



**Eagle Wing Tours
2011 Greenhouse Gas Report
June 2012**

Inventory & Report Prepared By:
ecocentric
● ● ● CARBON MANAGEMENT

1. Executive Summary Table

Type of Inventory	
Corporate GHG Inventory	
General Information	
Parameter	Description
Company Name	Eagle Wing Tours
Contact Information	Jill Doucette (jilldoucette@gmail.com)
Company Description	Whale Watching Tour Company
Protocol Used	<i>The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard, Revised Edition</i> (The GHG Protocol) published by the World Resources Institute and the World Business Council for Sustainable Development. www.ghgprotocol.org
Year of Inventory	January 1, 2010- December 31, 2010
Inventory Boundary	<i>Scope 1</i> - Marine Vessels, Fleet Vehicles
	<i>Scope 2</i> - Purchased electricity
	<i>Scope 3</i> - Paper Usage, Employee Commuting, Deliveries, Waste
Measurement	Carbon dioxide equivalent – CO ₂ e
	The total GHGs have been converted into the carbon dioxide equivalent (CO ₂ e). CO ₂ e is a combination of relevant greenhouse gases converted into an equivalent number of tonnes of carbon dioxide.
Inventory Results	
Parameter	Value (Tonnes of CO ₂ e)
Scope 1	391.8
Scope 2	0.7
Scope 3	2.7
Total GHGs	394.4
Quality Assessment	
Assurance Type	External carbon inventory conducted by Will Wright of Ecocentric Carbon Management. Certified Greenhouse Gas Inventory Quantifier in accordance with the Canadian Standards Association (CSA).

Figure 1: Greenhouse Gas Emissions by Source (tonnes CO₂e)

