# Annual Sustainability Report

EAGLE WING TOURS

passion • explore • inspire

# Eagle Wing Tours

2017


| | |
|---|---|
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| Completed | 20/3/2018 |


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# Executive Summary

Eagle Wing Tours is a carbon neutral whale watching company based in Victoria, BC. The company has one small office/reception space at Fisherman's Wharf, three company vehicles, and five boats. 2017 marks the eighth year that Eagle Wing Tours has measured, reported, and offset their carbon footprint.

Total emissions in 2017 came to 958.0 $tCO_2e$, an increase of 13% over 2016. As passenger numbers continue to grow, Eagle Wing's fuel usage also grows, which is by far the greatest contributor to the overall footprint. Emissions per passenger came to 31 $kgCO_2e$, a decrease of 4% over 2016.

A notable change occured in waste. Total weight increased nearly 400%, with a 13-fold increase in organics. This was a result of increased tour numbers, improved reporting, and serving hot drinks in compostable cups.

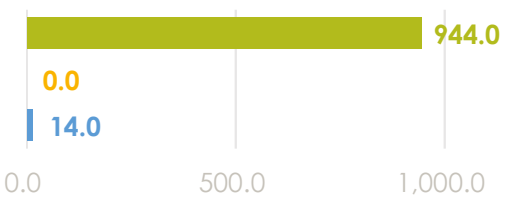
Decreases in emissions for 2017 occurred in shipping, as there were no large orders, and in paper use. As Eagle Wing does not order all their paper products on an annual basis, large fluctuations in this section will continue to occur. As a result of better purchasing practices, PCR content increased to 46% from 26% in 2016. Well done!

# Company Information

| | | | |
|---|---|---|---|
| Company Name | Eagle Wing Tours | | |
| Contact Information | Brett Soberg | info@eaglewingtours.com | (250) 384-8008 |
| Company Description | One office/reception building, five boats, three company vehicles. | | |
| Reporting Period | December 1st, 2016 - November 30th, 2017 | | |
| Inventory Boundary | **Scope 1 (Direct Emissions)**<br>- Gasoline, Marine Diesel (Fuel for boats and company vehicles) | | |
| | **Scope 2 (Indirect Emissions from Purchased Electricity)**<br>- Purchased Electricity (BC Hydro) | | |
| | **Scope 3 (Indirect Emissions from Other Sources)**<br>- Water, Waste, Stationery, Paper Products, Company Travel, Shipping, Service Calls, Staff Commuting | | |
| Consolidation Approach | Operational Control: Accounting for 100% of emissions from operations over which the company has operational control. | | |
| Primary Measurement | Carbon Dioxide Equivalent ($CO_2e$) | | |
| Reporting Guidelines | Aligned with those defined in *The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard, Revised Edition (The GHG Protocol, www.ghgprotocol.org)* . Emissions factors reviewed & approved by Offsetters. | | |

# Inventory Results

| | $tCO_2e$ | |
|---|---|---|
| Scope 1 (Direct) | **944.0** | 98.5% of annual total. |
| Scope 2 (Indirect) | **0.0** | 0.0% of annual total. |
| Scope 3 (Indirect) | **14.0** | 1.5% of annual total. |
| **TOTAL EMISSIONS** | **958.0** | |



# Carbon Footprint (Summary)

## Eagle Wing Tours

2017 Report

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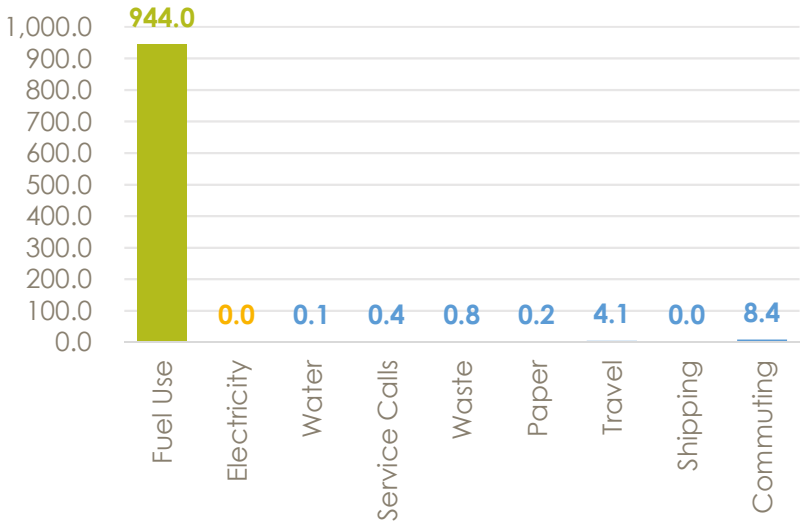
| Total emissions: **958.0** $tCO_2e$ | Offset cost*: **$14,370** |
|---|---|

