

False Creek Collision ECO

Greenhouse Gas Emissions Report for the 2014 Calendar Year

January 1st 2014 to December 31st 2014

Date October 13, 2015

Proponent details **Climate Smart Businesses Inc.**

90-425 Carrall Street
Vancouver, BC V6B 6E3

phone: 604.254.6283
email: info@climatesmartbusiness.com

Prepared by:	Joshua Caplan (Client Advisor)
For:	Bernhard Rubbert (Owner)

Table of Contents

Introduction 3
Organizational Boundaries 3
Inventory Boundaries 3
Greenhouse Gas Emissions Summary..... 4
Methodology 6
Emissions Reduction Plan 6
Analysis 10
Conclusion 10
About Climate Smart 11
Key Sectors & Climate Smart Certified Businesses 11

Introduction

False Creek Collision ECO (“FCCE”) is an auto body repair shop servicing Metro Vancouver. They are the first auto body shop in Western Canada to use an environmentally friendly waterborne paint system, which eliminates 90% of the volatile organic compounds typically used in auto-body paint. In 2013 they were the only auto body shop to receive the Business Excellence Award for Environmental Sustainability by the Burnaby Board of Trade. FCCE measured their first annual greenhouse gas (GHG) inventory for the 2014 calendar year and recorded 67.44 tonnes of carbon dioxide equivalent (tCO₂e). FCCE is Climate Smart certified for 2015.

Greenhouse Gas Protocol

- Developed by the World Resources Institute
- Most widely recognized standard for emissions reporting internationally
- <http://www.ghgprotocol.org/>.

As a Climate Smart certified business, FCCE conducted its GHG emissions inventory according to the Greenhouse Gas Protocol Corporate Accounting and Reporting Standard, Revised Edition (“the GHG Protocol”). The GHG Protocol is an internationally recognized standard published by the World Resources Institute and the World Business Council on Sustainable Development. The GHG Protocol and related documents can be accessed at <http://www.ghgprotocol.org/>.

A letter from Climate Smart attesting to FCCE’s completion of its GHG inventory and Climate Smart certification may be available upon request.

Organizational Boundaries

FCCE used the operational control approach to determine its organization boundary and included in its inventory all operations over which it has operational control.

Inventory Boundaries

The Control approach was used to determine the organizational boundary for the inventory. In this approach, all of the business entities that the company had direct control over are to be included in the greenhouse gas inventory.

In the GHG, organizations have to select the operational boundaries around the activities they will include in their inventory. The Protocol requires the inclusion of Scope 1 and 2 emissions, and suggests including Scope 3 emissions from activities relevant to an organization’s business and goals, and for which reliable data can be obtained. Emissions scopes are defined as follows:

Scope 1: includes direct GHG emissions from sources that are owned or controlled by the reporting company or organization

For scope 1, natural gas consumed for building heat and paint baking booth, and fuel consumed in company owned vehicles was included.

Scope 2: includes indirect GHG emissions from purchased electricity and purchased heat

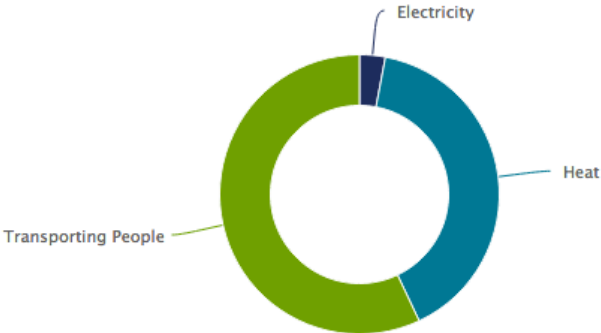
For scope 2, electricity consumption was included.

Scope 3: includes indirect GHG emissions that are consequences of the reporting company’s operations but occur at sources owned by another company

For scope 3, passenger air travel and staff commuting were included.