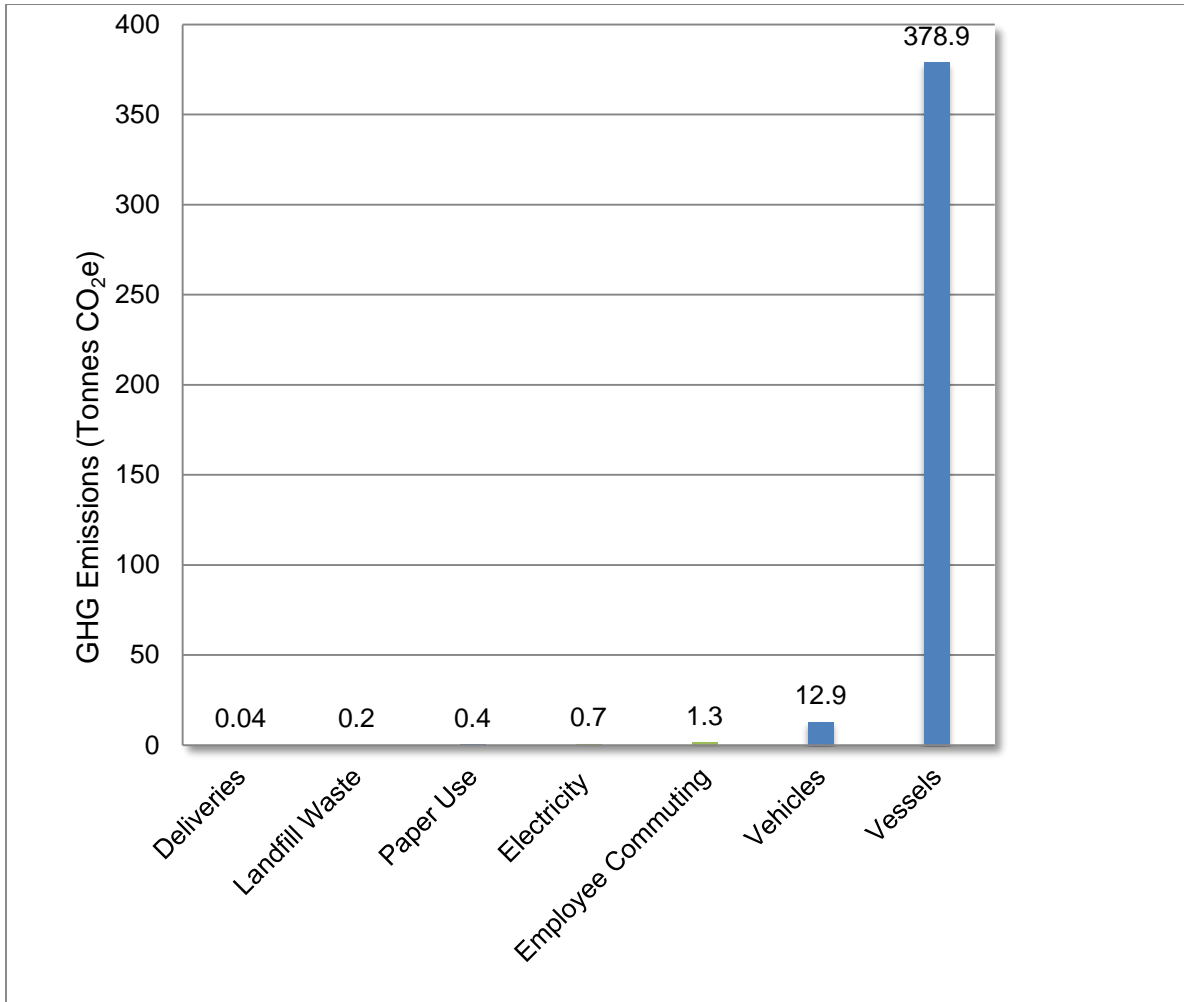


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2. Introduction

This report measures the carbon emissions of Eagle Wing Tours for calendar year 2011. Eagle Wing Tours provides guided whale watching tours in three different marine vessels. During the 2011 calendar year the company emitted 394.4 tonnes of carbon dioxide equivalent (tCO₂e). This is the equivalent to the amount of greenhouse gases emitted from 77 average passenger vehicles in a year or 917 barrels of oil consumed.¹

This inventory has been measured in tonnes of carbon dioxide equivalent (CO₂e). CO₂e is a measure of all relevant greenhouse gases (GHGs) converted to an equivalent number of tonnes of carbon dioxide (CO₂).

Eagle Wing has emissions associated with; fuel consumed in the company vehicles and vessels, electricity, the delivery of office supplies, employee commuting, the waste it produces and the paper it uses.

In 2011 Eagle Wing emitted 392 tonnes CO₂e of scope 1 emissions. Scope 1 emissions are emissions generated by fuel burned in buildings, vehicles or machines owned and operated by the company. Eagle Wing generated scope 1 emissions in its marine vessels and company vehicles.

Eagle Wing emitted 0.7 tonnes CO₂e of scope 2 emissions in 2011. Purchased electricity, steam and other utilities where emissions occur offsite are classified as scope 2. Eagle Wing uses electricity at its office location.

Eagle Wing emitted 1.9 tonnes CO₂e of scope 3 emissions in 2011. Scope 3 emissions are emissions from outsourced activities that are central to a company's business. Eagle Wing has scope 3 emissions from employee commuting, paper use, waste and deliveries. These sources accounted for 1.3, 0.3, 0.2 and 0.04 tCO₂e respectively.

3. Accounting and Protocol Procedures

This report follows the accounting and reporting guidelines of *The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard, Revised Edition* published by the World Resources Institute and the World Business Council for Sustainable Development (the "GHG Protocol"). A copy of these documents can be downloaded from the GHG Protocol website, www.ghgprotocol.org.

¹ Equivalency results for gathered from the EPA Equivalency Calculator. Accessed from <http://www.epa.gov/RDEE/energy-resources/calculator.html#results>.

3.1 Boundary

3.1.1 Reporting Period

This Greenhouse Gas Report has been conducted on behalf of Eagle Wing Tours. The report presents information collected from a detailed account of Eagle Wing's GHG emissions in the year beginning January 1, 2011 and ending December 31, 2011.

3.1.2 Organizational Boundary

For this inventory, Eagle Wing Tours has chosen to conduct a Greenhouse Gas Report using the operational boundary approach. This means that all processes in which Eagle Wing maintains operational control are included in the inventory. Under the GHG Protocol, this is referred to as the operational control approach.

3.1.3 Operational Boundary

The operational boundary identifies and categorizes emission sources based on the organizational boundary. The following sources have been included in this report:

Scope 1: These are direct emissions from sources controlled by Eagle Wing. Scope 1 emissions are divided into mobile and stationary sources.