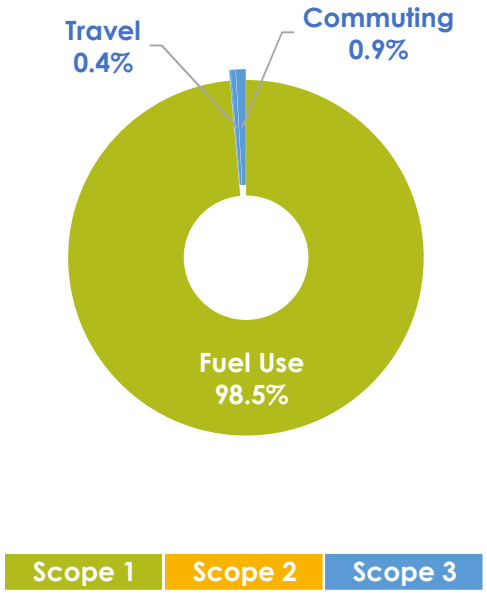
Emissions in 2017 came to 958.0 tCO2e, an increase of 13% over 2016. Emissions per passenger have decreased 4% over 2016 to 31 $kgCO_2e$.

**Assuming $15/tCO ₂e*

# Carbon Footprint (By Activity)

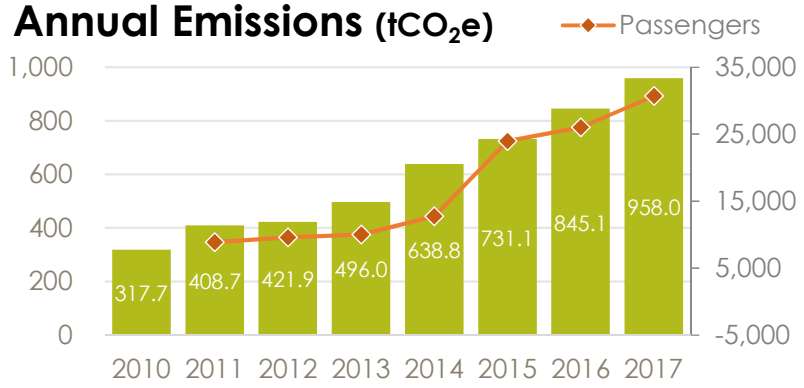
### Emissions by Activity ($tCO_2e$)




