

Vancouver Coastal Health 2020 Climate Change Accountability Report



Declaration Statement

This Climate Change Accountability Report for the period January 1, 2020 to December 31, 2020 summarizes our emissions profile, the total offsets to reach net-zero emissions, the actions we have taken in 2020 to reduce our greenhouse gas emissions and our plans to continue reducing emissions in 2021 and beyond.

In 2010 Vancouver Coastal Health, Fraser Health, Providence Health Care and Provincial Health Services Authority consolidated their efforts towards environmental sustainability to create the GreenCare Community. By June 30, 2021 Vancouver Coastal Health's final Climate Change Accountability Report will be posted on the BC Government CNG website to meet legislative requirements and to the GreenCare Community website at bcgreencare.ca

Retirement of Offsets

In accordance with the requirements of the Climate Change Accountability Act and Carbon Neutral Government Regulation, Vancouver Coastal Health (the Organization) is responsible for arranging for the retirement of the offsets obligation reported above for the 2020 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.

The cover photo is of the recent Richmond Hospital electric vehicle charging station installation.

Executive Summary

Vancouver Coastal Health 2020 Climate Change Accountability Report

Vivian Eliopoulos, President and Chief Executive Officer



I am pleased to present the eleventh annual Climate Change Accountability Report, which highlights Vancouver Coastal Health's (VCH) actions to reduce our carbon footprint and the health impacts linked to climate change.

Over the years, we have worked to raise environmental awareness with our staff, patients and the communities we serve. These efforts have reduced VCH's operational impact on the natural environment while reducing operational costs.

In 2020, VCH's emissions footprint was 40,674 tCO₂e (tonnes of carbon dioxide equivalents) which equates to an 18.7 percent decrease since 2007. This decrease is significant since VCH has grown its useable facility area by 19.9 percent in this same period.

In an effort to continually pursue an effective response to climate change, 18 energy and emission reduction projects, and 17 energy studies and strategies were initiated this year. When completed, these projects should reduce our carbon emissions by more than 1650 tCO₂e per year.

VCH purchased carbon offsets from the Ministry of Environment at a total cost of \$1,077,221 to maintain carbon neutral status to align with the Climate Change Accountability Act and Carbon Neutral Regulation.

I am proud to share that I, along with over 1,767 other Vancouver Coastal Health staff, have joined our internal GreenCare Community in pursuit of reducing our operational energy and environmental impact. Reducing our impact will ultimately add to the health of our clients, staff, facilities, and benefit the wellbeing of the extended communities we serve.

As 2021 progresses, I will continue to support our innovative and collaborative approach towards reducing VCH's environmental and carbon footprint that drives our commitment to create sustainable health care.



Vivian Eliopoulos, President and Chief Executive Officer



Our CO₂ Footprint

2020 GREENHOUSE GAS EMISSIONS BREAKDOWN

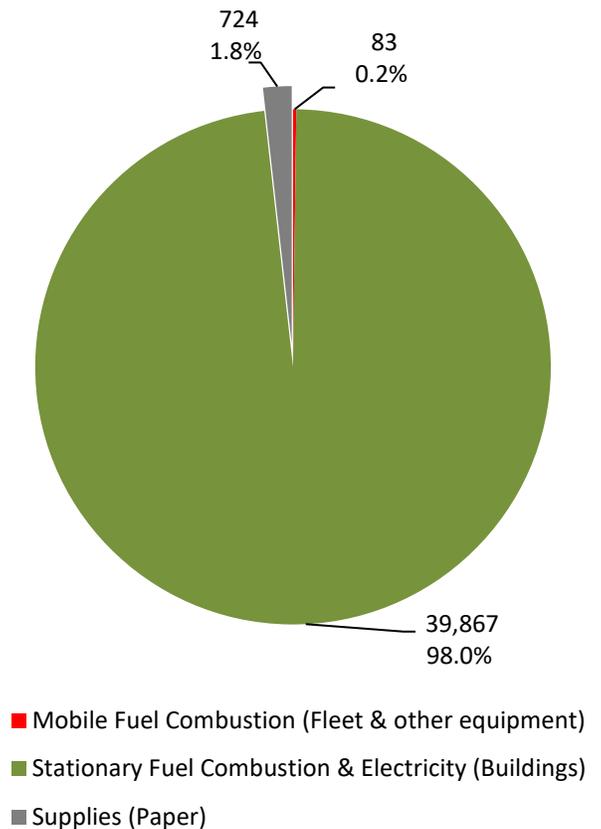
Vancouver Coastal Health reports its organizational carbon footprint based on guidelines provided by the Carbon Neutral Government Regulation and the Climate Action Secretariat (CAS). The Climate Action Secretariat [CAS] is the central government agency responsible for leading and coordinating research, analysis, development and implementation of programs, policies and legislation enabling mitigation of and adaptation to climate change. CAS works collaboratively across the provincial public sector, other orders of government, research institutions, non-governmental organizations, and professional and industry associations to achieve provincial climate change goals.