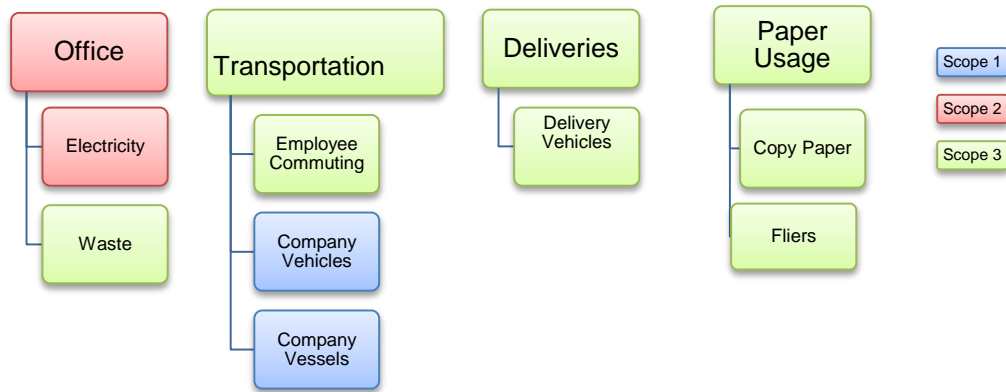
- Eagle Wing had scope 1 emissions (mobile) from the gasoline and diesel fuels consumed in the company vessels and vehicles.
- Eagle Wing does not have any scope 1 (stationary) emissions

Scope 2: These are indirect emissions from Eagle Wing's consumption of purchased electricity.

- Eagle Wing had scope 2 emissions from the use of electricity at its office.

Scope 3: These are all other indirect emissions.

- Eagle Wing had scope 3 emissions from employee commuting, product deliveries, waste and paper usage.

Figure 2: GHG Boundary

3.2 Exclusions

For this GHG inventory, Eagle Wing has included all material and relevant sources of emissions.

4. Emissions By Scope

4.1 Scope 1

Eagle Wing Tours emitted 391.8 tonnes CO₂e of scope 1 emissions. These came from the consumption of gasoline and diesel in the company vehicles and vessels.

Table 1: Scope 1 Emissions by Source

	Emissions (tonnes CO ₂ e)	Percentage of Total GHGs
Scope 1- Direct Consumption		
Company Vehicles	12.9	3.3%
Company Vessels	378.9	96.1%
Scope 1 Total	391.8	99.3%

Please note- numbers may not add up due to rounding errors

Table 2: Fuel Usage

Source	Fuel Type	Activity Data (Litres)	Emissions Factor (kg CO ₂ e / L)	Emissions (tCO ₂ e)
Van # 1	Gasoline	1,032	2.34112	2.4
Van # 2	Gasoline	4,472	2.34112	10.5
Serengeti	Gasoline	24,992	2.34112	58.4
Eagle Wing	Gasoline	31,064	2.34112	72.6
Gold Wing	Diesel	82,449	3.00715	247.9
Total				391.8

Please note- numbers may not add up due to rounding errors

4.2 Scope 2

Eagle Wing emitted 4.1 tonnes CO₂e of scope 2 emissions. This came from the consumption of electricity at its office.

Table 3: Scope 2 Emissions by Source

	Emissions (tonnes CO ₂ e)	Percentage of Total GHGs ⁷
Scope 2- Indirect emissions from consumption of utilities		
Electricity	0.7	0.2%
Scope 2 total	0.7	0.2%

Please note- numbers may not add up due to rounding errors

Table 4: Electricity Usage

	Source	Activity Data (kWh)	Emissions Factor (kg CO ₂ e / kWh)	Emissions (tCO ₂ e)
Office	Electricity	8,614	0.084	0.2
Total		8,614		0.2

Please note- numbers may not add up due to rounding errors

4.3 Scope 3

Eagle Wing Tours generated 1.9 tCO₂e of scope 3 emissions in 2011. Employee commuting, paper usage, waste and deliveries all contributed to scope 3 emissions.