# Carbon Footprint (Historical)

### Annual Emissions ($tCO_2e$)

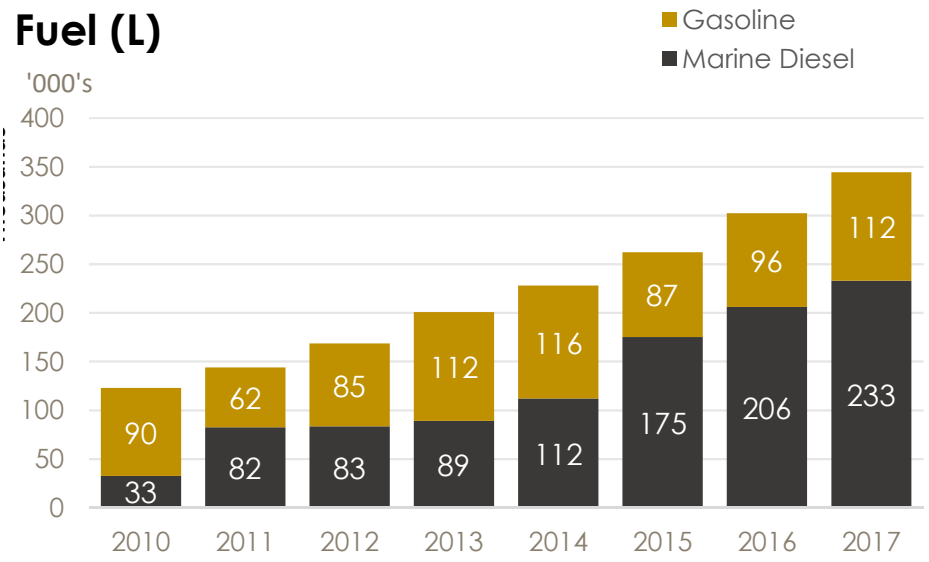



| | $tCO_2e$ Per Year | Change since Baseline | |
|---|---|---|---|
| | | $tCO_2e$ | Percent |
| 2010 | **317.7** | | |
| 2011 | **408.7** | 91.0 | 28.7% |
| 2012 | **421.9** | 104.2 | 32.8% |
| 2013 | **496.0** | 178.4 | 56.1% |
| 2014 | **638.8** | 321.1 | 101.1% |
| 2015 | **731.1** | 413.4 | 130.1% |
| 2016 | **845.1** | 527.4 | 166.0% |
| 2017 | **958.0** | 640.4 | 201.6% |

| | | | |
|---|---|---|---|
| 3,022.2 Barrels of Oil | 254.5 Cars per Year | 31.2 $kgCO_2e$/ passenger | $tCO_2e$ (Total) 958.0 |

# Fuel

## Fuel (L)

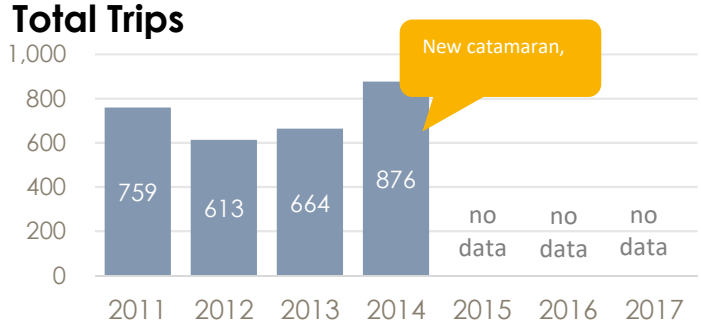



### Analysis

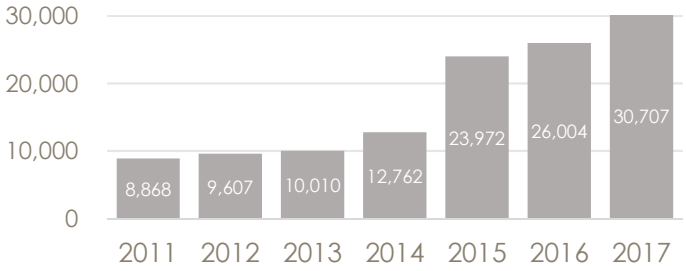
Fuel use continues to increase as Eagle Wing expands, and at 99% has by far the greatest impact on the carbon footprint of the company.

With an 18% growth in passenger numbers, fuel use, and associated emissions, increased 15% over 2016 to 944 $tCO_2e$. This equates to 30.7 $kgCO_2e$ per passenger from fuel.

