

**FACILITIES & BUILDING COMMITTEE**  
**PUBLIC MEETING AGENDA**

**DATE: MONDAY, JUNE 24, 2019**

**TIME: 5:00 PM**

**LOCATION: 1<sup>ST</sup> FLOOR BOARDROOM OF THE SCHOOL BOARD OFFICE**

The Richmond Board of Education acknowledges and thanks the First Peoples of the hən̓q̓əmiñəm (hun-ki-meen-um) language group on whose traditional and unceded territories we teach, learn and live.

- 1. INTRODUCTIONS**
- 2. ADOPT AGENDA**
- 3. APPROVE MINUTES**  
Attachment: Minutes of meeting held May 27, 2019
- 4. COMMUNITY ENERGY & EMISSIONS PLAN (CEEP)**  
Presentation – Sustainability Project Manager, City of Richmond
- 5. CARBON REPORT**  
Manager – Energy & Sustainability
- 6. CAPITAL PROJECTS UPDATE [standing item]**  
Attachment – Executive Director, Planning & Development
- 7. LONG RANGE FACILITIES PLAN [standing item]**  
Attachment – Executive Director, Planning & Development
- 8. SCHOOL BUILDING PLANNING REVIEW PROCESS – SEISMIC MITIGATION PROJECTS**  
Attachment – Executive Director, Planning & Development
- 9. AFG PROJECTS UPDATE FROM MAINTENANCE**  
Attachment – Director, Maintenance, Operations & Transportation
- 10. 2019-20 SEP PROJECTS UPDATE**  
Attachment – Director, Maintenance, Operations & Transportation

**11. NEXT MEETING DATE – TENTATIVE, THURSDAY, SEPTEMBER 26, 2019**

**12. ADJOURNMENT**

**School District No. 38 (Richmond)**  
**7811 Granville Avenue, Richmond, BC V6Y 3E3**

## **FACILITIES AND BUILDING COMMITTEE MEETING MINUTES**

Minutes of a **PUBLIC** meeting of the Facilities and Building Committee held in the 1<sup>st</sup> floor Boardroom of the School Board Office, 7800 Granville Road, Richmond, BC, on Monday, May 27, 2019 at 5:00 p.m.

Present:

Debbie Tablotney, Committee Chairperson  
Sandra Nixon, Committee Vice-Chairperson  
Norm Goldstein, Trustee Member  
Donna Sargent, Trustee, Alternate  
Scott Robinson, Deputy Superintendent of Schools  
Frank Geyer, Executive Director Planning and Development  
Liz Baverstock, President, Richmond Teachers' Association  
Steve Wenglowksi, 2<sup>nd</sup> Vice President, Richmond Teachers' Association  
Jose Pelayo, Co-President, RMAPS\*  
Gus Lee, Manager, Health & Safety\*  
Wanda Plante, Executive Assistant (Recorder)

Regrets: Roy Uyeno, Secretary Treasurer  
Mike Beausoleil, Director, Maintenance, Operations and Transportation  
Rebeca Avendano, Co-President, RMAPS

\*Present for a portion of the meeting

The Chairperson called the meeting to order at 5:06 pm.

The RMAPS Co-President joined the meeting at 5:07 pm

### **1. APPROVAL OF AGENDA**

The agenda was amended and approved.  
Add Five Year Capital plan as Item #6

### **2. APPROVAL OF MINUTES**

Minutes from the April 24, 2019 meeting were approved as circulated.

### **3. EARLY EARTHQUAKE WARNING SYSTEM**

An update on the early earthquake warning system was provided by the Manager, Health & Safety where he highlighted a three-year pilot project (funded by Health & Safety) using software for a mass communication system that will pre-warn students and staff at district schools and work sites prior to an earthquake occurring. He noted that online systems for 6 elementary schools have been completed and it is anticipated that 25 additional schools will be completed by the end of summer.

Discussion ensued regarding budget implications, preferred communication systems, requirements of additional staff training and development for earthquake preparedness at school sites as well as reviewing City of Richmond smart/safe challenge initiative.

The Manager, Health & Safety departed the meeting at 5:33 pm.

**4. CAPITAL PROJECT UPDATE (Standing Item)**

An update on numerous seismic project updates was provided by the Executive Director, Planning and Development.

The RTA President expressed concern regarding the lack of RTA representation during seismic design upgrades as set out in Board policy and RTA Collective Agreement language. The Executive Director, Planning and Development noted that RTA representation will be included in future Project Steering Committee meetings.

Discussion ensued regarding a review of policy and “notwithstanding” language to better define the Project Steering Committee’s role to ensure consistency and clarity of guiding principles, continued improvement and refinement during the consultation and communication process.

**5. LONG RANGE FACILITIES PLAN (LRFP) UPDATE**

The Executive Director, Planning and Development advised that an LRFP revision update based on feedback received to date has been completed. This information has also been received by the Board, published on the District website and shared with stakeholders and the Ministry. Meetings with stakeholders have been scheduled and a 3<sup>rd</sup> Public Open House has been confirmed on June 1<sup>st</sup> at Bridge Elementary.

**6. 2020-2021 FIVE YEAR CAPITAL PLAN**

A prioritized project presentation list including seismic remediation and school enhancement projects was provided by the Executive Director, Planning and Development. The report clarified the Ministry’s seismic project ranking which was based on projected upgrade cost per student.

A review of the various eight capital programs based within the Five Year Capital Plan occurred and discussion ensued.

**ACTION: The recording secretary will distribute the seismic mitigation program SMP projects to attendees.**

**7. MINUTES FOR INFORMATION**

Minutes of the Child Care Development Advisory Committee from the April 3, 2019, February 6, 2019 and January 6, 2019 meetings were received.

**ACTION: Provide an update from the Child Care Development Committee at a fall meeting**

**of the Facilities and Building Committee.**

**8. NEXT MEETING DATE – Monday, June 24, 2019 @ 5:00 pm**

**9. ADJOURNMENT**

The meeting adjourned at 6:16 pm.

Respectfully Submitted,

Debbie Tablotney, Chairperson  
Facilities and Building Committee

DRAFT



**ADVANCING  
RICHMOND'S  
CLIMATE  
LEADERSHIP**

## **City of Richmond**

### **Community Energy & Energy Plan (CEEP) Renewal process**

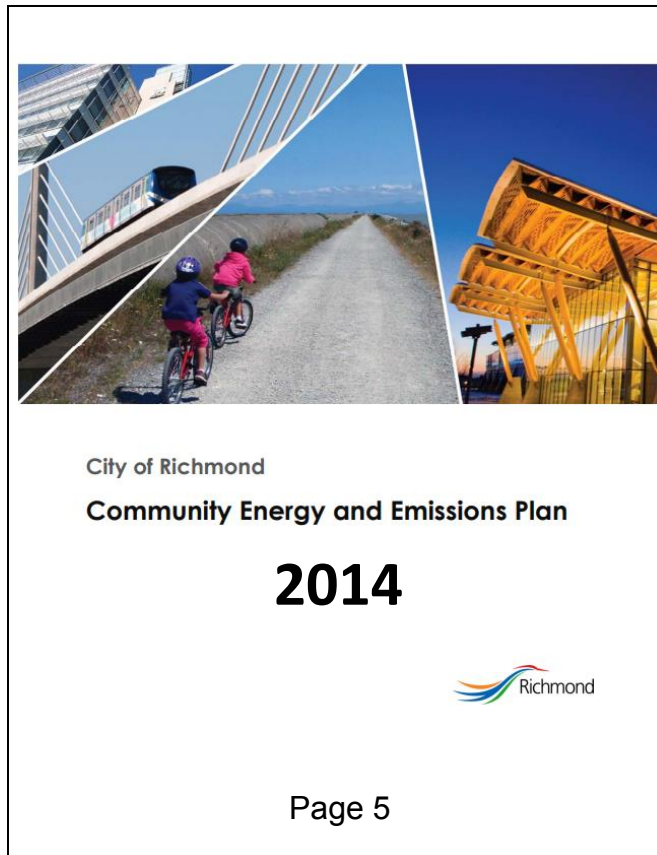
June 24, 2019

Richmond School Board

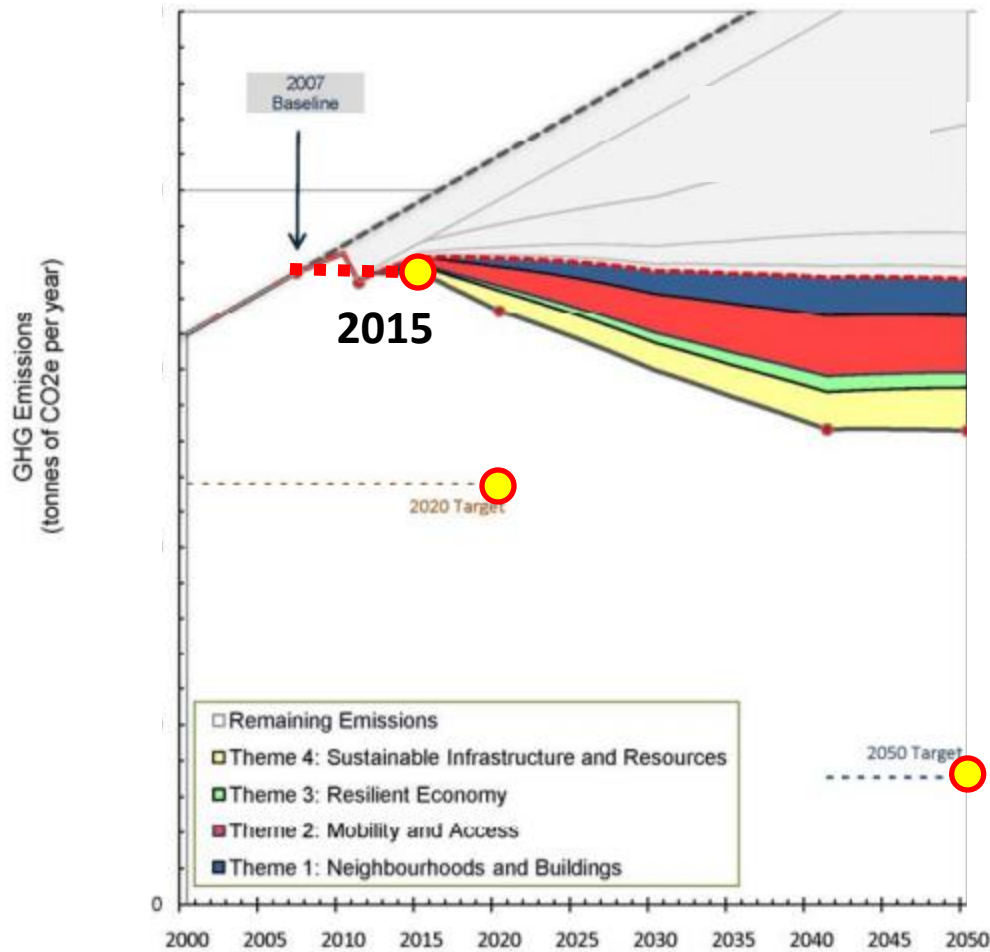
Facilities and Building Committee

# City of Richmond 2009: Greenhouse gas (GHG) reduction targets

- GHG emissions reduction targets of **33%** below 2007 levels by 2020, and **80%** below 2007 levels by 2050



# City of Richmond 2014 *Community Energy & Emissions Plan (CEEP)*: expected GHG emissions reductions







District Energy in Richmond provides energy to almost **3.6 million** sq. ft. of buildings.



Between 2006 and 2016, the transit mode share for journey to work trips **increased by 7.7%** and vehicle trips declined by 8%.

Between 2007 and the present, Richmond households cut electricity use by **15.1%** and natural gas by **18.2%**, saving an estimated **\$19.9 million** on energy bills annually.



The City now requires that **100%** of new residential parking spaces be supplied with EV charging infrastructure, **a first in North America.**

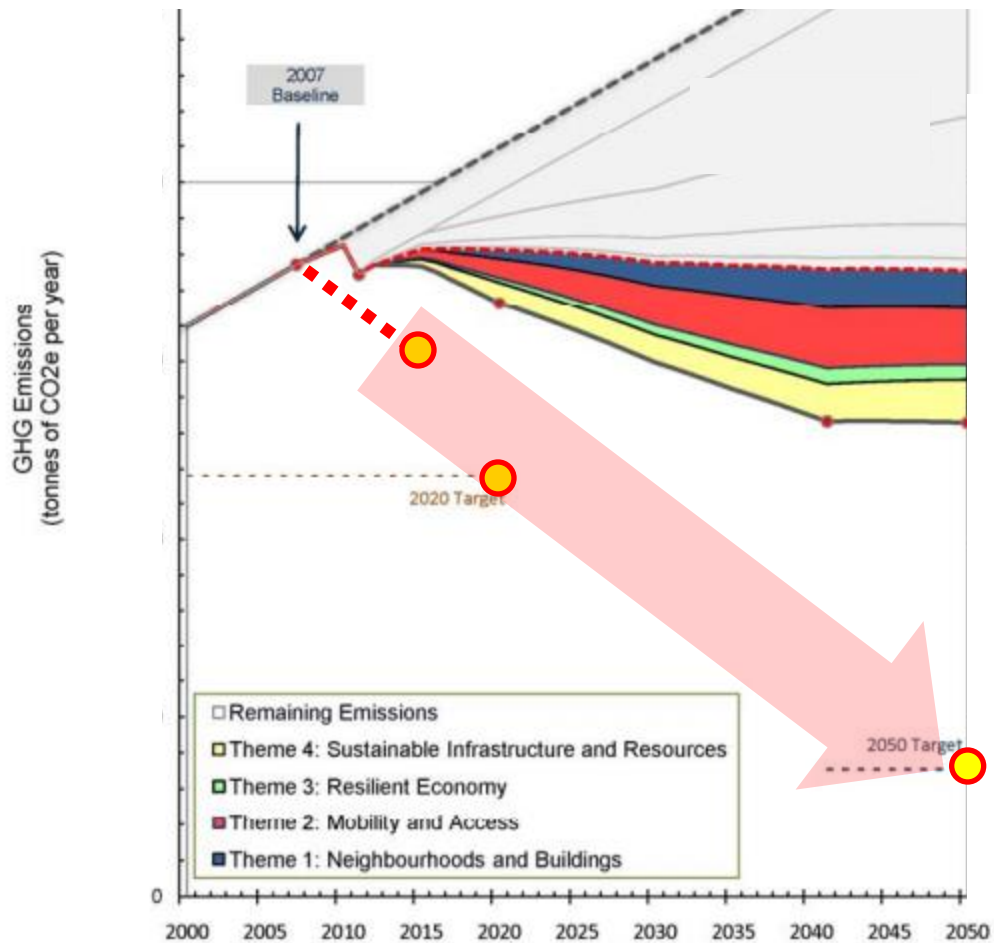
# Richmond: 2007 to 2015

Population

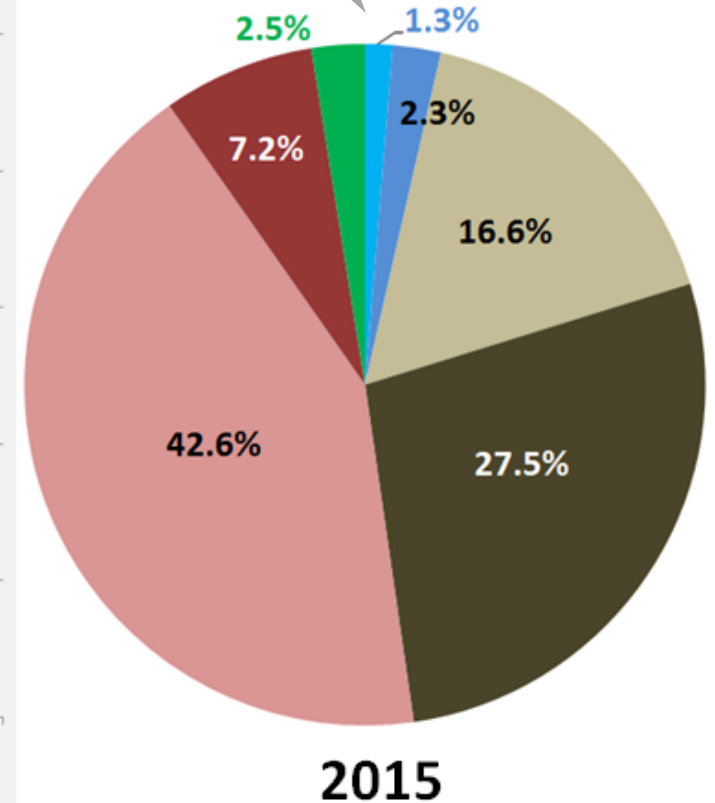
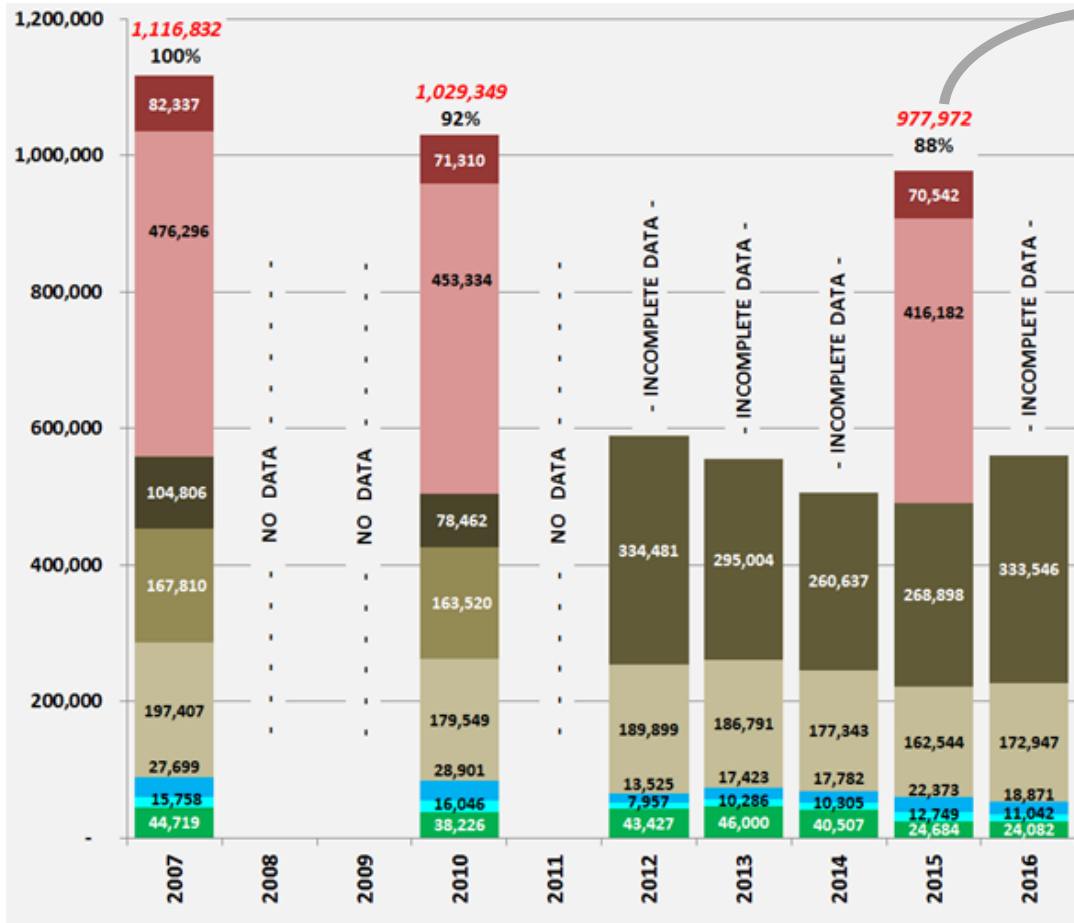


GHGs

# City of Richmond 2014 *Community Energy & Emissions Plan (CEEP)*: Achieved and targeted GHG emissions reductions



# Richmond community GHG emissions: 2007 - 2016



- Transportation Heavy-duty
- Transportation Light-duty
- Natural Gas Industrial
- Natural Gas - Comm. + Ind.
- Natural Gas Commercial
- Natural Gas Residential
- Electricity Commercial
- Electricity Residential
- Waste

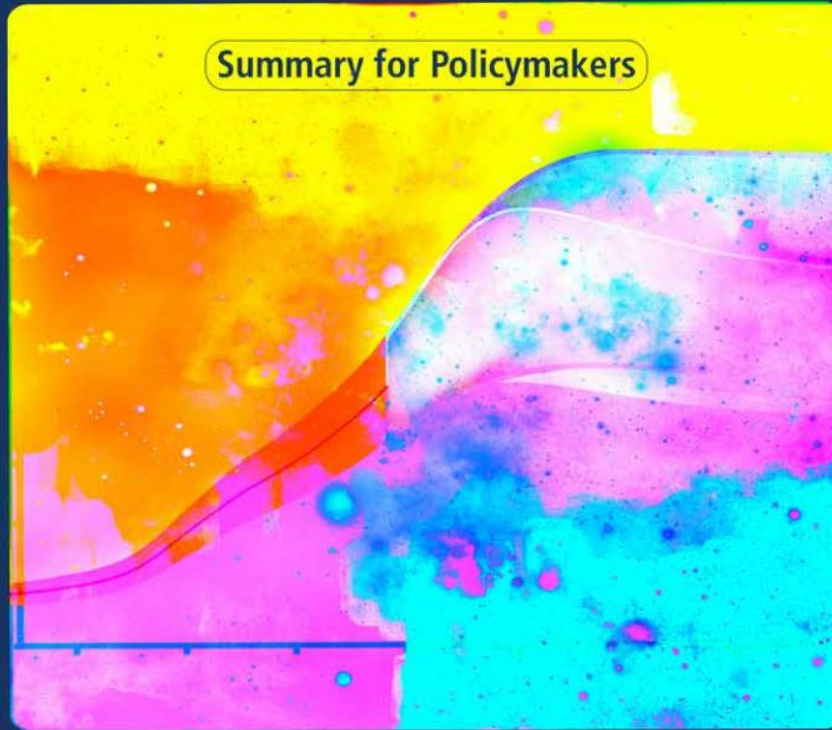
ipcc

INTERGOVERNMENTAL PANEL ON climate change

# Global Warming of 1.5°C

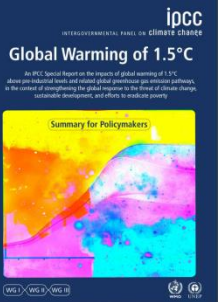
An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty

Summary for Policymakers



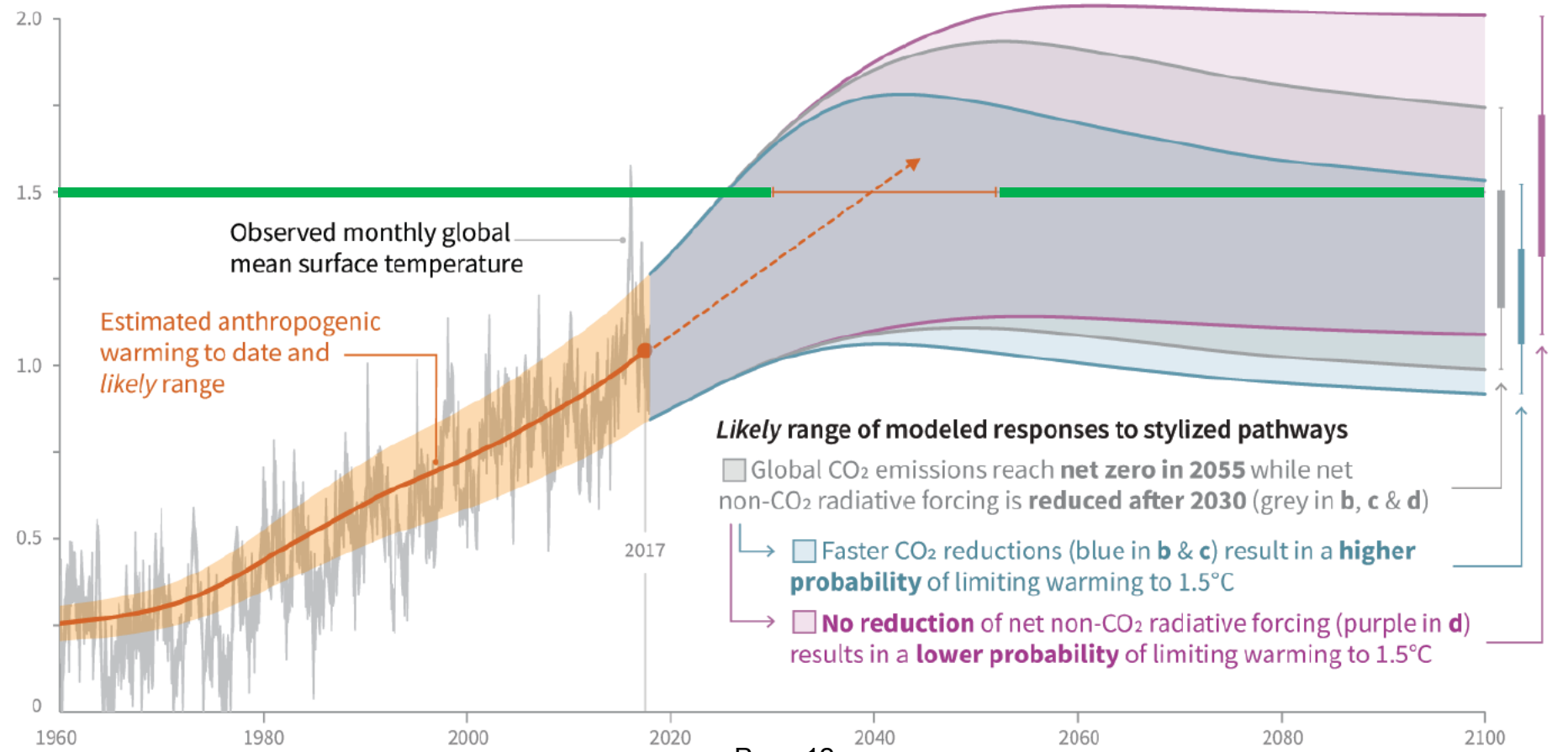
WG I WG II WG III





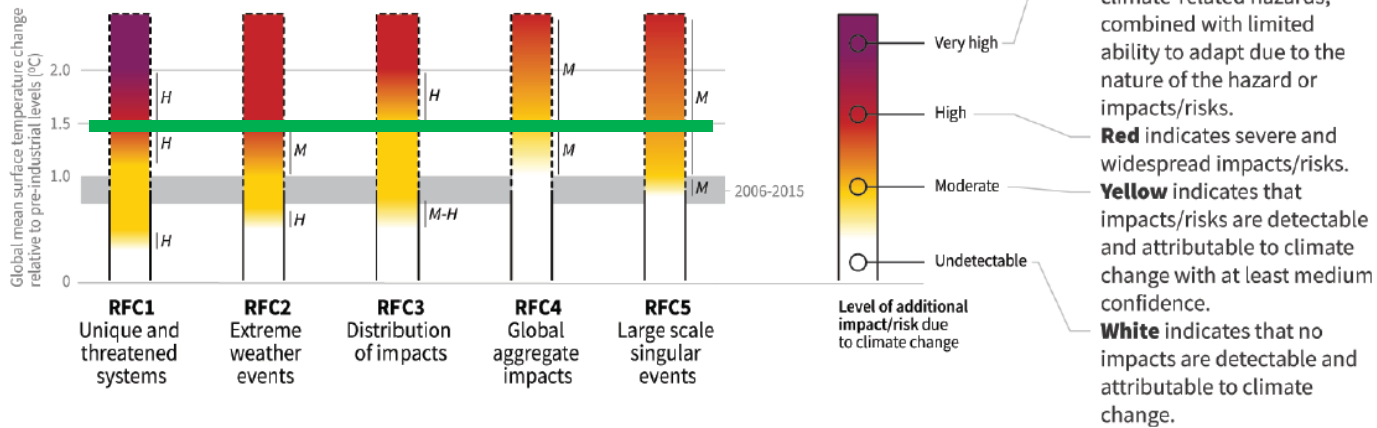
# As of 2019, limiting climate change to 1.5°C is about the best the world can achieve

## GLOBAL WARMING RELATIVE TO 1850-1900 (°C)

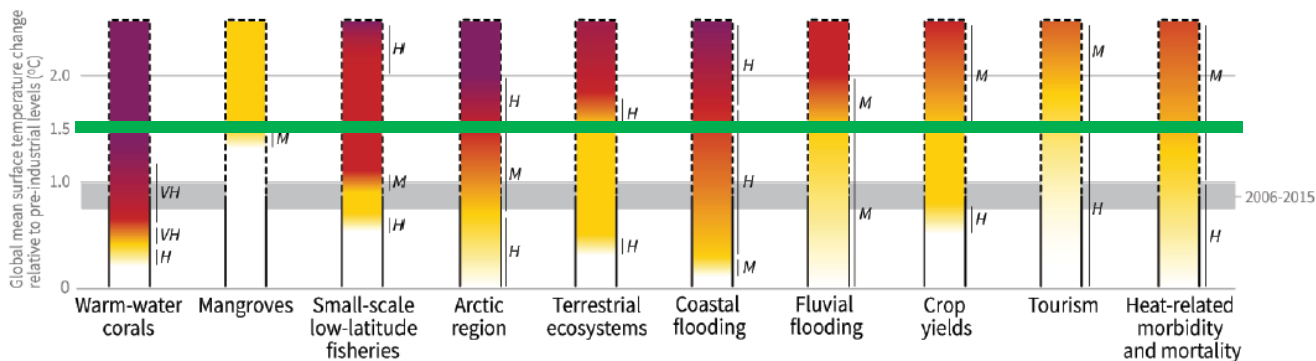


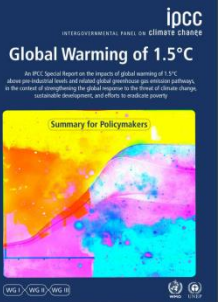
# Limiting climate change to 1.5°C significantly reduces climate impacts