CAS uses various elements of reporting, based on the Methodology for Quantifying Greenhouse Gas Emissions¹, which has classified carbon reporting into three main groupings: Stationary Fuel Combustion & Electricity (Buildings), Mobile Fuel Combustion (Fleet & other equipment), and Supplies (Paper). Vancouver Coastal Health's carbon footprint is comprised of six different greenhouse gases, which are converted into 40,674 tonnes of carbon dioxide equivalent (tCO₂e).

As shown in the chart on the right, 98 percent of Vancouver Coastal Health's in-scope emissions are attributed to Stationary Fuel Combustion & Electricity (Buildings) which at VCH can be attributed to VCH's owned and leased buildings and their use of electricity; this is where we focus our mitigation efforts.

Vancouver Coastal Health's 2020 carbon emissions were 40,674 tCO₂e. To become carbon neutral in 2020, Vancouver Coastal Health purchased carbon offsets from the Ministry of Environment at a total cost \$1,077,221.

2020 VCH Emissions by Source



“The environmental impact from healthcare facilities, operations, and services affects the health of the populations and patients they are meant to serve.”

- Adapted from World Health Organisation & Healthcare without Harm

¹ <https://www2.gov.bc.ca/assets/gov/environment/climate-change/cng/methodology/2020-pso-methodology.pdf>

The table below represents the breakdown of emissions and offsets for the 2020 calendar year. BioCO₂ is included in total emissions but not total offsets since international protocols require the separate reporting of biogenic emissions from combustion. The CO₂ emissions from the biofuel component (Bio CO₂) must be calculated and reported separately from those of the fossil fuel component.

Vancouver Coastal Health 2020 GHG Emissions and Offsets	
GHG Emissions created in Calendar Year 2020	
Total Emissions (tCO ₂ e)	40,674
Total BioCO ₂	24.5
Total Offsets (tCO ₂ e)	40,649
Adjustments to Offset Required GHG Emissions Reported in Prior Years	
Total Offsets Adjustment (tCO ₂ e) ²	388
Grand Total Offsets for the 2020 Reporting Year	
Grand Total Offsets (tCO ₂ e) to be Retired for 2020 Reporting Year	41,037
Offset Investment (\$25 per tCO ₂ e)	\$1,025,925 (\$1,077,221 including GST)

² A directive to was made to all ministries and Public Sector Organizations covered by the Carbon Neutral Government requirement to use their 2018 GHG emissions as a temporary estimate for their actual 2019 GHG emissions. The Prior Year Adjustments reflects the difference between 2019's actual GHG emissions and offsets and that of 2018's.