Greenhouse Gas Emissions Summary

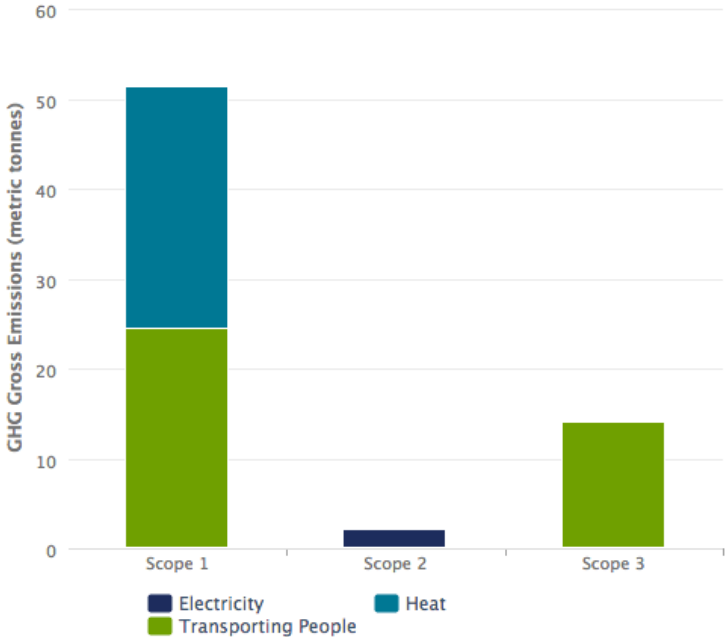
Figure 1: Total Emissions for the 2014 Calendar Year, by Type (tCO₂e)



Gross Emissions	67.44	<div style="width: 100%;"></div>
Electricity	2.01	<div style="width: 3%;"></div>
Purchased	2.01	<div style="width: 3%;"></div>
Heat	26.98	<div style="width: 40%;"></div>
Generated	26.98	<div style="width: 40%;"></div>
Transporting People	38.45	<div style="width: 57%;"></div>
Road	24.43	<div style="width: 36%;"></div>
Air	4.75	<div style="width: 7%;"></div>
Staff Commuting	9.26	<div style="width: 14%;"></div>

Purchased Reductions	0	<div style="width: 0%;"></div>
----------------------	---	--------------------------------

Net Emissions	67.44	<div style="width: 100%;"></div>
---------------	-------	----------------------------------

Figure 2: Total Emissions for the 2014 Calendar Year, by Scope, (tCO₂e)


Gross Emissions	67.44	<div style="width: 100%;"></div>
Scope 1	51.42	<div style="width: 76.1%;"></div>
Heat	26.98	<div style="width: 40.0%;"></div>
Generated	26.98	<div style="width: 40.0%;"></div>
Transporting People	24.43	<div style="width: 36.2%;"></div>
Road	24.43	<div style="width: 36.2%;"></div>
Scope 2	2.01	<div style="width: 3.0%;"></div>
Electricity	2.01	<div style="width: 3.0%;"></div>
Purchased	2.01	<div style="width: 3.0%;"></div>
Scope 3	14.02	<div style="width: 20.8%;"></div>
Transporting People	14.02	<div style="width: 20.8%;"></div>
Air	4.75	<div style="width: 7.0%;"></div>
Staff Commuting	9.26	<div style="width: 13.7%;"></div>
Purchased Reductions	0	<div style="width: 0%;"></div>
Net Emissions	67.44	<div style="width: 100%;"></div>

Methodology

This inventory was conducted using the emissions factors from the Climate Smart web-based greenhouse gas management tool. The Climate Smart GHG management tool was designed for adherence to the GHG Protocol.

Climate Smart's emission factors come from a variety of sources, such as the Natural Resources Institute, the US Environmental Protection Agency, the US Department of Energy, the Intergovernmental Panel on Climate Change and Natural Resources Canada. Climate Smart reviews its emission factors annually to update them based on refined industry methodology and changing electricity grids. Further details on Climate Smart's emission factors, their sources, and methodology for updating them are available upon request to info@climatesmartbusiness.com.

Electricity > Purchased

The total kilowatt-hours consumed were entered.

Heat > Generated

The total giga-joules consumed were entered.

Transporting people > Vehicles your own > Road

The total annual kilometers travelled and the vehicle type were entered.

Transporting people > Vehicles owned by others > Air

The total annual kilometers travelled and the type of flight (short, medium, or long haul) were entered.