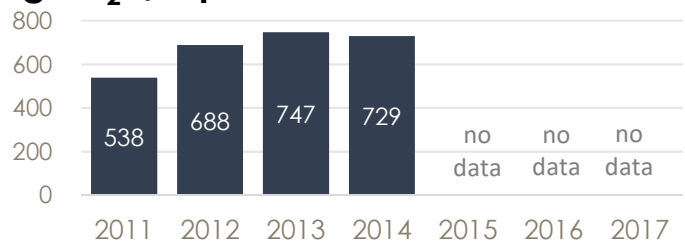
## Total Trips



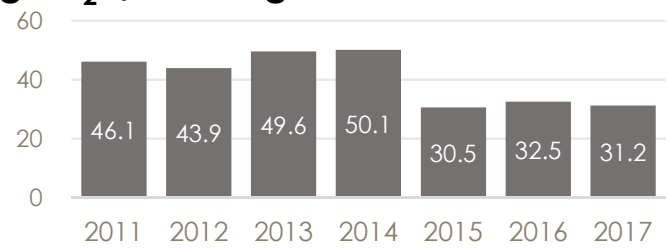

## Total Passengers




## $kgCO_2e$/Trip*




## $kgCO_2e$/Passenger*



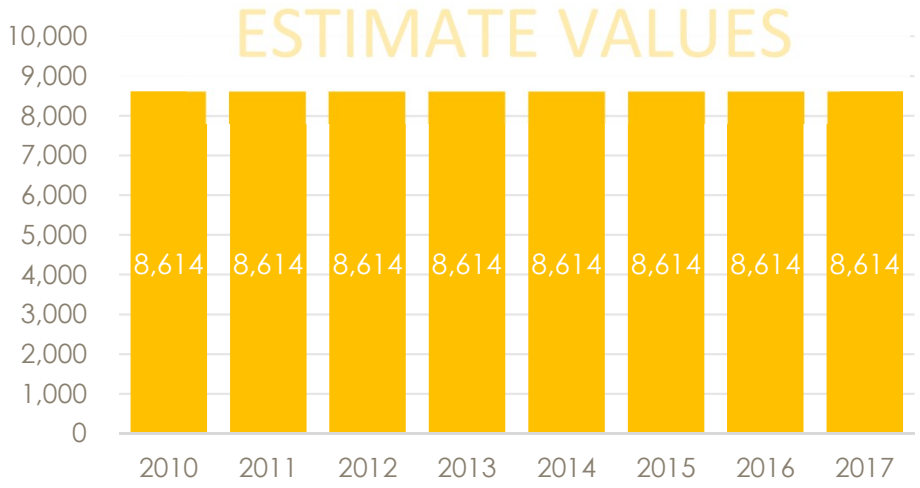

** based on total company emissions*

| 2017 KPI's | All boats | Change since 2014 Amount | Percent |
|---|---|---|---|
| Total 2017 Passengers | 30,707 | 17,945 | 141% |
| kgCO2e/Passenger | 31.2 | -19 | -38% |

| Litres/ Day | 944 | $tCO_2e$ | 944.0 | % of Total | 98.5% | 250.7 Cars/ Year |
|---|---|---|---|---|---|---|

# Electricity

## Electricity (kWh)




### Analysis

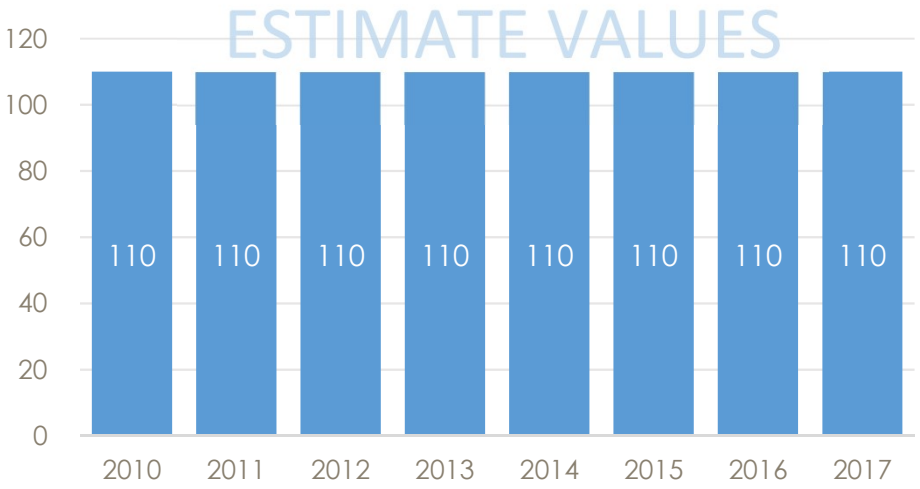
Eagle Wing Tour's electricity is estimated based on square footage, as it is not metered separately from other tenants at Fisherman's Wharf. As such, any conservation improvements will not be seen, but are very much encouraged.