CHANGES TO VANCOUVER COASTAL HEALTH'S PORTFOLIO

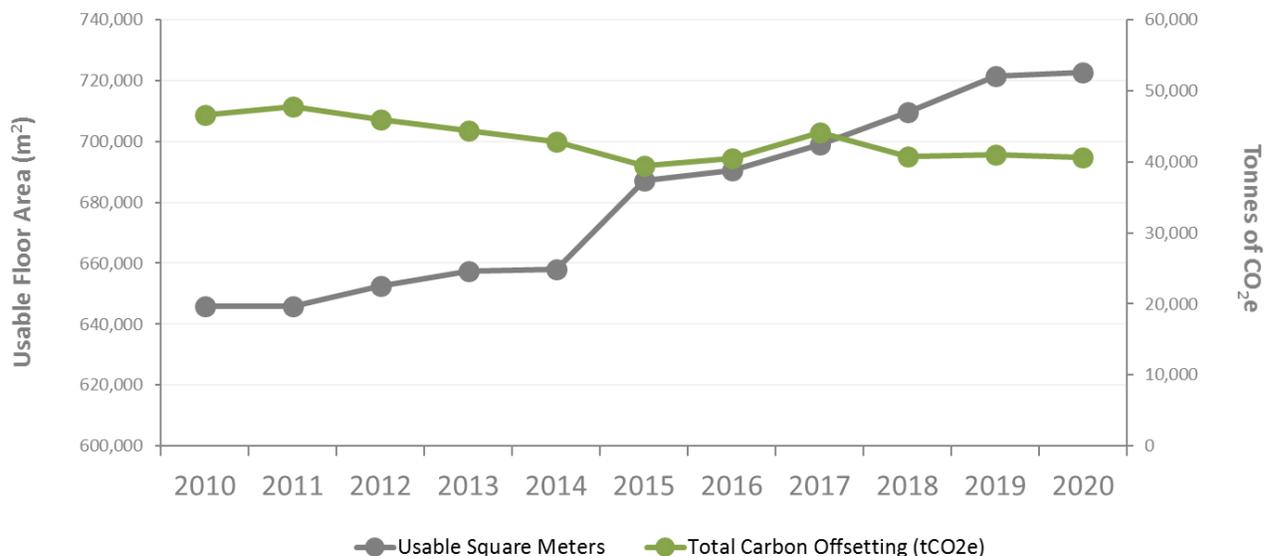
Vancouver Coastal Health has been able to maintain significant energy and GHG reductions while increasing our portfolio and expanding our services to serve our growing regional population. This success has largely been due to the energy retrofit and conservation programs in our existing buildings, and the integration of energy efficiency guidelines in new buildings.

Vancouver Coastal Health had a staff population of 16,718 full-time equivalent (FTE) staff in 2020, an 8 percent increase from the previous year as shown in the table below. The FTE count has been growing steadily over the last decade, compared to 2007 there has been an FTE increase of 31.2 percent.

Vancouver Coastal Health Portfolio Overview					
BUILDINGS, FTE AND WEATHER	2007	2017	2018	2019	2020
Distinct VCH Health Buildings	n/a	171	184	174	176
% Owned	84%	88%	88%	86%	86%
% Leased	16%	12%	12%	14%	14%
Usable Square Meters ³	602,766	698,979	709,753	721,440	722,622
Full-Time Employee Equivalents ⁴	12738	14810	15121	15481	16718
Weather (Heating Degree Days) ⁵	2870	2922	2768	2837	2754

Vancouver Coastal Health has increased its useable facility area by 19.9 percent since 2007; a growth of 11.9 percent has occurred since 2010. This trend, as shown in the graph below, demonstrates the challenge of reducing absolute emissions while the portfolio is growing to meet the regional health service needs.

Useable Floor Area and Emissions (2010-2020)



³ Usable area excludes rooftops, interstitial spaces, and parking areas.

⁴ Full-Time Employee data was provided by the Ministry of Health and includes all designated groups reported in HSCIS (i.e., Physicians (doctors on staff), Executive/Excluded, Non-Union, and Bargaining Unit Employees (Community, Facilities, Health Science Professionals, Nurses, Residents)).

⁵ Building energy consumption is influenced by climate conditions. Vancouver has a climate which predominantly requires heating to satisfy internal building temperatures. Heating Degree Days (HDDs) is a measurement designed to reflect the demand for energy needed to heat a building.

