the efficiency and reduction in GHG emissions;
- In 2021 our region was slightly impacted by the heat wave. Not enough for the district to incur any extra costs or make changes to services being delivered to students and staff. For communities in our district that are not zoned for air conditioning, we are now investigating opportunities to install air conditioning;

Other Sustainability Initiatives

- As indicated in our report above, as district we already have small sustainability initiatives in our schools and in our Board office. To highlight some of them, as a district we encourage the following:
 - Encourage zoom/teams meetings rather than travelling;
 - Encourage carpooling when travelling for meetings;
 - Recycling bins in classrooms and common areas;
 - Encourage use of reusable water bottles and lunch bags;
 - Walking/Cycling for field trips;
 - Use of E-forms and E-Docs to reduce paper printing;
 - Investigating into hybrid and electric vehicles for our white fleet.
- By end of 2021, our district has completed most of our lighting projects in various schools and at our board office. The new energy saving lighting has not only helped with decrease in wattage use, but the staff tell us that not only does the lighting in the hallways allow the staff to see what is going on better but also seems that the students are better behaved.

Executive sign-off

Signature:



Name: Nick Taylor

Title: Secretary Treasurer

Date:

