

2017 Carbon Neutral Action Report

This Carbon Neutral Action Report for the period January 1st, 2017 to December 31st, 2017 summarizes our emissions profile, the total offsets to reach net-zero emissions, the actions we have taken in 2017 to reduce our greenhouse gas emissions and our plans to continue reducing emissions in 2018 and beyond.

By June 30, 2018, BC Emergency Health Services' final Carbon Neutral Action Report will be posted to our website at www.bcehs.ca.

PHSA Environmental Sustainability Policy

PHSA will act as a leader with respect to environmental stewardship while engaging the healthcare community in a collaborative approach towards sustainability. This will occur through sustainable operations, sustainable facilities and sustainable partnerships.

2017 Actions to Reduce GHG Emissions

- *29 new Demers ambulances received in fiscal year 2017/18 are equipped with EcoSmart idle reduction technology and feature a redesigned air dam and narrower body to reduce frontal area, resulting in reduced overall air drag on the ambulance and a reduced conversion weight to improve fuel economy. This initiative was highlighted in our 2016 success story.*
- *50 new Crestline Coach Ltd. ambulances received in fiscal year 2017/18 are equipped with ACETECH's ECO-Run module for idle-management. Additionally, solar panel technology has been installed on two of these units.*
- *BCEHS continues to purchase only 100% recycled paper for office use.*

Our Plans to Continue Reducing Emissions in 2018 and Beyond

Hybrid Electric Ambulance Trial

BCEHS Fleet Operations strives to ensure the efficiency of the ambulance fleet. Initiatives designed to improve fuel economy include the trial of an aftermarket hybrid electric drive system in 10 ambulances to be received in fiscal year 2017/18. The trial aims to determine if aftermarket hybrid electric systems provide a reliable, cost effective means of improving fuel economy and reducing carbon emissions. Information collected by the Fleet Information Management System will be used to measure success of this project.

Hybrid electric drives have been available in the light vehicle market for a number of years, but, until recently have not been options for ambulance-size vehicles. Hybrid electric drivetrains improve fuel economy by using a generator to convert energy produced by braking to electricity, storing the energy in a battery, then using the stored energy to

assist the internal combustion engine in accelerating the vehicle. This cycle reduces the load on the internal combustion engine, allowing for more efficient operation. A vehicle equipped with a hybrid electric drivetrain can achieve a 20 to 25 percent reduction in fuel consumption compared to the same vehicle with a standard internal combustion engine.

In August 2017, Crestline Coach Ltd., BCEHS' current ambulance supplier, announced the production of two hybrid electric ambulances for the Oxford EMS in Ontario (Crestline Coach, 2017). Benchmarking preliminary fuel economies provided by Oxford EMS against fuel economies observed in comparable BCEHS duty cycle ambulances shows an approximate 20 percent improvement.

The Oxford EMS units use an aftermarket hybrid electric drive system built by XL Hybrids of Boston, Massachusetts.

This addition shows a meaningful commitment by BCEHS to the PHSA environmental policy. Data gathered from this project will be invaluable to BCEHS as we work toward lessening our environmental impact and mitigating increasing fuel costs.

REFERENCES:

Crestline Coach. (2017, August 3). News- Crestline and Oxford County announce Canada's first hybrid ambulance. Retrieved from <http://crestlinecoach.com/company/news/news08031701.aspx>

Emissions and Offset Summary Table:

BCEHS GHG Emissions and Offset for 2017 (tCO₂e)	
GHG Emissions created in Calendar Year 2017:	
Total Emissions (tCO ₂ e)	16,467
Total Offsets (tCO ₂ e)	15,998
Adjustments to GHG Emissions Reported in Prior Years:	
Total Emissions (tCO ₂ e)	33
Total Offsets (tCO ₂ e)	33
Grand Total Offsets for the 2017 Reporting Year:	
Grand Total Offsets (tCO ₂ e)	16,031

Retirement of Offsets:

In accordance with the requirements of the Greenhouse Gas Reduction Targets Act and Carbon Neutral Government Regulation, BC Emergency Health Services (the Organization) is responsible for arranging for the retirement of the offsets obligation reported above for the 2017 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.

