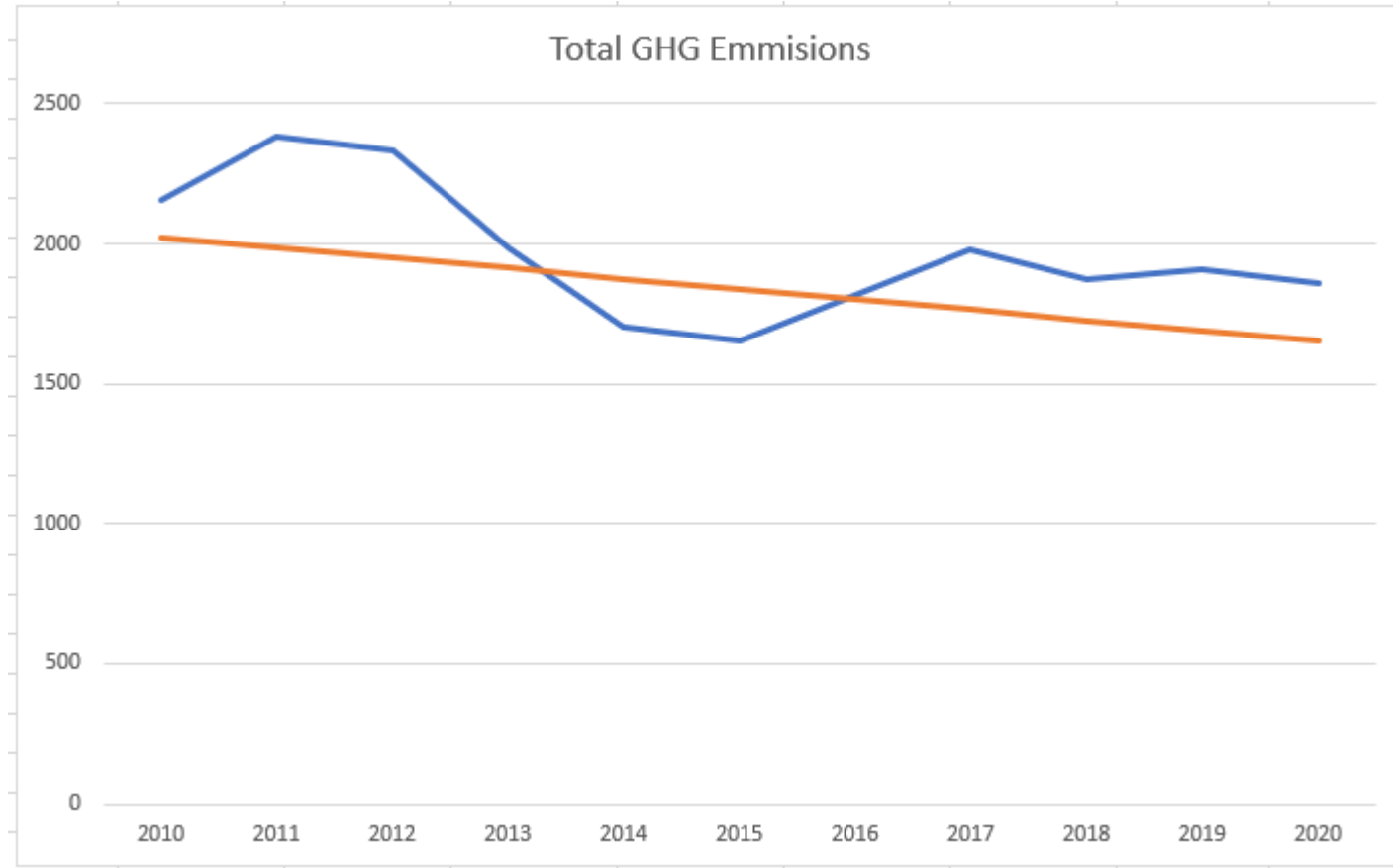


SD63 Energy Management



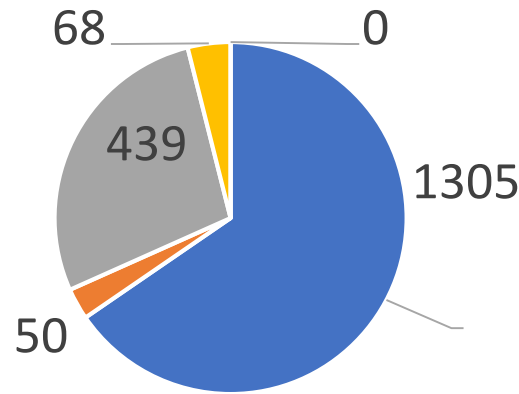
Rob Lumb
SD63
May, 2021

GHG Emissions Yearly Comparison



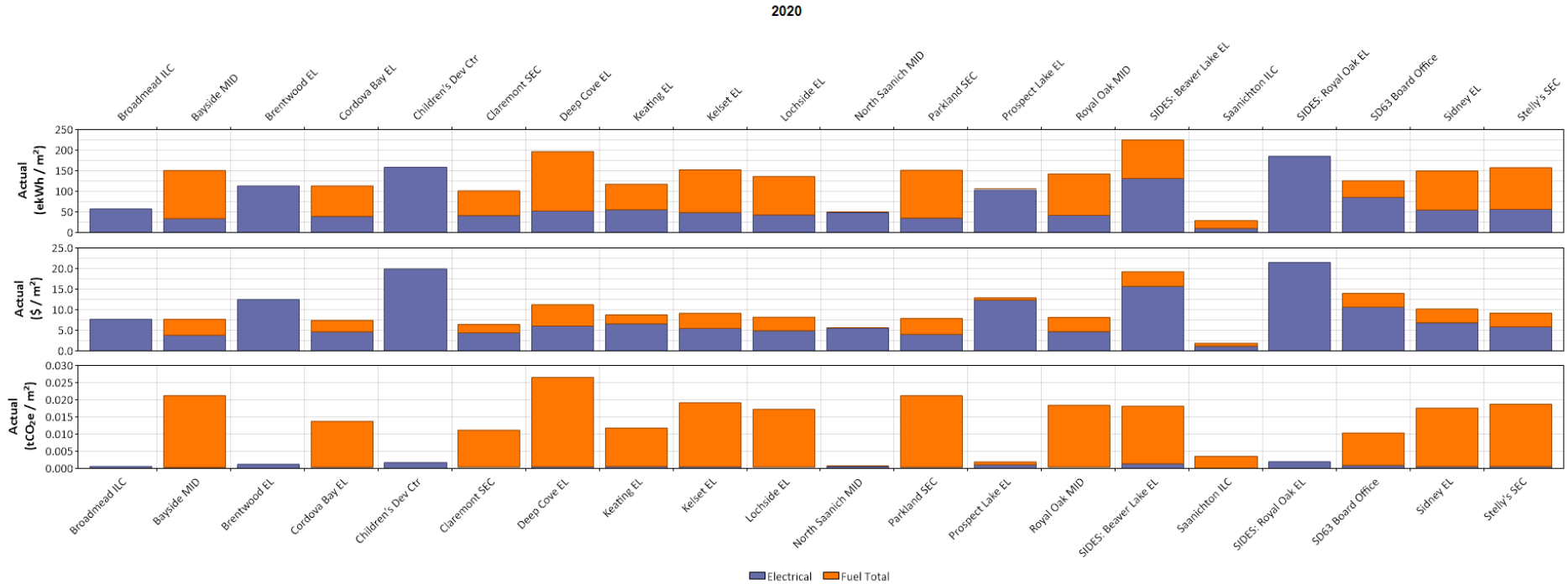
2020 GHG Emissions by Source

TOTAL GHG = 1862 tCO₂e



- Direct Fuel Combustion (Heating Fuel)
- Purchased Energy (Electricity)
- Mobile Energy (Vehicles)
- Office Paper
- Fugitive Emissions (Refrigerant Gases)

2019 Performance Index by Energy Type + Site



2020 Review

- Replacement of dust collectors at NSMS, Parkland and Stelly's
- GHG emissions down 3.9% since 2019
- 2020 and 2021 will be abnormal years due to the CUPE Strike and Pandemic which resulted in less heating and driving in 2020, but we are also seeing increased heating loads due to increased fresh air and filtration to our buildings in 2021.
- For 2021, we will see increased energy used to heat buildings and an increase in bus driving due to expanded bus service at our secondary schools to support the quarter system and student cohort model of instruction.