Table 5: Scope 3 Emissions by Source

Source	Emissions (tonnes CO ₂ e)	Percentage of Total Emissions
Employee Commuting	1.3	0.3%
Paper Use	0.4	0.1%
Waste	0.2	0.1%
Deliveries	0.04	0.01%
Total	1.9	0.5%

Please note- numbers may not add up due to rounding errors

Table 6: Employee Commuting

	Source	Activity Data (Distance km)	Emissions Factor (kg CO ₂ e / km)	Emissions (tCO ₂ e)
Driving	Gasoline	900	0.1820	0.16
Total		900		0.16

Please note- numbers may not add up due to rounding errors

Table 7: Paper Usage

	Source	Activity Data (kgs of paper)	Emissions Factor (kgs CO ₂ e / kg of paper)	Emissions (tCO ₂ e)
Paper	Fliers	108.9	2.880	0.3
Paper	Copy Paper	22.7	2.617	0.1
Total		131.5		0.4

Please note- numbers may not add up due to rounding errors

Table 8: Waste

	Source	Activity Data (kg waste)	Emissions Factor (kg CO ₂ e / kg waste)	Emissions (tCO ₂ e)
Waste	Landfill Decomposition	451	1.34	0.60
Total				0.60

Please note- numbers may not add up due to rounding errors

Table 9: Deliveries

	Source	Activity Data (km)	Emissions Factor (kg CO ₂ e/ km)	Emissions (tonnes CO ₂ e)
Diesel Light Truck	Diesel	1,04	0.3743	0.04
Total		104		0.04

Please note- numbers may not add up due to rounding errors

5. Reduction Strategies

Eagle Wing in collaboration with Synergy Enterprises is working to implement a comprehensive sustainability and greenhouse gas reduction plan. Visit www.synergyenterprises.ca for more information.

Appendix A: Emission Factors

Table 10: Emissions Factors Reference Table

Emission Factor Reference Table					
EMISSION FACTOR	UNITS	CO ₂ e	CO ₂	CH ₄	N ₂ O
Electricity: (BC incl. Imports)	kg CO ₂ e / kWh	0.084			
Source					
Dowlatabadi et al Paper "Ground Source Heat Pumps in Canada: Economics and GHG Reductions Potential", May 2007 http://www.rff.org/RFF/Documents/RFF-DP-07-18.pdf					
Municipal Solid Landfill Waste	kg CO ₂ e / kg	1.3371	0	63.71	0
Gasoline - light duty gas vehicle, Tier 1	kg CO ₂ e / L	2.34112	2.289	0.00012	0.00016
Gasoline - Marine Travel	kg CO ₂ e / L	2.33676	2.289	0.0013	0.000066
Diesel - Marine Travel	kg CO ₂ e / L	3.00715	2.663	0.00015	0.0011
Source					
1990-2009 National Inventory Report (April 2011), Greenhouse Gases and Sinks in Canada http://www.ec.gc.ca/pdb/ghg/inventory_e.cfm					
Diesel Light Truck	kg CO ₂ e / km	0.374	0.374	0.000	0.000
Source					
GHG mobile Guide http://www.theclimateregistry.org/downloads/GRP.pdf					
Copy Paper (10% Recycled)	kgs CO ₂ e / kg	2.88			
Copy Paper (30% Recycled)	kgs CO ₂ e / kg	2.6173			
Source					
Environmental Paper Network: Paper calculator version 2.0 www.papercalculator.org					