Executive sign-off:



Signature

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Name (please print)

May 31, 2018

Date

Executive Director- Provincial Programs

Title

Part 1: CNAR Survey

1. General Information

Name: Molly Carlow

Contact Email: Molly.Carlow@bcehs.ca

Organization Name: BC Emergency Health Services

Sector: Health

2. Stationary Sources (eg. Buildings, Power Generators): Fuel Combustion, Electricity use, Fugitive Emissions.

During 2017, did your organization take any of the following actions to support emissions reductions from buildings? (please select all that apply)

None of the above

2. Stationary Sources - Other? Please specify: Energy usage in BCEHS buildings is reviewed to identify any spikes in usage. These spikes are investigated to ensure there isn't energy loss from equipment issues or other factors. We also look at buildings whose usage has decreased to identify energy saving successes that could be used in other buildings.

Energy reports are available for review whenever an issue is identified for quick reference for decision making.

Projects are identified that could offer energy reduction outcomes (i.e. T8 upgrades) or changes to LED lighting.

If you selected "*Performed energy retrofits of the organization's building(s)*":

How many buildings were retrofitted?:

If you selected "*Built, or are building new LEED Gold or other "Green" buildings*":

How many new "Green" buildings?:

Did your Organization perform any retrofits during 2017? Please describe briefly:

2a. Stationary Sources (eg. Buildings, Power Generators): Fuel Combustion, Electricity use, Fugitive Emissions.

Please briefly describe your organization's plans to continue reducing emissions from its stationary sources:

a) Over the next 1-5 years

Where new projects are undertaken, professional engineers evaluate energy consumption projections and look to find ways to decrease demand. These include both electrical lighting systems and mechanical systems.

Continue to upgrade lighting to lower consumption fixtures where economically viable.

All buildings are on routine maintenance schedules for HVAC equipment. Ensuring adequate filter changes results in reduced energy consumption.

b) Over the following 6-10 years

Continue with the activities outlined above.

3. Mobile Sources (Vehicles, Off-road/portable Equipment): Fuel Combustion:

During 2017, did your organization take any of the following actions to support emission reductions from its mobile sources? (please select all that apply)

None of the above

If you selected "*Replaced existing vehicles with more fuel efficient vehicles (gas/diesel)*":

How many vehicles?:

If you selected "*Replaced existing vehicles with hybrid or electric vehicles*":

How many vehicles?:

3a. Mobile Sources (Vehicles, Off-road/portable Equipment): Fuel Combustion:

Please briefly describe your organization's plans to continue reducing emissions from its mobile sources:

a) Over the next 1-5 years

BCEHS is exploring whether aftermarket hybrid electric systems are a reliable and cost effective option for the ambulance fleet.

As more vehicles with hybrid electric, plug-in hybrid electric, and electric drivetrains become available, BCEHS will evaluate their suitability for the support unit fleet.

b) Over the following 6-10 years

Continue to explore options for electrification of the ambulance and support unit fleets.

4. Supplies (Paper): Indicate which actions your PSO took in 2017:

During 2017, did your organization take any of the following actions to support emissions reductions from paper supplies? (please select all that apply)

Had a policy requiring the purchase of recycled content paper

If you selected "*Had a policy requiring the purchase of recycled content paper*":

State the required recycled content here (30%, 50%, 100%): 100

If you selected "*Had a policy requiring the purchase of alternate source paper (bamboo, hemp, wheat, etc)*", which type of alternate source paper did you use?

Please briefly describe your organization's plans to continue reducing emissions associated with its office paper use in future years.

We will continue to purchase only 100% recycled office paper. Also, we will continue to encourage people to refrain from printing as much as possible.

5. Other Sustainability Actions

a) Business Travel

During 2017, did your organization take any of the following actions to support emissions reductions from business travel? (please select all that apply)

Encouraged or allowed teleworking or working from home

b) Education/Awareness

During 2017, did your organization have any of the following programs or initiatives to support sustainability education and awareness? (please select all that apply)

None of the above

c) Other Sustainability Actions

During 2017, did your organization have any of the following programs or initiatives to support sustainability? (please select all that apply)

An operations policy or program to facilitate the reduction and diversion of building occupant waste (e.g., composting, collection of plastics, batteries) from landfills or incineration facilities; Lifecycle costing of new construction or renovations

5b) Other Sustainability Actions - Other? Please specify:: Brookfield Johnson Controls WSI, our contracted building maintenance firm, does the following: Recycling (paper/cardboard) programs at a variety of station where the services are available; In some buildings, expanded recycling programs are been looked at such as organic waste.