## Impacts and risks associated with the Reasons for Concern (RFCs)

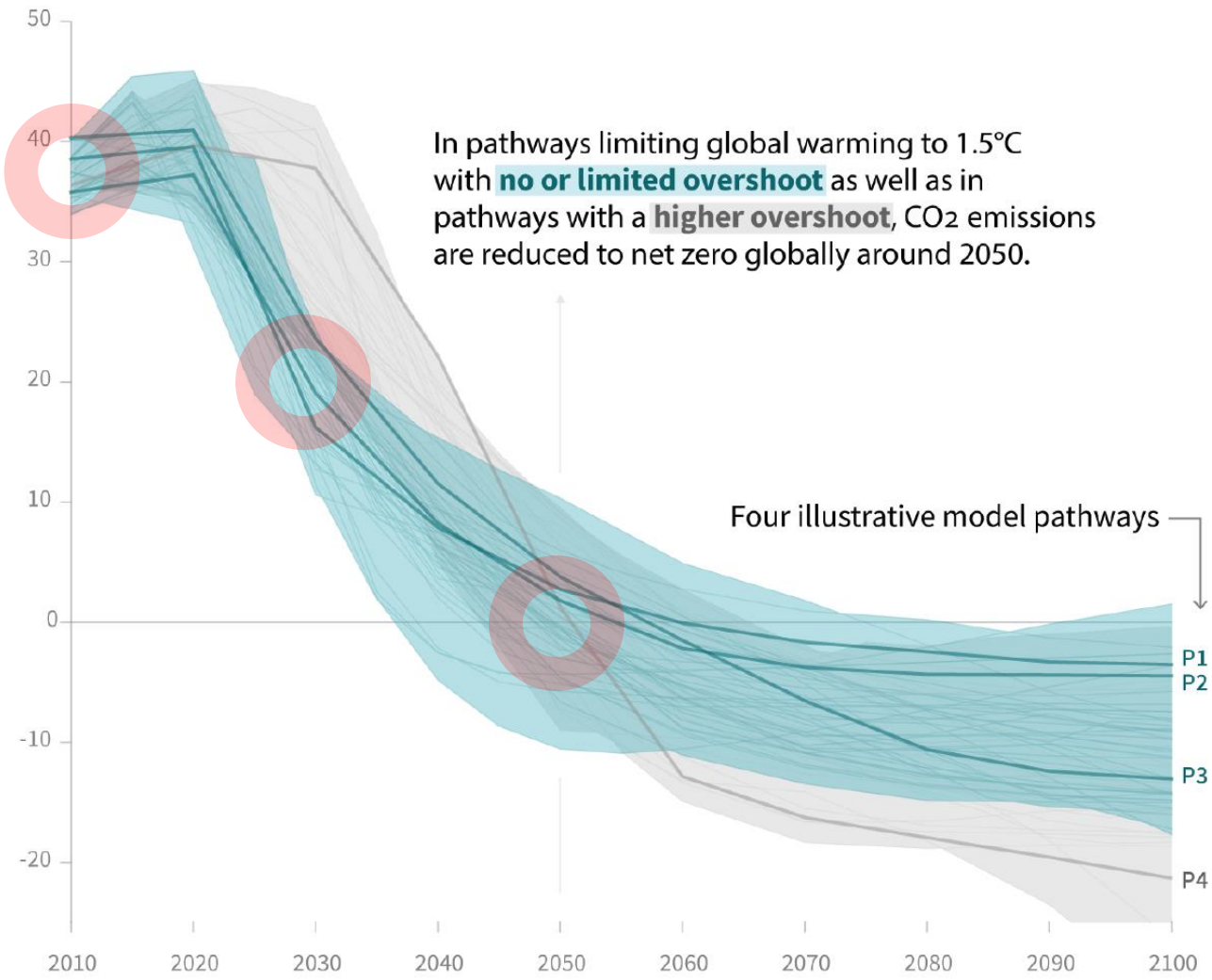


## Impacts and risks for selected natural, managed and human systems



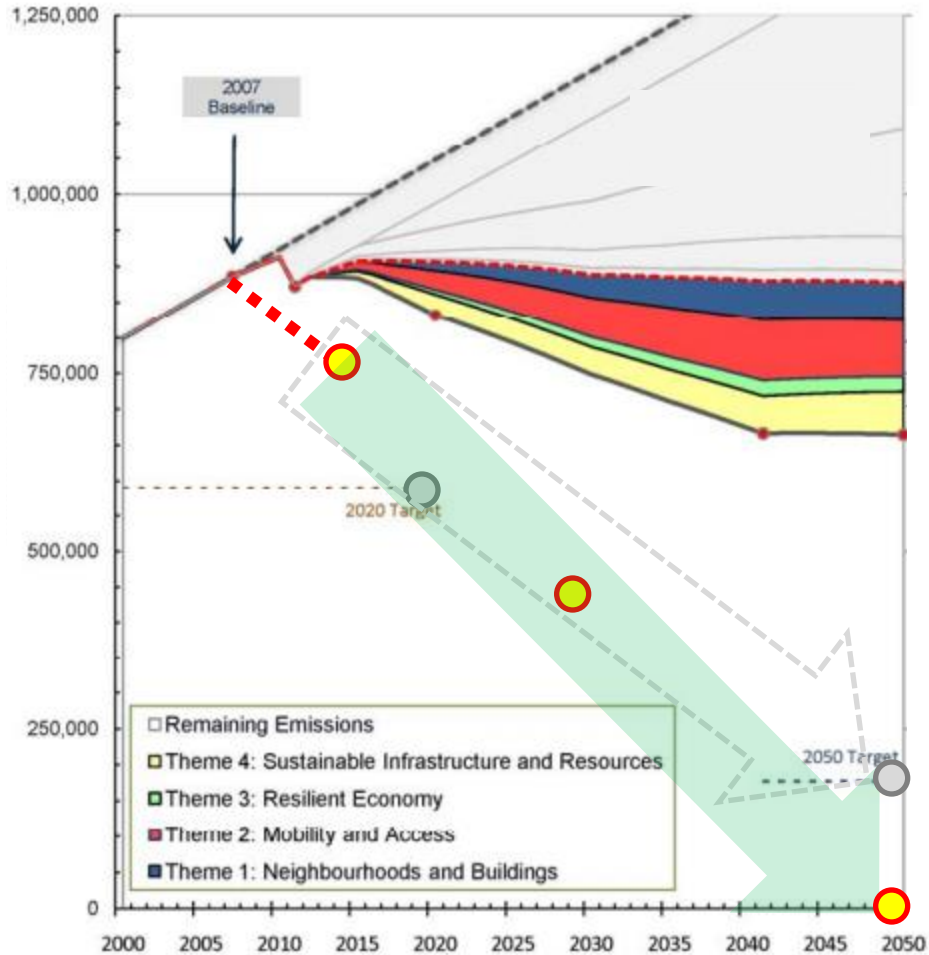


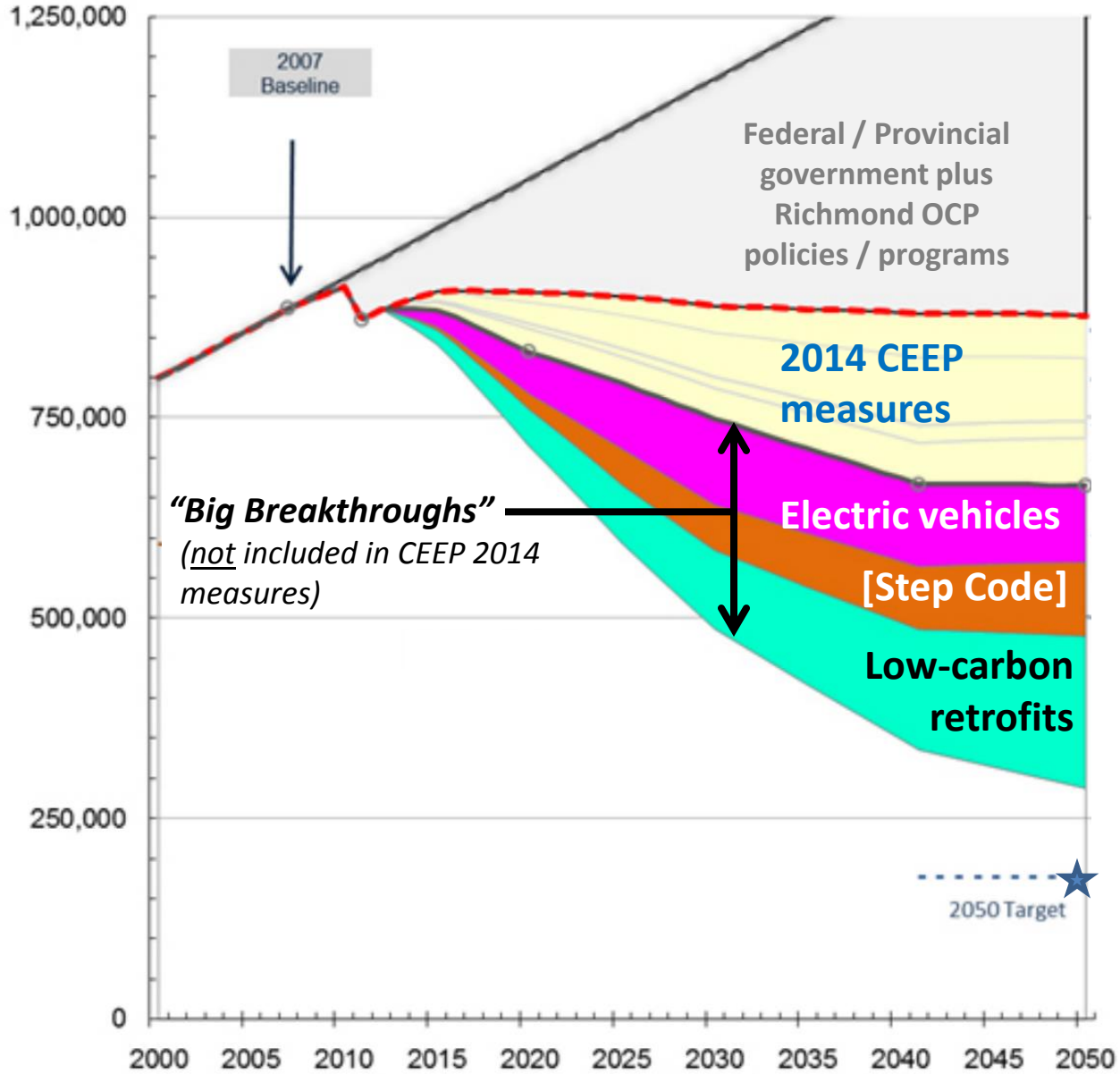
# Limiting climate change to 1.5°C means fast, deep GHG reductions