Natural gas is the predominant fossil fuel used for space heating, hot water and process loads. The carbon emissions associated with our natural gas use is approximately 97 percent of total building emissions. Although our priority mitigation efforts are focused on natural gas combustion, there are many drivers in use to continue reducing the use of electricity/purchased energy.

We have achieved an 18.7 percent decrease in the carbon footprint since 2007, as shown in the table below. It should be noted that with absolute emissions there is no consideration of weather impacts or other external drivers that affect emissions. Depending on these independent variables, the year-over-year change in emissions may not fully reflect the effects of our mitigation efforts, emission avoidance projects and initiatives across the portfolio.

Vancouver Coastal Health Portfolio Overview					
Our Carbon Footprint (in tCO₂e)	2007	2017	2018	2019	2020
Mobile Fuel Combustion (Fleet)	104	42	85	82	83
Stationary Fuel Combustion & Electricity (Buildings)	48,536	43,356	39,974	40,255	39,867
Supplies (Paper)	1,402	762	716	741	724
Total Carbon Footprint (tCO₂e)	50,042	44,160	40,775	41,077	40,674
Total BioCO ₂ Emissions (No Offsets Required) ⁶⁷	-19	-19	-44	-61	-24
Total Carbon Offsetting (tCO₂e)	50,023	44,141	40,731	41,016	40,649
Purchased Carbon Offset	-	\$ 1,102,750	\$ 1,018,275	\$ 1,015,725	\$ 1,025,925
Purchased Carbon Offsets + HST/GST	-	\$ 1,157,888	\$ 1,069,189	\$ 1,066,511	\$ 1,077,221
Emissions per Full-Time Employee	3.93	2.98	2.69	2.65	2.43
Emissions per Meter Square Facility Space	0.083	0.063	0.057	0.057	0.056

Carbon emissions reported in the table above are not normalized for annual weather fluctuations. The use of Heating Degree Days (HDD) is a metric designed to reflect the demand for energy required to heat a building. The HDDs for 2020 were 2.8 percent lower than those recorded in 2019, therefore, natural gas and resultant emissions were influenced in part by HDD. Heating Degree Days are the number of degrees that a day's average temperature is below the baseline temperature.

For example, using 15°C as a baseline temperature. If one day's temperature were 12°C, this would equate to three heating degree days since it is 3°C below the baseline temperature. That number is then summed up in a period and for the CCAR, it looks at all of the HDDs from January 1, 2020 to December 31, 2020.

⁶ It was estimated that Fugitive Emissions from cooling equipment do not comprise more than 0.01% of VCH's total emissions and an ongoing effort to collect or estimate emissions from this source would be disproportionately onerous. For this reason, emissions from this source have been deemed out-of-scope and have not been included in our total greenhouse gas emissions profile.

⁷ As outlined in the Carbon Neutral Government Regulation of the Greenhouse Gas Reductions Target Act, some emissions do not require offsets.

Actions Taken To Reduce Our CO₂ Footprint

2020 ACTIONS TAKEN TO REDUCE CO₂ FOOTPRINT

Stationary Fuel Combustion & Electricity (Buildings)

In 2020, Vancouver Coastal Health completed 18 projects estimated to reduce electricity consumption by 1,200,000 kilowatt hours, and natural gas by 33,000 gigajoules; resulting in a carbon footprint reduction of over 1650 tCO₂e and significant cost savings. To support our long-term emissions reduction goals 17 energy studies, lighting audits, and site strategies were initiated in 2020.

In partnership with Energy and Environmental Sustainability, VCH Finance and the Facilities and Real-estate teams, the 2020 Carbon Neutral Capital Program funding enabled six emissions reduction projects. This set of projects represents the majority of the emissions reductions at VCH, reducing natural gas consumption by 23,000 gigajoules, which resulted in 1,138 tCO₂e of emissions reduction.

Vancouver Coastal Health continues to embed sustainability across the organization by supporting staff engagement initiatives such as the GreenCare Community site and provides tips and toolkits on energy reduction and other environmental initiatives. The Green+Leaders (G+L) program continues to train Vancouver Coastal Health staff as sustainability champions. Other awareness initiatives, such as our Facilities Maintenance and Operations Engagement Strategy are in development.