Appendix B: Emissions By Scope

Figure 3: Scope 1 Emissions by Source

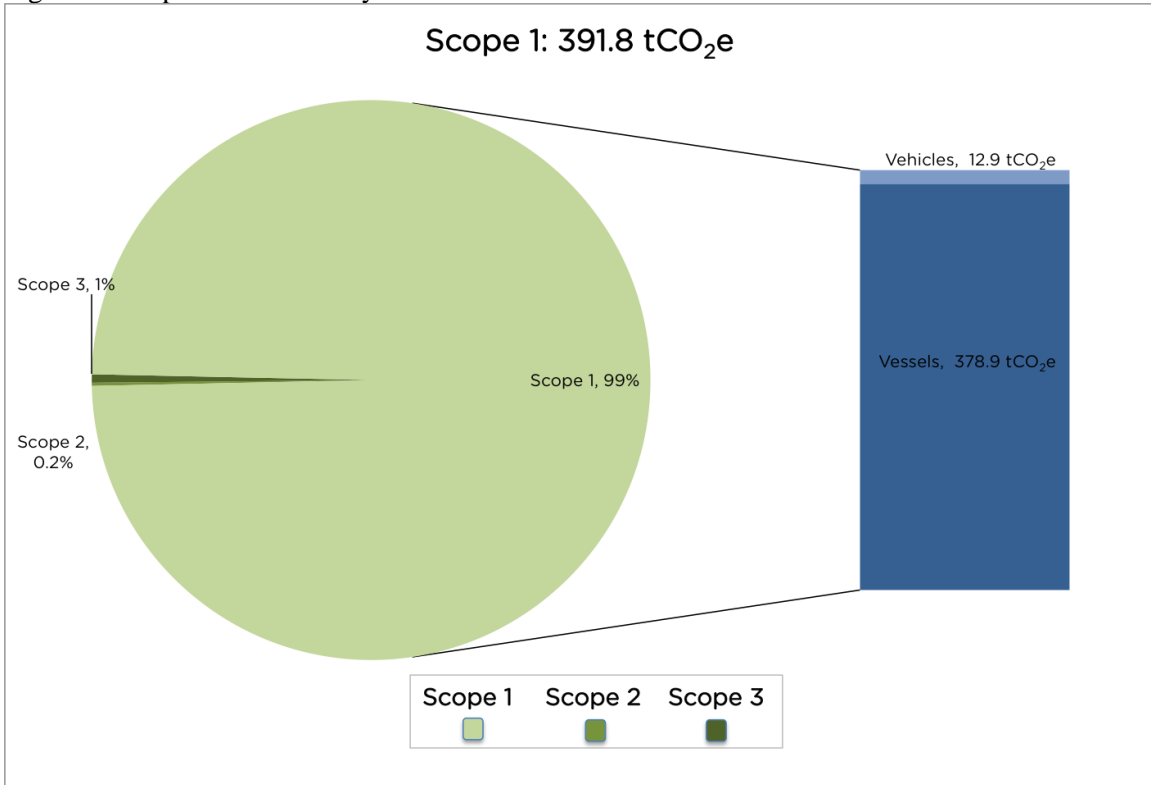


Figure 4: Scope 2 Emissions by Source