Board Motion

That, as part of the spring 2021 Energy Plan Report to the Board, staff be requested to provide an update on climate action efforts and achievements at the district and school levels, a report on amounts received from the Carbon Neutral Capital Program and how the funds were utilized, and recommendations, if any, on further steps that could be taken to help meet the objectives stated in the Clean BC Action Plan.

Background

In May 2018, BC updated targets for GHG emissions. Using 2007 as the baseline, the province is committed to emission reductions of:

- 40% by 2030
- 60% by 2040
- 80% by 2050

It is important to recognize that these are overall provincial targets by the province and not specific school district targets. It is not a 'failure' or a 'win' if we do not meet or exceed these exact goals. The goal is not for the Saanich School District to meet these milestones, it's a combination of all provincial entities.

In 2010, the total GHG emissions for the School District were 2150 tCO₂e. As of 2020, the total GHG emissions were 1862 tCO₂e which is a reduction of 288 tCO₂e or 13.4%.

Background

Since 2013/2014 the funds received (\$427K) from the Ministry of Education's CNCP Minor Capital Program are summarized below:

Year	Desc	Amount
2013/2014	Various schools - Lighting upgrades	200,000
2014/2015	Nothing approved	
2015/2016	Nothing approved	
2016/2017	Cmont, Stellys lighting	23,324
2017/2018	Deep Cove Lighting	28,618
2018/2019	Nothing approved	
2019/2020	Lochside, Keating, Cbay, Roms, cmont, Stelly's, Bayside, Parkland lighting and HVAC	95,070
2020/2021	Claremont, NSMSA, ROMS LED lighting upgrades	30,100
2021/2022	CDC Solarpanels* pending Ministry approval	50,000

Background

- Virtually all funds have been used to complete conversions to LED lighting in our schools.
- The exception is some minor work that was done to our HVAC systems and new solar panels being installed at CDC (pending Ministry approval).
- “Low hanging fruit” energy conservation activities have been completed.

This Year's Projects

Projects underway for the coming year:

- Replacement of CDC complete with modern building envelope, efficient heating system and new solar panels.
- Replacement of dust extractor at Facilities building.
- Upgrade of Facilities power to three way power feed. This will allow for the electrical feed for future EV chargers.

Where are we going?

- Next steps will require large capital investments and changes in behavior as an organization.
- In order to go forward with an effective plan the District will develop an Energy Sustainability Plan (ESP).

Energy Sustainability Plan

ESP Plan:

- An RFP has been completed and **Rede Energy Solutions** will begin in July 2021 to identify what is required to reduce the District's environmental footprint and energy consumption.

The District has identified the following ESP objectives:

- To position SD63 as a provincial leader in Sustainability Management;
- To enhance the district's culture of environmental practices for a strong and sustainable future; and,
- To maximize the savings through the SD 63 Energy Management Model

ESP Plan Specific goals:

- Solidify District Objectives in terms of Clean BC targets with an initial focus on 2025 (half way to first 40% reduction by 2030).
- **Baseline Assessment**
 - Utility report analyses
 - Targets and gaps to targets
- **Opportunity Assessment**
 - **Building Assessment**
 - HVAC Assessment
 - Envelope Assessment
 - Renewables / Fuel switching Opportunity
 - **Fleet Assessment**

- **Financial Assessment**
 - Historical AFG, SEP, and CNCP spending
 - Anticipated AFG, SEP, and CNCP spending
 - Potential Incentives / Rebates etc.

- **Behavior Analysis**
 - Doors and Windows
 - Minimum and standardized heating levels
 - Plug load / lighting control

- **Recommended Actions**
 - Prioritize Facilities and/or strategies
 - Detailed Project List
 - Three year Financial Plan

Mechanical Audits

- We know that our largest contributor of the District's Carbon Footprint comes from our buildings. Our total greenhouse gas emissions in 2020 were 1,862 tCO₂e and 1,305 tCO₂e from the heating of our buildings.
- The District has hired SMcN Consulting to visit each site to:
 - Conduct a Mechanical Audit and create a report for each site detailing heating and mechanical infrastructure.
 - Determine capital cost estimates for renewal where recommended. This information will be used in conjunction with the ESP to plot potential upgrades.

Future Report Dates

- Going forward we recommend that the Energy Management presentation be presented to the Board in either September or October as our GHG reporting is completed in June for the year previous, and then we work on projects through the summer.
- By moving the date, we will be able to report on the last year's GHG results and projects that were completed in the summer.

Questions?