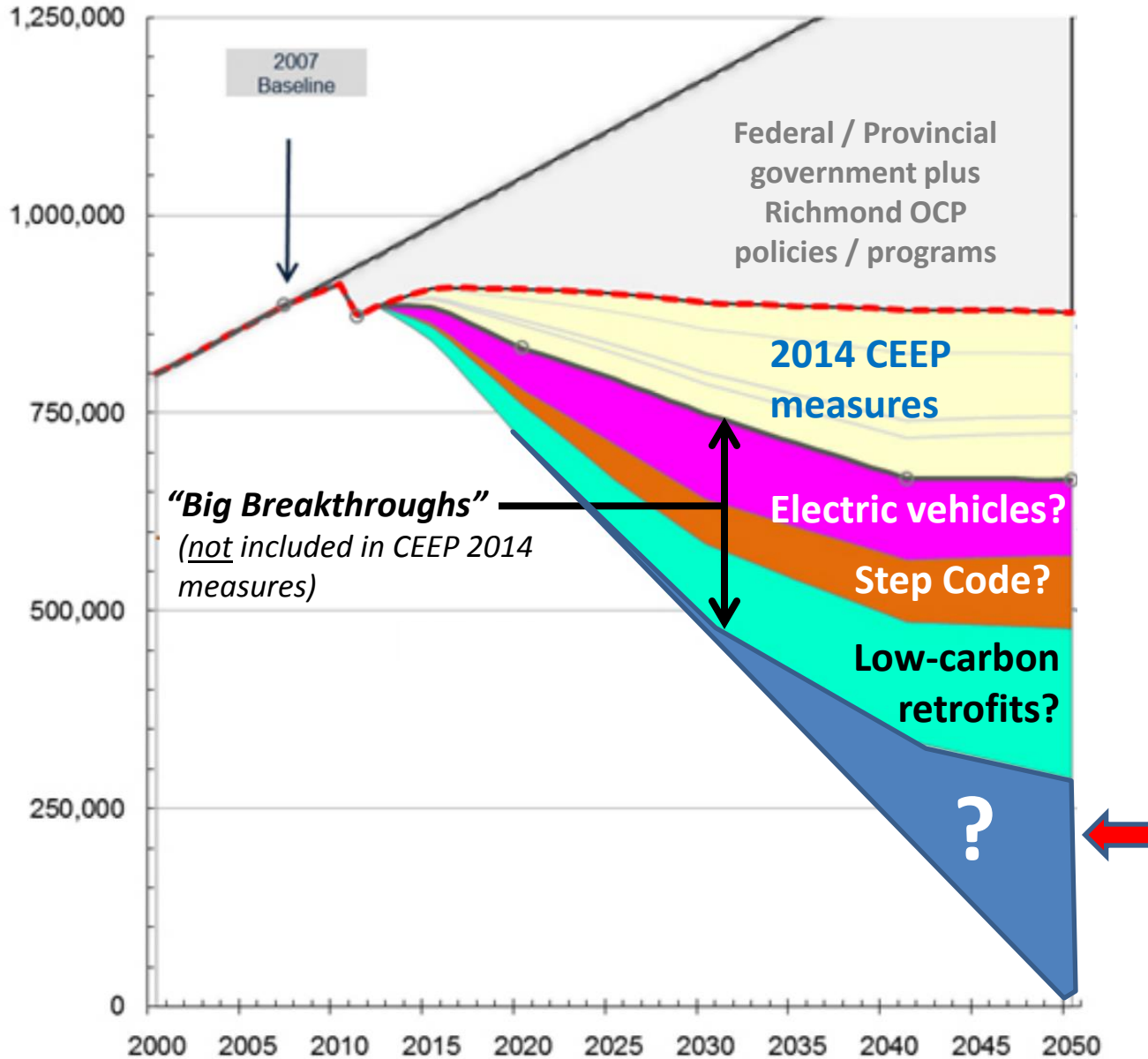


# 2018 IPCC greenhouse gas reduction targets relative to Richmond 2014 CEEP and targets

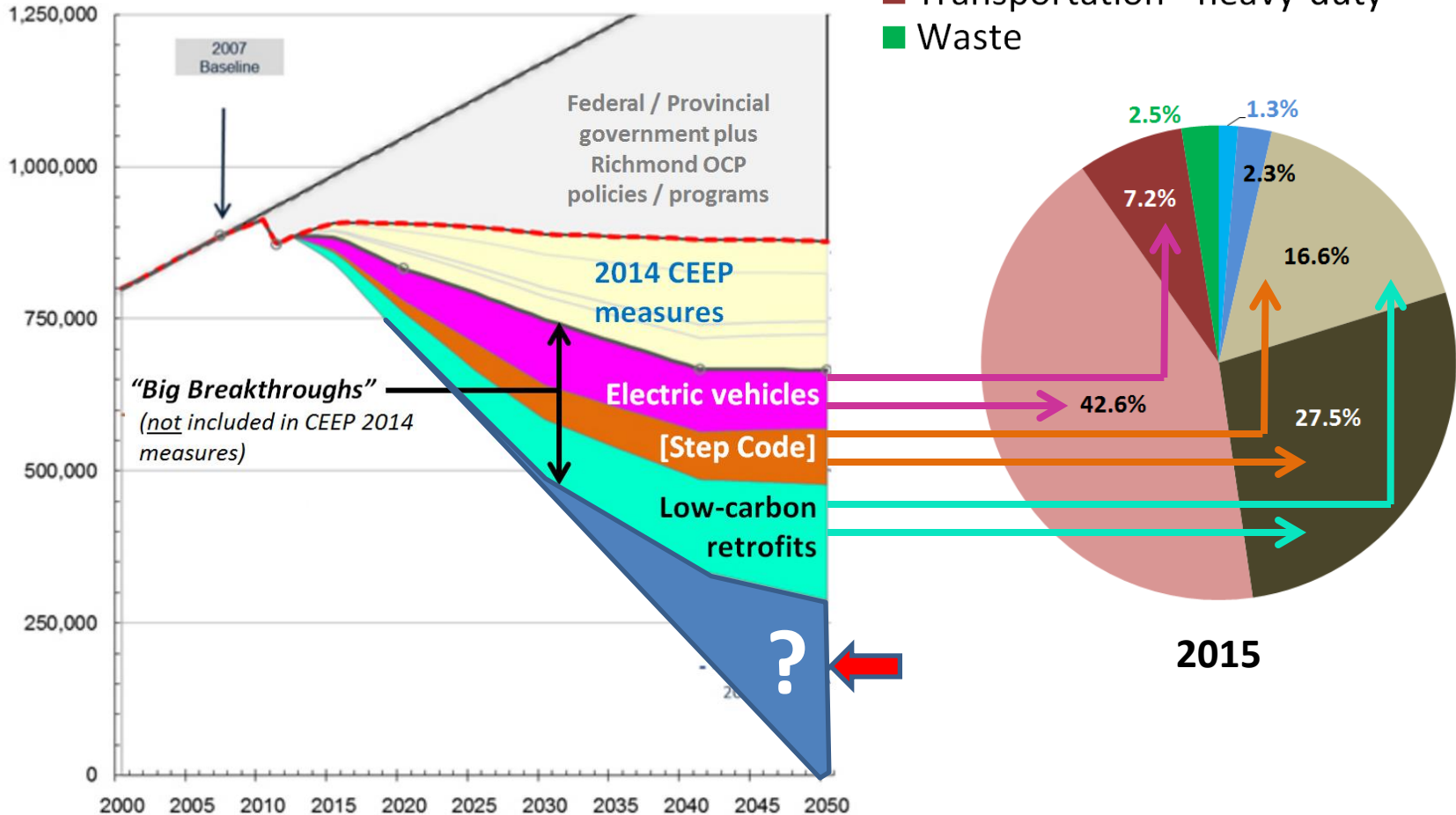








- Electricity - Residential
- Electricity - Commercial
- Natural Gas - Residential
- Natural Gas - Commercial / Industrial
- Transportation - light-duty
- Transportation - heavy-duty
- Waste



# CEEP Renewal Stakeholder Workshops

- Stakeholder Workshop #1
  - Context, scope and timelines for CEEP Renewal Plan
  - “Open Space” agenda: Stakeholders determine priorities for discussion

**Thursday, June 20, 11:30 – 1:30 pm, Richmond City Hall**

- Stakeholder Workshop #2
  - Stakeholder feedback re: strategic directions and options for CEEP Renewal Plan

**Wednesday, September 18, Richmond City Hall**

- *Draft CEEP Open House*  
*January 2020*



## CEEP Renewal public engagement events this summer and fall:

May 11	Public Works Open House
Jun 25	Flagship "Ideas Fair" Event
July 6	Richmond Community Day
Jul 27-28	Maritime Festival
Aug 10	Farm Festival
Aug 14	Cambie Summer Fun Night
Aug 30-31	Richmond World Festival
Oct 1	"Strategic Directions" Public Event
Jan 2020	Draft CEEP Open House





**ADVANCING  
RICHMOND'S  
CLIMATE  
LEADERSHIP**

**Thank you!**

**Contact:**

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Sustainability Project Manager

[nheap@richmond.ca](mailto:nheap@richmond.ca)

(604) 276-4267





**Carbon  
Neutral  
Action  
Report**

**2018**

# 2018 Carbon Neutral Action Report

## School District #38 (Richmond)

This Carbon Neutral Action Report for the period January 1<sup>st</sup>, 2018 to December 31<sup>st</sup>, 2018 summarizes our emissions profile, the total offsets to reach net-zero emissions, the actions we have taken in 2018 to reduce our greenhouse gas emissions and our plans to continue reducing emissions in 2019 and beyond.

By June 30, 2019, School District #38's final *Carbon Neutral Action Report* will be posted to our website at [www.sd38.bc.ca](http://www.sd38.bc.ca).

### Executive Summary

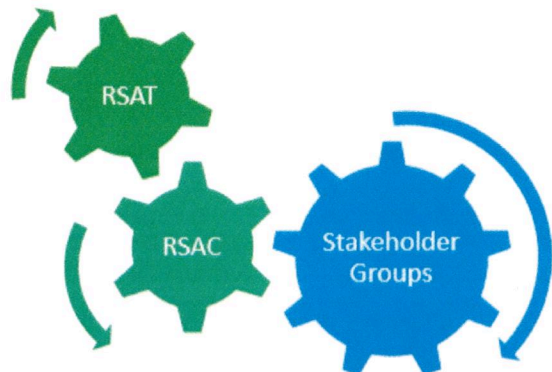
On behalf of the Board of Education, School District 38 (Richmond), I am pleased to submit our Carbon Neutral Action Report for 2018. Now in our ninth year of being carbon neutral, energy savings and greenhouse gas emissions reductions remain a priority in our ongoing commitment towards carbon neutrality. We continue to work diligently, as we have many years now, to reduce our greenhouse gas emissions while improving the learning environment for students and staff.

In 2018, we maintained the focus of our greenhouse gas (GHG) reduction initiatives on reducing our footprint from our largest emissions source: our buildings. The Richmond School District has a robust energy management program with aggressive targets and a forward-looking plan to reduce energy consumed in our buildings. Similar to 2017, we set a target in 2018 to reduce our natural gas consumption by 3% and our electricity consumption by 3% compared to the previous year.

As part of our 2018 energy conservation program, we undertook several projects that have large energy and carbon reduction benefits. We completed two boiler replacements at McRoberts Secondary, McKinney Elementary and one rooftop unit replacement project at Burnett Secondary. Along with several parking lot lighting upgrades to energy efficient LED technology, we also successfully completed a major LED lighting upgrade at McNair Secondary.

With the support of BC Hydro, we continued to realize significant electricity and natural gas savings through participation in the Continuous Optimization (C-Op) program. C-Op is a program that aims to optimize the Building Automation System of facilities. All 10

of our secondary schools and one elementary school have completed the program or are close to completion by the end of 2018. As BC Hydro introduces a second round of its C-Op program, the District will seek to continue its participation in this program after a successful first round.



Our Board-approved Environmental Stewardship Policy guides the integration of environmentally sustainable considerations in all of our business decisions. The Richmond School District continues to develop and enhance its focus on sustainability, and Environmental Stewardship is one of our four Developmental Objectives. Our commitment to sustainability is underpinned by five principles: collaboration, continuous

improvement, commitment to the triple bottom line, leadership and learning for all. We continue to create and support the necessary structures for an integrated, system-wide approach to environmental sustainability through the work of the Richmond Sustainability Action Team (RSAT) and the Richmond Sustainability Advisory Committee (RSAC), comprised of representatives from all stakeholder groups. Through the actions of our site-based Green Teams, we are making great strides. We will maintain our efforts in educational programs for sustainability to give our students and staff a better understanding of the necessary practices in our operations and facilities for a better and a more sustainable future.

# Emissions and Offsets Summary

## Richmond School District#38 2018 Carbon Neutral Action Report

This Carbon Neutral Action Report for the period January 1<sup>st</sup>, 2018 to December 31<sup>st</sup>, 2018 summarizes our emissions profile, the total offsets to reach net-zero emissions, the actions we have taken in 2018 to reduce our greenhouse gas emissions and our plans to continue reducing emissions in 2018 and beyond.

By June 30, 2019, Richmond School District #38 final *Carbon Neutral Action Report* will be posted to our website at [www.sd38.bc.ca](http://www.sd38.bc.ca)

Please refer to the following pages the Executive Summary, the two CNAR actions, the data survey data, and the District Sustainability Report.

### Emissions and Offset Summary Table:

<b>Richmond School District #38- GHG Emissions and Offset for 2018 (tCO<sub>2</sub>e)</b>	
<b>GHG Emissions created in Calendar Year 2018:</b>	
Total Emissions (tCO <sub>2</sub> e)	4,926 tCO <sub>2</sub>
Total Offsets (tCO <sub>2</sub> e)	4,692 tCO <sub>2</sub>
<b>Adjustments to GHG Emissions Reported in Prior Years:</b>	
Total Emissions (tCO <sub>2</sub> e)	0 tCO <sub>2</sub>
Total Offsets (tCO <sub>2</sub> e)	0 tCO <sub>2</sub>
<b>Grand Total Offsets for the 2018 Reporting Year:</b>	
Grand Total Offsets (tCO <sub>2</sub> e)	4,692 tCO <sub>2</sub>

### Executive sign-off:

Signature:



Date May 30 2019

Name (please print) Roy Uyeno

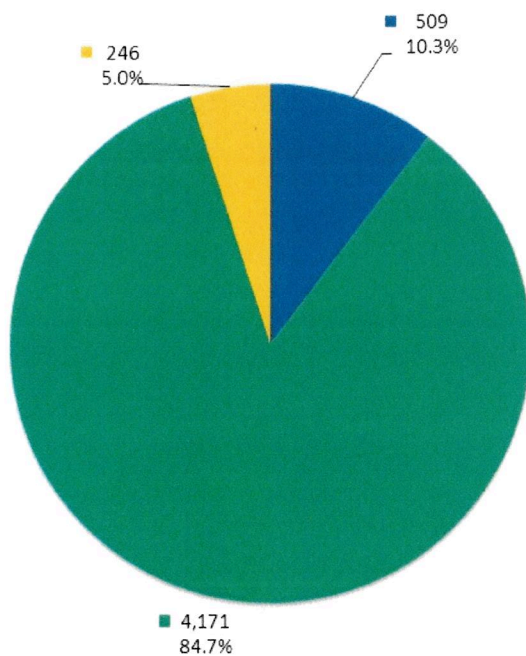
Title Secretary Treasurer

# Overview

## Greenhouse Gas Emissions:

Richmond School District #38 Total Greenhouse Gas Emissions in 2018 are represented in the graph below.