Transporting people > Vehicles owned by others > Staff Commuting

The round trip daily commute distance, days worked per year, and mode of transportation, were entered for each employee.

Emissions Reduction Plan

Electricity			
Please select energy saving / emission reduction strategies that you plan to implement within your organization.			
	Already implemented.	To be implemented in upcoming year.	To be implemented within 5 years.
Implement a policy that all equipment and lighting is turned off when not in use (including computers, copiers, fax machines, etc.).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Put up signage to help people remember to turn off lights and equipment.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Use standby settings on electronics.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Make use of natural lighting as much as possible.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Undergo a Business Energy Assessment (BEA)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Install occupancy sensors in common areas.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

90 - 425 Carrall St, Vancouver, BC V6B 6E3

Electricity			
Please select energy saving / emission reduction strategies that you plan to implement within your organization.			
	Already implemented.	To be implemented in upcoming year.	To be implemented within 5 years.
Replace incandescent lightbulbs with compact fluorescent (CFL) or LED lightbulbs.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Replace desktop computers with laptops at their end of life.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Replace older fluorescent lighting with high-efficiency ballasts and/or tubes(i.e. T-8 or T-5).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Purchase / install energy efficient office equipment (fridges, copiers, etc.).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Heat			
Implement a regular maintenance program.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Install programmable thermostats.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Substitute electric heat in the place of natural gas when possible – for example by installing space heaters at staff desks and turning down the thermostats.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Asses options to improve energy efficiency of current overhead radiant heating system.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Assess options for high efficient paint booths.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Check settings on programmable thermostats (if installed) so that heat is turned down in the evenings and on weekends.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Install solar hot water system.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Insulate piping.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Install high-efficiency hot water tank.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Building Envelope			
Install new / upgrade building insulation.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Assess condition of weather stripping and install new as needed.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Install energy efficient windows.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Transportation			
Please select fuel saving / emission reduction strategies that you plan to implement within your organization.			
	Already implemented.	To be implemented in upcoming year.	To be implemented within 5 years.
Promote public transit by providing (discounted) transit passes to employees.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Promote carpooling to work by installing a ride share board.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Provide bicycle parking.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Provide change room (and showers).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Assess opportunities to replace existing car valet fleet with plug-in hybrids (or other high efficiency vehicles).	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Replace older vehicles with newer more efficient models (i.e. hybrids, turbo diesel, etc.).	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Assess whether size of vehicles are appropriate for their use (can larger trucks be replaced with cars in some cases)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Implement regular vehicle maintenance program.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reduce travel through the use of teleconferencing / videoconferencing.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Implement route optimization strategy.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Install route optimization software, including GPS and engine idling monitoring.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Implement anti-idling policy.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Provide green driver training.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Transport good with a “green” shipping company (i.e. by bike, or high-efficiency vehicle).	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Source from local / regional suppliers whenever possible.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Paper			
Please select paper saving / emission reduction strategies that you plan to implement within your organization.			
	Already implemented.	To be implemented in upcoming year.	To be implemented within 5 years.
Set default printing to double sided.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Purchase paper with recycled content.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Purchase wheat-straw paper.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Put up signage to increase staff "paper awareness".	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Provide paperless invoicing.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Employ a fax to email service (i.e.ifax.ca).	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Limit the use of hand-outs during office meetings. Use white board or projector to write out agendas.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Track and report on office paper use.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Waste			
Expand recycling program to include soft plastics, wood, metals, etc.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Re-use scrap paper.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Request all suppliers minimize their packaging.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Staff Engagement			
Organize an employee green team to help develop and coordinate sustainability strategies.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Regularly report to staff on sustainability strategies and progress.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Install a green board to communicate sustainability policies.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Develop and include sustainability policy in operations and/or employee manual.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Analysis

FCCE measured their baseline inventory in the 2014 calendar year with a total of 67.44 tCO₂e (see Figure 1). The largest source of these emissions were from their natural gas consumption for their building heat and paint booth. Specifically, the proportion of emission sources were:

- Emissions from natural gas use, measured at 26.98 tCO₂e (40% of total inventory).
- Emission from company owned vehicles, measured at 24.43 tCO₂e (36% of total inventory).
- Emissions from staff commuting, measured at 9.26 tCO₂e (14% of total inventory).
- Emissions from passenger air travel, measured at 4.75 tCO₂e (7% of total inventory).
- Emissions from electricity, measured at 2.01 tCO₂e (3% of total inventory).