Mobile Fuel Combustion (Fleet & other equipment)

In 2020, Vancouver Coastal Health's Active and Clean Transportation program lead, in coordination with the VCH Healthy Transportation team, has worked to improve, promote and establish alternative transportation opportunities for VCH staff. This includes improving cycling infrastructure, carpooling coordination, and public transport options.

Supplies (Paper)

In collaboration with BC Clinical and Support Services, VCH continues to explore wheat-based paper supplies procurement, and a proposal to convert the bulk of paper purchased to 30% recycled content is in development. There are ongoing efforts across the organization to assess how to minimize paper purchases and develop a culture around sustainable paper use in our day-to-day work.

ONGOING ACTIONS TO REDUCE CO₂ FOOTPRINT

VCH will continue to be a leader in environmental stewardship and emissions mitigation in the following ways:

- Planning and implementing energy and emission reduction projects in our building portfolio;
- Utilizing the Carbon Neutral Capital Program funds, internal capital funds, and utility incentive programs;
- Engaging with design engineers to ensure our new buildings adopt low carbon and climate resilient design strategies;
- Exploring low emission energy supply options, opportunities for demand reduction, and leading technology applications; and
- Engaging and educating our staff, via the Green+Leaders program and GreenCare Community;

Feature Emission Reduction Project

Richmond Hospital installs largest installation of electric vehicle charging stations in British Columbia⁸

Staff and patients now have the option to plug-in their electric vehicles (EVs), as VCH rolls out the largest installation of EV charging stations in the province at Richmond Hospital. As part of our commitment to reducing our emissions and supporting projects that provide environmental health benefits to our staff and our communities, the project will see a total of 30 EV charging stations installed in the Richmond Hospital parkade. The installation will be rolled-out in phases and increasing capacity based on feedback and demand.

According to a 2020 VCH survey, 40 per cent of staff plan to own an electric vehicle. The BC Provincial government also passed legislation on May 30, 2019 that requires every new car sold in B.C. to be a zero-emission vehicle by 2040. Thanks to funding from the Carbon Neutral Capital Program (CNCP) and the Ministry of Health, the project, which aligns with the provincial Clean BC climate strategy, will help support our staff and our community to transition to a more sustainable transportation method such as electric vehicles.

"By installing the EV chargers in our communities, we are enabling staff and patients, to move away from vehicles that burn fossil fuels and switch to electric vehicles, which in turn, will significantly reduce air pollution exposure and the associated population health impacts," says Kori Jones, Manager, Energy and Environmental Sustainability.



Photo: EV charging in the Richmond Hospital parkade.

⁸ An early version of this story was authored by Tanya College, Richmond Hospital Communications Leader, and is available at <http://www.vch.ca/about-us/news/largest-installation-of-electric-vehicle-charging-stations-in-b-c-opens-at-richmond-hospital>

One of the main drivers for this project is to reduce emissions from our staff and patient transportation, and to reduce traffic-related air pollution exposure in our communities. The VCH Public Health team has identified that traffic-related air pollution is linked to asthma, lung cancer, and cardiovascular disease, in addition to a range of other pregnancy, development, and mental health outcomes. This is an emissions reduction project with a clear preventative health outcome.

To prevent the future health impacts expected from climate change we need to quickly and significantly reduce greenhouse gas emissions. Electrifying light-duty on-road transportation is one of the faster regional transitions we can achieve with significant impact

This project is a great example of an integrated team approach with significant benefits to Vancouver Coastal Health and the populations served by our health system. There has been ongoing collaboration between the Richmond Hospital Redevelopment, Facilities Maintenance and Operation, and Energy and Environmental Sustainability teams.

This project has had a positive response and has initiated an EV site assessment across VCH's main health campuses to support a regional Active and Clean Transportation Strategy. In addition to focusing on clean transportation options, through low carbon electrification, VCH promotes other means of environmentally friendly and healthy active transportation options that are continually being addressed including cycling infrastructure, carpooling coordination, and public transport options.