School District 38 - Richmond  
Greenhouse Gas Emissions by Source  
for the 2018 Calendar Year (tCO<sub>2</sub>e\*)



**Total Emissions: 4,926**

- Mobile Fuel Combustion (Fleet and other mobile equipment)
- Stationary Fuel Combustion (Building Heating and Generators) and Electricity
- Supplies (Paper)

### Offsets Applied to Become Carbon Neutral in 2018 (Generated May 13, 2019 3:20 PM)

Total offsets required: **4,692**. Total offset investment: **\$117,300**. Emissions which do not require offsets: **234** \*\*

\*Tonnes of carbon dioxide equivalent (tCO<sub>2</sub>e) 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 Greenhouse Gas Reduction Targets 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 2018:

The **4,692** tons of Carbon Emissions (tCO<sub>2</sub>e) offsets required above, an offset investment of **\$123,165** (GST included) is required to be deemed Carbon Neutral.

Please refer to Appendix A for the 2018 GHG Emissions Source Detail Report and Appendix B for Total GHG Emissions by type.

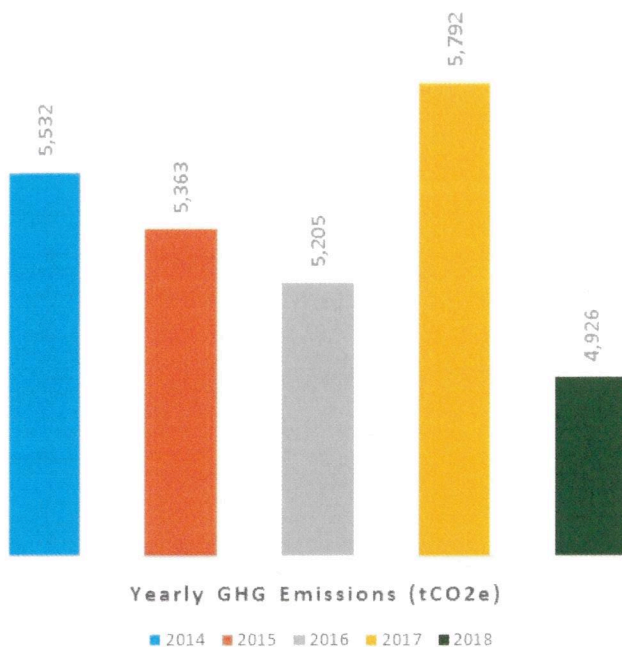
## 2018 Greenhouse Gas Emissions

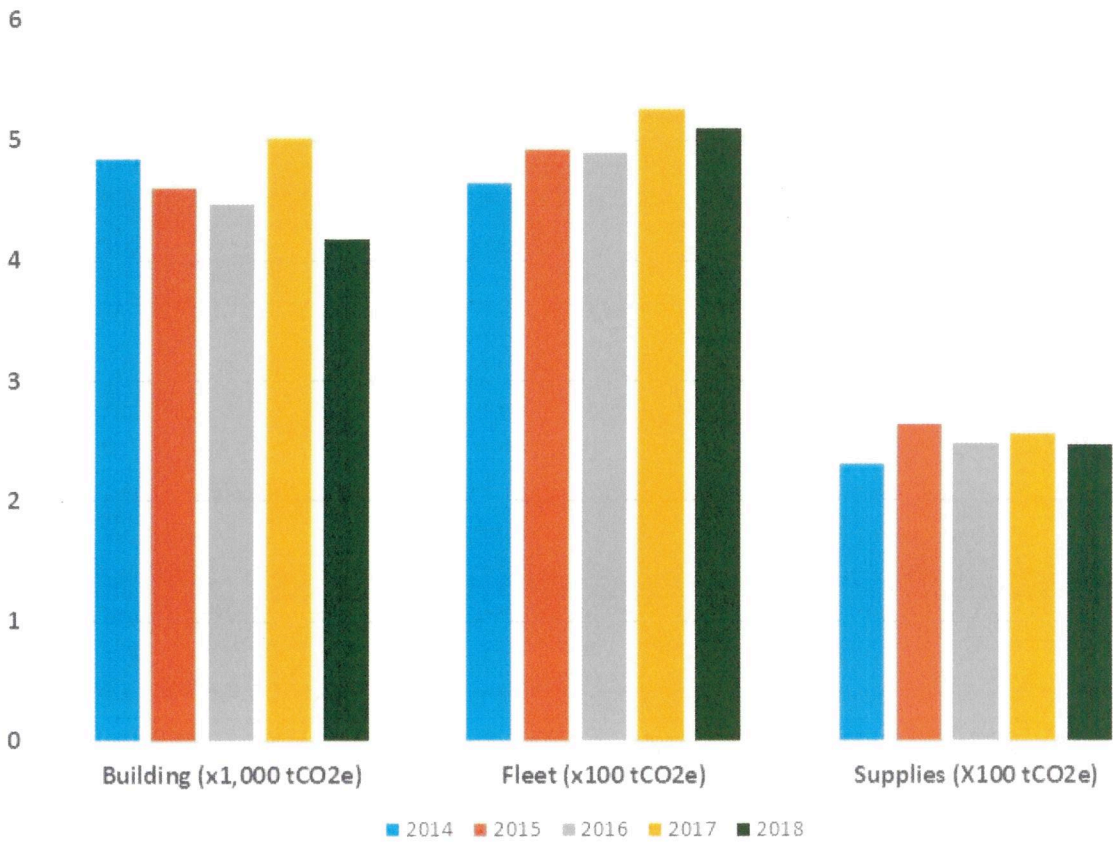
The Richmond School District (herein, "the District") has calculated its 2018 carbon footprint, in accordance with the Greenhouse Gas Reduction Targets Act, to be 4,692 tonnes of CO<sub>2</sub> equivalent.

In total, the Greenhouse Gas Emissions in 2018 were reduced over 10% or 866 tonnes of CO<sub>2</sub> equivalent in comparison with 2017. All emissions from building, fleet and supplies were reduced in comparison with 2017.

This significant decrease was achieved due to continuously implementation of energy conservation efforts and sustainability initiatives.

The two graphs below show the District's emissions over the past five years.





## Buildings



GHG emissions from buildings result from the fossil fuels consumed to provide heating and cooling, ventilation, and electricity to schools and other district facilities. These emissions account for a large majority of the District's overall emissions at 85% in 2018.

## Fleet



The use of fossil fuels used to power the District's fleet vehicles, including maintenance vehicles and school busses, results directly in emissions. The fleet accounted for 10% of the District's overall emissions in 2018 and has reduced 3.0% in comparison with 2017. The district has approved to add 3 additional EV car to our fleet system.



## Supplies



Supplies emissions are indirect, originating from the District's use of office paper. In 2018, supplies accounted for 5% of the District's overall GHG emissions and has reduced 3.9% in comparison with 2017. Some of the actions taken to reduce paper consumption have included communicating benchmarked data to schools and defaulting printers to double-sided printing.

## Fugitive Emissions



As outlined in the *Carbon Neutral Government Regulation of the Greenhouse Gas Reductions Targets Act*, certain types of emissions are out-of-scope for reporting:

- Gases used for research purposes (e.g. science labs)
- Type R-22 coolant from stationary air conditioning and refrigeration units in schools
- Any emission sources that comprise less than 1% of the district's total GHGs

We estimate that in-scope fugitive emissions (HFCs released to the environment from leaks in cooling equipment) do not comprise more than 0.1% of the District's total emissions and an ongoing effort to collect or estimate emissions from this source would be disproportionately onerous. For this reason, we deem emissions from these sources to be out-of-scope and have not included it in the District's total greenhouse gas emissions profile.

## Emissions Reduction Activities

Through our 'Eco-Wise' program, we continue to work towards embedding environmental stewardship in the day-to-day operations of the District, and to incorporate Environmental Stewardship into the school curriculum and into the delivery of each employee's core mandates. As defined by its Environmental Stewardship Policy, the District's sustainability plan covers eight focus areas:

Curriculum Development, Energy Conservation, Grounds Greening, Leadership, Sustainable Purchasing, Sustainable Transportation, Waste Management, and Water Conservation





With the assistance of the Richmond Sustainability Advisory Committee (RSAC), comprised of representatives from all stakeholder groups, the District continued to work towards its long-term sustainability vision by developing and implementing the short-term goals for each of the eight focus areas. We have implemented a number of short-term goals in 2018 resulting in some considerable achievements:

- Executed the Zero Waste Campaign at 14 schools and Flexible Packaging Plastic Campaign at 20 schools since September 2018.
- Continued to implement a full waste management program comprising district-wide organics and recyclables collection in our schools and administrative buildings. Organic waste is being separated and diverted from the landfill to become 'class A' compost in all of our facilities, and recyclable materials are forming an increasing proportion of our waste stream.



- Completed 16 new raised garden beds at schools. 85% of our schools now have raised garden beds.
- Installed 10 new water bottle filling stations in eight schools to reduce the amount of waste generated by single-use disposable water bottles. The current total is 70 stations spread across most of our sites.
- Shared internal benchmarked energy, paper, and water consumption data, engaging staff to reduce their carbon and water footprint.
- Supported students participating in the Richmond Earth Day Youth-led (REaDY) summit in April 2018 and monthly Eco-Cafes on a variety of sustainability topics.
- Continued with district-wide awareness programs that support both staff and students in implementing behavior change campaigns to target energy conservation.
- Launched Garden classroom to educate teacher towards outdoor learning activities.
- Continued to develop our relationship with a wide range of external stakeholders, including City of Richmond, Fortis BC, BC Hydro, BC Green Games, David Suzuki Foundation, and Translink.



Our carbon neutral objectives and GHG reduction endeavours are inextricably linked to our environmental stewardship initiatives. Of the eight Environmental Stewardship focus areas, Energy Conservation presents the greatest opportunity for both GHG reductions and financial savings given that the largest proportion of the District's GHG emissions is from energy use in buildings. Thus, the largest proportion of our GHG reduction initiatives focus on energy conservation within our schools and administrative facilities.