Moving forward, FCCE would like to minimize their emissions by continuing to focus on strategies aimed primarily at heat, transportation, and electricity.

Conclusion

The emissions inventory for FCCE is consistent with the internationally recognized “GHG protocol” followed by Climate Smart. FCCE measured their emissions for the 2014 calendar year and recorded 67.44 tCO₂e. Their reduction strategies address a wide range of activities. This greenhouse gas inventory and accompanying reduction plan were compiled using best practices in carbon accounting, and demonstrate the continued commitment that FCCE has towards environmental stewardship and corporate social responsibility.

About Climate Smart

Climate Smart is a Vancouver-based social enterprise that offers a comprehensive, small-group-based training program, certification and tools for small/medium enterprises (SMEs) to measure and **profitably reduce their energy, transport, and waste-related costs** and greenhouse gas (GHG) emissions.

In 2010, Climate Smart launched the first municipally supported climate change program designed specifically for the local SME business community. Other key partners are **Port Metro Vancouver, Vancouver Airport Authority, Vancouver Economic Commission** and **Richmond's Economic Development Department**.

Climate Smart builds capacity within businesses by training key staff to develop strategies for ongoing reductions in emissions and associated costs from energy, fuel and waste that create economic as well as environmental benefits. Climate Smart emphasizes the business case for GHG reduction: **operational efficiencies, cost savings, and competitive advantage**.

Climate Smart's training and **innovative data services** are designed to link business-sector actions to carbon emission reduction targets, while simultaneously addressing economic development and green economy goals. Climate Smart has built out extensive datasets, **case studies** and **analysis for community-emission modeling** – utilized by both partners and businesses to benchmark their progress amongst emission and cost-saving goals.

Case studies from a sampling of 40 Climate Smart businesses show a total **annual cost savings of \$1 million**. Case studies with GHG and cost reductions: <https://climatesmartbusiness.com/case-studies/>

Key Sectors & Climate Smart Certified Businesses

Climate Smart works across a range of industry sectors, including:

- Construction & Real Estate
- Manufacturing
- Food & Beverage Processing
- IT and Tech
- Transportation related (terminals, marinas, distributors)
- Retail
- Professional Services (legal, accounting, engineering)

Example Climate Smart businesses include: **Aggressive Tube Bending, Van Houtte Coffee Services, Albion Fisheries, Frogbox, Concert Properties, Electronic Arts, Pacific Blue Cross, Purdys Chocolatier. River Market, Securiguard, Tinhorn Creek Vineyards, Continental Roofing, the PNE, 505-Junk, APEGBC, Treen Safety, Easy Park, Cypress Mountain and many more!**

Climate Smart At A Glance

Climate Smart is a Vancouver-based social enterprise, providing expertise in small- and medium-sized enterprise (SME) training, software, tools, and certification to profitably reduce GHG emissions generated by business operations. Climate Smart builds capacity within businesses by training key staff to develop strategies for ongoing reductions in emissions and associated costs from energy, fuel and waste that create economic as well as environmental benefits. Climate Smart emphasizes the business case for GHG reduction: operational efficiencies, cost savings, and competitive advantage.

Climate Smart's training and innovative data services are designed to link business-sector actions to carbon emission reduction targets, while simultaneously addressing economic development and green economy goals. Climate Smart has built out extensive datasets (gathered from client businesses since 2008), case studies and analysis for community-emission modeling – utilized by both partners and businesses to benchmark their progress against emission and cost-saving goals.

In 2010, Climate Smart launched the first municipally supported climate change program designed specifically for the local SME business community. Other key partners include: Vancity, Vancouver Airport Authority, Vancouver Economic Commission, Port Metro Vancouver, and CGA-BC.

775+

Climate Smart certified businesses to date (trained or in training)

1,258,132+

Total emissions measured by Climate Smart to date, in tonnes (t) CO₂e

14%

Average reduction achieved after 3 years of Climate Smart certification

\$397

Projected cost savings to a business, per tonne CO₂e reduced