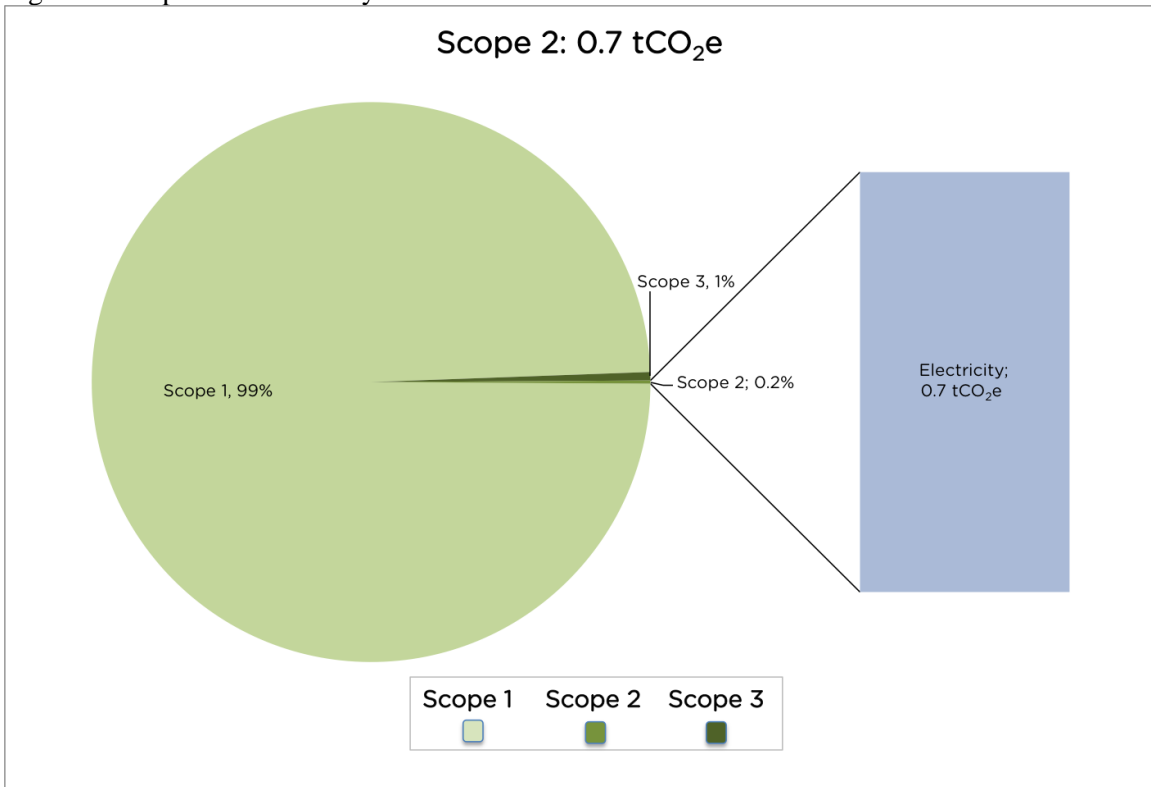
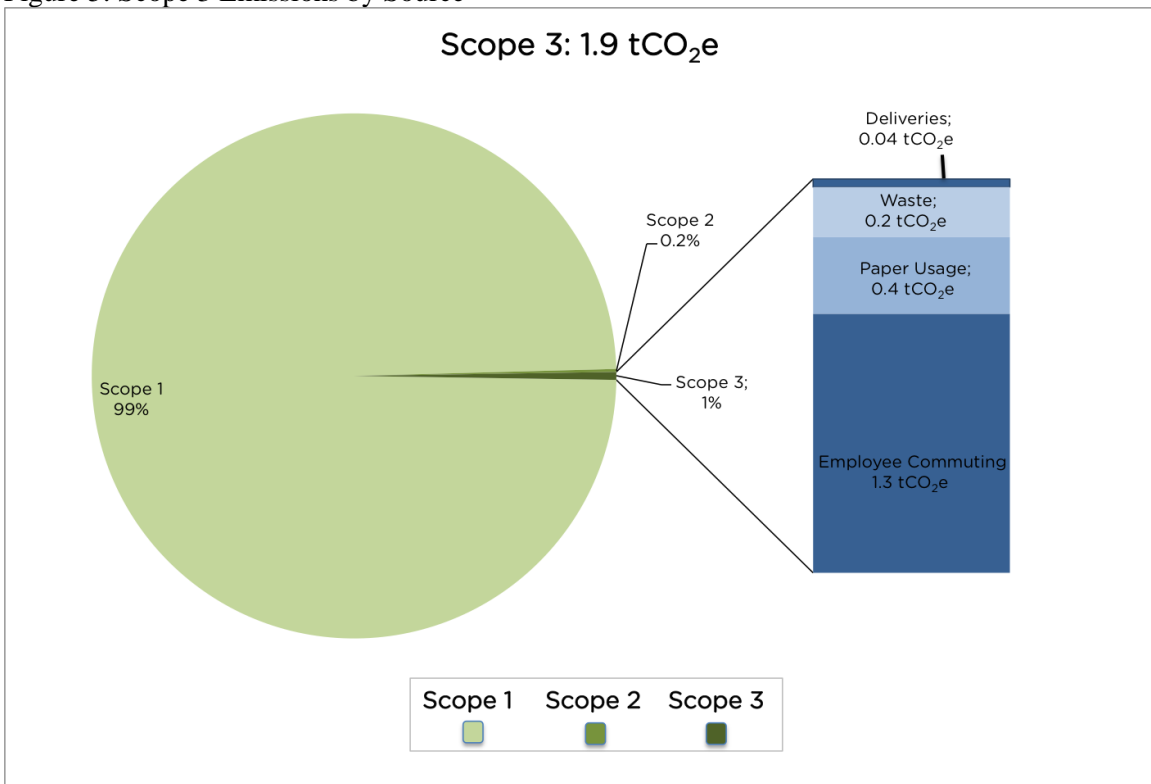


Figure 5: Scope 3 Emissions by Source



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