## Plans to Continue Reducing Greenhouse Gas Emissions

We are continuing with the District's comprehensive energy conservation program and have a number of energy efficiency projects slated for 2019/20 including:

- Solar Wall installation at McMath Secondary for natural gas saving
- Boiler replacements to high efficiency condensing boilers at two schools
- LED lighting upgrade at Burnett Secondary, following the success of the similar upgrade at MacNeill and McNair Secondary
- LED lighting upgrade at Whiteside Elementary
- Continue the rooftop unit replacement at Burnett Secondary
- Building Automation System upgrades at two schools
- Implementation of identified energy conservation measures through BC Hydro's Continuous Optimization program
- Upgrade parking lot lighting to energy efficient lighting at a minimum of two schools
- Continue to tie in corridor lighting with alarm panels so that all interior lighting can be automatically turned off when building security system is armed

## Achieving Carbon Neutrality

In 2018, we were carbon neutral with respect to our operations for the ninth year in a row. We achieved this through our commitment to reducing energy consumption in our buildings, paper consumption, fleet travel emissions, and by purchasing offsets for the remaining emissions.

In order to become carbon neutral for 2018, the Board of Education of School District 38 (Richmond) purchased carbon offsets from the Pacific Carbon Trust for 4,692 tonnes of CO<sub>2</sub>e.

As required by Section 5 of the Carbon Neutral Government Regulation, 234 tonnes CO<sub>2</sub>e of emissions resulting from the operation of school buses were reported as part of our greenhouse gas emissions profile in 2018. These emissions from school busses were not offset as they are out-of-scope under section 4(2)(c) of the Carbon Neutral Government Regulation.

# Appendix A: Total GHG Emissions source detail report 2018

School District 38 - Richmond  
Greenhouse Gas Emissions Source Detail Report for the 2018 Calendar Year  
Generated: May 13, 2019

Source	Quantity	Greenhouse Gases In Tonnes				
		CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	tCO <sub>2</sub> e *	
<b>Stationary Fuel Combustion (Building Heating and Generators) and Electricity</b>						
<b>Offset Required</b>	Fuel Combustion **	80,230.90 GJ	3,988.37	0.08	0.08	4,012.93
	Purchased Energy	52,672.13 GJ	158.02	0.00	0.00	158.02
	<b>Offset Required Sub Total</b>		<b>4,146.39</b>	<b>0.08</b>	<b>0.08</b>	<b>4,170.95</b>
	<b>TOTAL STATIONARY EMISSIONS</b>		<b>4,146.39</b>	<b>0.08</b>	<b>0.08</b>	<b>4,171</b>
<b>Mobile Fuel Combustion (Fleet and other mobile equipment)</b>						
<b>Offset Required</b>	Fuel Combustion **	112,240.40 L	262.18	0.02	0.04	274.93
	<b>Offset Required Sub Total</b>		<b>262.18</b>	<b>0.02</b>	<b>0.04</b>	<b>274.93</b>
<b>Offset Exempt</b>	School Bus	83,455.01 L	212.29	0.01	0.01	216.39
	CO <sub>2</sub> from Biogenic Fuel Combustion		17.48	N/A	N/A	17.48
	<b>Offset Exempt Sub Total</b>		<b>229.77</b>	<b>0.01</b>	<b>0.01</b>	<b>233.87</b>
	<b>TOTAL MOBILE EMISSIONS</b>		<b>491.95</b>	<b>0.03</b>	<b>0.05</b>	<b>509</b>
<b>Supplies (Paper)</b>						
<b>Offset Required</b>	Non-recycled Content Paper	4,449 Pkg	29.82	0.00	0.00	29.82
	Recycled Content Copy Paper	36,564 Pkg	216.10	0.00	0.00	216.10
	<b>Offset Required Sub Total</b>		<b>245.92</b>	<b>0.00</b>	<b>0.00</b>	<b>245.92</b>
	<b>TOTAL SUPPLIES EMISSIONS</b>		<b>245.92</b>	<b>0.00</b>	<b>0.00</b>	<b>246</b>
	<b>Total Offset Exempt</b>		<b>229.77</b>	<b>0.01</b>	<b>0.01</b>	<b>234</b>
	<b>Total Offset Required</b>		<b>4,654.49</b>	<b>0.10</b>	<b>0.12</b>	<b>4,692</b>
	<b>TOTAL EMISSIONS</b>		<b>4,884.27</b>	<b>0.11</b>	<b>0.13</b>	<b>4,926</b>

\* Each greenhouse gas has been converted to a standard measurement (tCO<sub>2</sub>e) by multiplying its emissions by its global warming potential (GWP).

The GWP of carbon dioxide (CO<sub>2</sub>) from both anthropogenic and biogenic sources is 1; methane (CH<sub>4</sub>) is 25, and nitrous oxide (N<sub>2</sub>O) is 298.

The Totals for tCO<sub>2</sub>e are shown here rounded to the nearest whole metric tonne as only whole tonnes of tCO<sub>2</sub>e can be purchased for offsets.

\*\* Includes Fossil Fuels and CH<sub>4</sub> and N<sub>2</sub>O from Biogenic Fuels

# Appendix B: Total GHG Emissions by type

## SMARTTool | Report

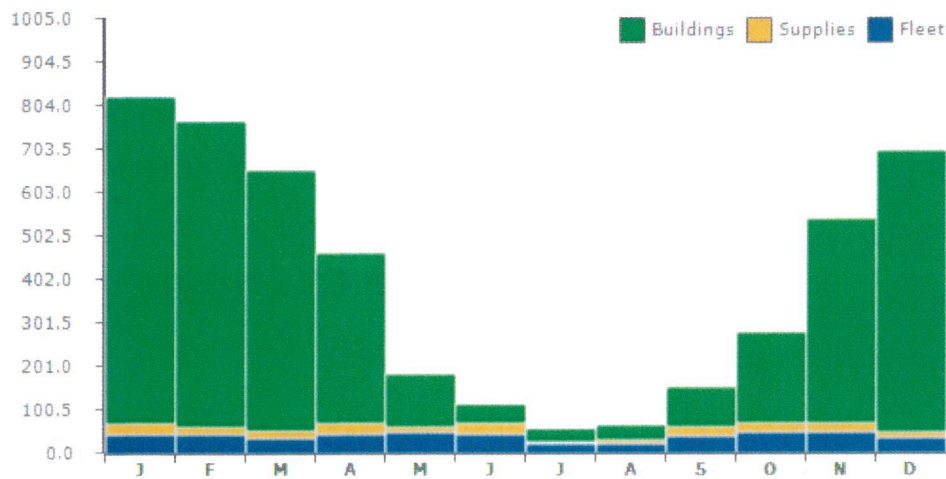
May 13, 2019

Reporting Unit:

School District 38 - Richmond | Calendar Year 2018 | Show Report

### Total Emissions Calendar Year 2018 School District 38 - Richmond

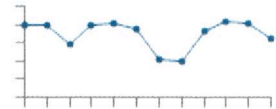
Metric tonnes  
CO2 equivalent (tCO2e)



Click on the bars to view data for each month

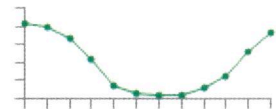
### Fleet

GHG Emissions  
(Metric Tonnes CO2e)



### Buildings

GHG Emissions  
(Metric Tonnes CO2e)



### Supplies

GHG Emissions  
(Metric Tonnes CO2e)



		Greenhouse Gases in Tonnes				
Measure	Quantity	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	tCO <sub>2</sub> e <sup>1</sup>	
<b>Scope 1 (Direct) Emissions</b>						
Mobile Combustion (Fleet)	Litres	195,695.41	474.47	0.03	0.05	491.32
Stationary Combustion, Estimated <sup>2</sup>	GigaJoules	555.18	27.53	0.00	0.00	27.69
Stationary Combustion, Reported <sup>3</sup>	GigaJoules	79,675.72	3,980.85	0.08	0.08	3,985.24
<b>Total Scope 1 Emissions</b>		<b>4,462.85</b>	<b>0.11</b>	<b>0.13</b>	<b>4,504.25</b>	
<b>Scope 2 (Indirect) Emissions</b>						
Purchased Energy, Estimated <sup>2</sup>	GigaJoules	423.27	1.27	0.00	0.00	1.27
Purchased Energy, Reported <sup>3</sup>	GigaJoules	52,248.86	156.75	0.00	0.00	156.75
<b>Total Scope 2 Emissions</b>		<b>158.02</b>	<b>0.00</b>	<b>0.00</b>	<b>158.02</b>	
<b>Scope 3 Emissions</b>						
<b>Business Travel and Office Paper</b>						
Office Paper	Packages	41,013.00	245.92	0.00	0.00	245.92
<b>Total Scope 3 Emissions</b>		<b>245.92</b>	<b>0.00</b>	<b>0.00</b>	<b>245.92</b>	
<b>Emissions from Biomass</b>						
<b>Total Biomass Emissions</b>		<b>17.48</b>	<b>0.00</b>	<b>0.00</b>	<b>17.48</b>	
<b>Total Emissions, Calendar Year 2018</b>		<b>4,884.27</b>	<b>0.11</b>	<b>0.13</b>	<b>4,925.67</b>	

1. Global Warming Potential (GWP) has been applied only to the tCO<sub>2</sub>e values.

2. Estimated data has been calculated based on the methods described in the Methodology Document.

3. Reported data refers to consumption which has been directly billed to the organization.

*This information is provided by the Government of British Columbia, and is subject to verification.*

## Report to the Facilities & Building Committee PUBLIC

**DATE:** 24 June 2019

**FROM:** Frank Geyer, Executive Director, Planning & Development

**SUBJECT:** Capital Projects Update

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### Major Capital Projects

- 1. William Cook Elementary Seismic Upgrade, Partial Replacement & Addition (\$13.9 Million)**
  - Concrete floor slab, wall framing, exterior doors and windows, roofing, electrical and plumbing rough-in complete, interior finishing underway for addition, seismic foundation upgrading work continuing around existing building to remain.
  - Project is still on track for substantial completion in August 2020.
- 2. Hugh Boyd Secondary Seismic Upgrade & Partial Replacement (\$10.7 Million)**
  - Partial demolition of the south end of Block 2 complete, concrete floor slab and underslab plumbing and electrical rough-ins complete, wall construction underway for new Tech Ed addition (replacing Block 4).
  - Project still on track for substantial completion targeted for August 2020.
- 3. Robert J Tait Elementary Seismic Upgrade (\$7.6 Million)**
  - Construction underway with substantial completion targeted for August 2020.
- 4. W D Ferris Elementary Seismic Upgrade (\$8.5 Million)**
  - Design 99% complete. Application for Building Permit completed. Temporary accommodations (four portables) in place.
  - Construction start in July 2019 with substantial completion targeted for August 2020.
- 5. Mitchell Elementary Seismic Upgrade & Partial Replacement (\$11.4 Million)**
  - Design 40% complete. Advised by the City of Richmond that a variance in floor elevation will not be granted, thus requiring a “bridge” to connect existing school to new addition that will be 650mm higher. Also, preloading of the site for the addition is required (scheduled for late Summer).
  - Possible addition of building envelope remediation work to the 1992 Block through Building Envelope Program. Expect updated Building Envelope Condition Assessment report and costing from BC Housing for project funding by Ministry of Education mid-July.
  - Targeting construction start in November 2019 and completion by June 2021.

- 6. Manoah Steves Elementary Seismic Upgrade & Partial Replacement (\$12.8 Million)**
  - Design 40% complete. Temporary relocation of Montessori Program to R.M. Grauer Elementary scheduled for Summer 2019.
  - Targeting construction start in November 2019 and completion by August 2021.
- 7. F A Tomsett Elementary Seismic Upgrade & Addition (PDR Stage - \$11.4 Million)**
  - Project approval announcement from the Minister of Education 24 June 2019.
  - Retention of consultants and construction manager underway.
  - Targeting construction start in June 2020 and completion by January 2022.
- 8. James McKinney Elementary & Maple Lane Elementary Seismic Upgrades (PDR Stage)**
  - All consultants retained, work underway. Targeting completion of Project Definition Reports 31 August 2019.
- 9. James Whiteside Elementary & William Bridge Elementary Seismic Upgrades (PDR Stage)**
  - All consultants retained, work underway. Targeting completion of Project Definition Reports 31 October 2019.

### **Local Capital Projects**

#### **1. Short Term Accommodation Plan**

- Minor renovation of Administration Building 4<sup>th</sup> Floor to create additional enclosed office space (underway);
- Minor renovation of H J Cambie Secondary 2<sup>nd</sup> Floor C Wing to accept relocation of Learning Services Teacher Consultants from Administration Building 3<sup>rd</sup> Floor by end of August 2019 (design complete, work underway on Phase 1 – Conference Room and Staff Lounge, Phase 2 to commence 02 July 2019);
- Minor renovation of Administration Building 3<sup>rd</sup> Floor to accept relocation of Finance and Purchasing functions from 1<sup>st</sup> Floor (design complete) by end of October 2019;
- Minor renovation of Administration Building 1<sup>st</sup> Floor to create Welcome Centre function and to consolidate Richmond International Education functions (design complete) by end of February 2020.

#### **2. Portables Relocations**

- Relocating two portables from Archibald Blair Elementary to A.R. MacNeill Secondary to accommodate Aspen program expanded needs.
- Relocating one portable from Archibald Blair Elementary to R.A. McMath Secondary to accommodate resource program needs.
- Contractors retained, in for Building Permit. Target completion August 2019.

*Frank Geyer, PEng, FMA  
Executive Director, Planning & Development*



## Report to the Facilities & Building Committee PUBLIC

**DATE:** 24 June 2019

**FROM:** Frank Geyer, Executive Director, Planning & Development

**SUBJECT:** Long Range Facilities Plan (LRFP) Update

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Work is nearing completion on the new LRFP, which is a comprehensive plan that outlines how the school district will manage its facilities in order to deliver its educational programs in the most efficient, economic and effective manner possible.

Developments since the May 27<sup>th</sup> Facilities & Building Committee LRFP Update include:

1. Survey #3 and public consultation process concluded June 3<sup>rd</sup>;
2. Meetings with educational stakeholders (RTA, RMAPS, RDPA, CUPE) completed;
3. Board Workshop #8 held June 18<sup>th</sup> to discuss the updated draft LRFP and engagement process; and
4. Pre-Final Draft Long Range Facilities Plan, based on feedback received to date and new data, was completed and published on the District website (<https://www.letstalksd38.ca/8241/documents/17462>) on June 19<sup>th</sup>.

The 2019 Long Range Facilities Plan is to be brought forward for approval at the June 26<sup>th</sup> Special Board Meeting.

*Frank Geyer, PEng, FMA*  
*Executive Director, Planning & Development*

## Report to the Facilities & Building Committee PUBLIC

**DATE:** 24 June 2019

**FROM:** Roy Uyeno, Secretary-Treasurer  
Frank Geyer, Executive Director, Planning & Development

**SUBJECT:** School Building Planning Review Process – Seismic Mitigation Projects

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### RECOMMENDATION

THAT the Facilities & Building Committee recommends the following resolution be approved by the Board of Education:

“NOTWITHSTANDING Policy 701.2 which sets out the school building planning review process THAT the Board of Education (Richmond) authorize the Superintendent and Secretary-Treasurer to undertake a simplified planning and consultation process for all Seismic Mitigation Projects.”

### POLICY CONSIDERATIONS

Policy 701.2 and 701.2R outline the requirements for a school building planning process, including the need for a consultation process

### BACKGROUND

On May 31<sup>st</sup>, 2018, the Richmond Board of Education and Ministry of Education entered into a Memorandum of Understanding that established the Richmond Project Team (RPT), with a mandate to accelerate the delivery of school seismic mitigation projects in the District and to maximize the number of seismic event-resistant seats in the District as quickly as possible. Since that time, the RPT has brought two projects to construction phase, four projects to design phase and are currently working on five more projects in pre-design phase. The goal is to complete seismic mitigation upgrades on these and 25 additional schools in Richmond by 2030.

The existing District Policy 701.2 and 701.2-R - School Building Planning Review Process was originally approved by the Board of Education 20 February 1995 and last updated 16 January 2006. The intent of the policy is to ensure that, for capital construction projects valued at either over \$1.5 Million (Major Projects) or less than \$1.5 Million (Minor Projects), a very thorough consultation process is followed. For Major Projects, which seismic mitigation upgrades would be classified under due to their total project budget, the policy sets out the composition of a project “Steering Committee” which would number between 12 and 14 members, and prescribes a very defined and detailed process through the project design stages.

The process set out in the policy can have significant benefit for projects where either the majority of a building is being replaced, a significant addition to the building is being constructed, or a whole new building is being constructed. However for seismic mitigation projects whereby the majority of work consists of structural and/or substructural upgrades and the work may include a replacement of up to 40% of the existing building area, such an extensive planning and consultation process may not be warranted and would also significantly impact project delivery timelines and potentially costs.

Staff are therefore recommending that the Board authorize the Superintendent and Secretary-Treasurer to undertake a simplified planning and consultation process for all current and future seismic mitigation projects as follows:

1. Instead of a project “Steering Committee”, a “Project Design Advisory Committee” be established once the design team is engaged, consisting of the following parties who would be invited to attend meetings and receive minutes:
  - Superintendent’s Representative - Area Superintendent or designate
  - Executive Director, Planning & Development or designate
  - Project Manager (Chair)
  - District Administrator, Emergency Preparedness & Seismic Liaison
  - School Administrator or designate
  - Board of Education Representative - Liaison Trustee for that school
  - Richmond Teachers’ Association Representative
  - School’s Parent Advisory Council Representative
  - Canadian Union of Public Employees, Local 716 Representative

It would be the responsibility of all representatives to report Committee proceedings to the organizations they represent.

When recommendations are being formulated by the Committee, there would be a minimum of five (5) members present.

2. Frequency of meetings of the Project Design Advisory Committee would be based on the scope of the project:
  - for seismic mitigation projects not involving any major changes to the floor plan of a school (i.e. purely a structural upgrade with some upgrades to building systems and/or finishes), meetings would be held at the onset of design phase and at the 50%/95% design completion stages;
  - for seismic mitigation projects involving major changes to the floor plan of a school (i.e. seismic mitigation plus either an addition or partial replacement to the building), meetings would be held at the onset of design phase and at the 35%/70%/95% design completion stages.
3. The purpose of the meetings would be to review the drawings, discuss scheduling and phasing, and to discuss other issues pertaining to the delivery of the project. The contracted Prime Consultant and Construction Manager may also be present at these meetings as resources to the Project Manager.

4. Upon completion of design phase and prior to construction, the role of Project Design Advisory Committee will be complete and the committee ended.
5. Regular Project Status Updates will be made by the Project Manager and posted on the Richmond School District Planning & Development Branch website and reported out to the Facilities & Building Committee by the Executive Director, Planning & Development throughout the life of each project.

This simplified process would still provide for consultation with stakeholders and the school community, but would be more responsive to the time sensitive needs of the projects. The recommended action is consistent with May 1<sup>st</sup>, 2017 Board approved motion:

*“NOTWITHSTANDING Policy 701.2 which sets out the school building planning review process that the Board of Education (Richmond) authorize the Superintendent and Secretary Treasurer to undertake a simplified planning and consultation process for the Cook Seismic Remediation Project.”*

*Roy Uyeno, CPA, CGA  
Secretary-Treasurer*

*Frank Geyer, PEng, FMA  
Executive Director, Planning & Development*

**FACILITIES AND BUILDING COMMITTEE  
(PUBLIC)**

**DATE: June 14, 2019**

**FROM: Mike Beausoleil, Director  
Maintenance, Operations & Transportation**

**SUBJECT: 2019-20 AFG Projects Update**

For this year's Annual Facility Grant (AFG), we received a **total of \$4,005,132** from the Ministry. This was the exact same amount provided last year.

We received a number of project requests from the schools requesting for funding through the AFG. The majority of the projects did not meet the AFG categories. Some of the projects requested will be done through maintenance operational budgets.

After a thorough review with our Maintenance Managers, Secretary-Treasurer and Department Forepersons, below is the departmental breakdown of this year's AFG projects:

DEPARTMENT	2019-20	2018-19	2017-18
Carpentry/Roofing	\$ 1,623,428	\$ 1,571,310	\$ 1,588,021
Electrical/Security	\$ 387,651	\$ 853,322	\$ 291,998
HVAC	\$ 666,000	\$ 582,000	\$ 611,000
Painting/Floors	\$ 205,000	\$ 300,000	\$ 506,600
Plumbing	\$ 346,700	\$ 264,000	\$ 270,000
Health & Safety/Tech Services	\$ 264,000	\$ 250,000	\$ 250,000
Grounds	\$ 252,353	\$ 170,500	\$ 218,828
Energy	\$ 260,000		
Others		\$ 14,000	\$ 93,241
<b>TOTAL</b>	<b>\$4,005,132</b>	<b>\$4,005,132</b>	<b>\$3,828,688</b>

Please forward all inquiries to [mbeausoleil@sd38.bc.ca](mailto:mbeausoleil@sd38.bc.ca) or 604-668-6000 local 7830.

Respectfully Submitted,

Mike Beausoleil, Director  
Maintenance, Operations and Transportation

**FACILITIES AND BUILDING COMMITTEE  
(PUBLIC)**

**DATE: June 14, 2019**

**FROM: Mike Beausoleil, Director  
Maintenance, Operations & Transportation**

**SUBJECT: 2019-20 SEP Projects Update**

For this year's School Enhancement Program (SEP), we received a **total of \$1,270,000** from the Ministry.

After a thorough review with our Maintenance Managers, Secretary-Treasurer and Department Forepersons, below is the breakdown of this year's SEP projects:

<b>SCHOOL</b>	<b>2019-20</b>	<b>2018-19</b>
Burnett Roof Replacement	\$ 600,000	\$ 600,000
Burnett Mechanical Upgrade		*\$ 900,000
Cambie Lighting Upgrade	\$ 480,000	
Cambie DDC Upgrade	\$ 190,000	
<b>TOTAL</b>	<b>\$1,270,000</b>	<b>\$1,500,00</b>

*\*project in progress over 2 years (2018 – 2020)*

Please forward all inquiries to [mbeausoleil@sd38.bc.ca](mailto:mbeausoleil@sd38.bc.ca) or 604-668-6000 local 7830.

Respectfully Submitted,

Mike Beausoleil, Director  
Maintenance, Operations and Transportation