*Note: Eagle Wing's electricity has no associated carbon emissions, since it is purchased through Bullfrog Power*

| kWh/ $ft^2$ | $tCO_2e$ | % of Total | |
|---|---|---|---|
| 18 | N/A* | N/A* | 0.8 Houses |

# Water

## Water ($m^3$)



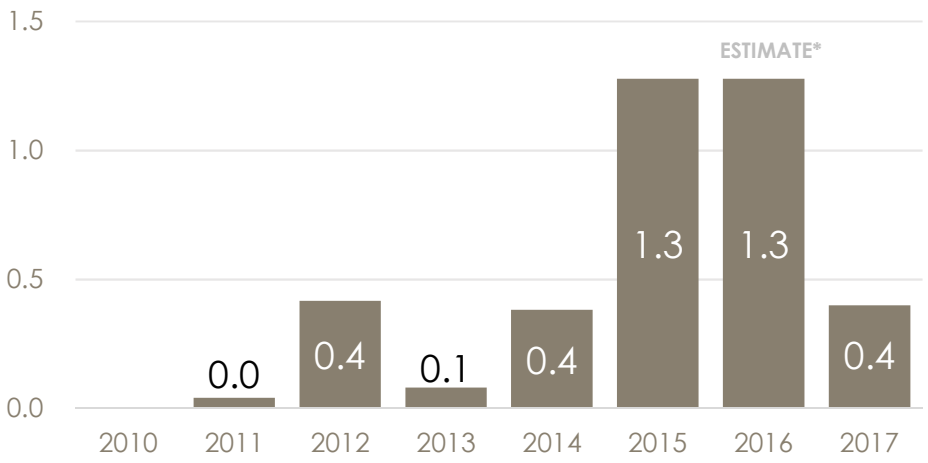

### Analysis

Minimal water is used in Eagle Wing Tour's office. It is measured based on square footage, and is not metered separately from surrounding businesses. As such, any conservation improvements will not be seen, but are very much encouraged.

| $m^3$/ $ft^2$ | $tCO_2e$ | % of Total | |
|---|---|---|---|
| 0.2 | 0.1 | 0.0% | 501 Baths (50gal) |

# Service Calls

## Emissions ($tCO_2e$)




### Analysis

Service calls consist of the trips made by Eagle Wing mechanics to the docking station in Sidney, BC where the boats are serviced.
In 2017, trips were made 5 days per week in the Summer.

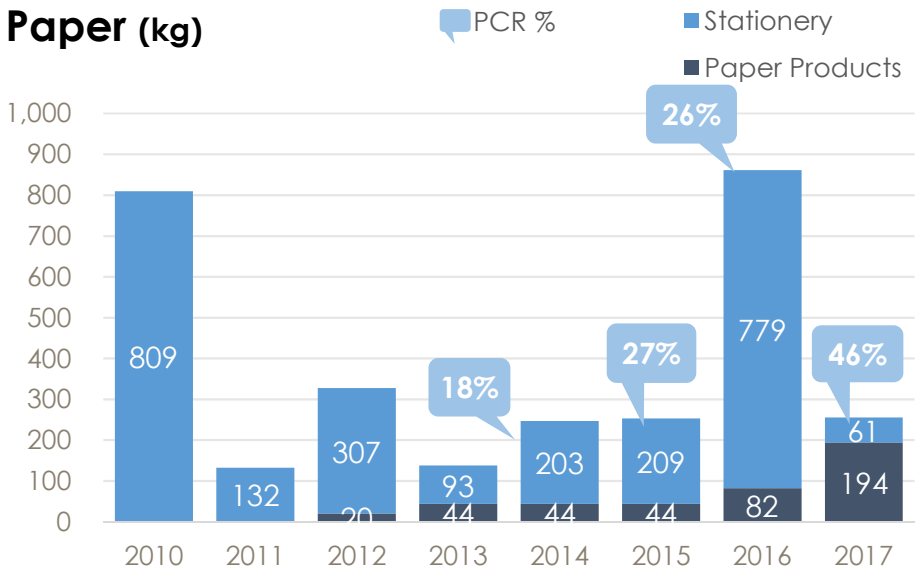
Service calls were significantly larger in 2015 when a new boat was added to the fleet.

*Note: Data for Service Calls was unavailable for 2016, and was assumed to be the same as 2015.*

| Visits/ Day | 5.2 |
|---|---|
| $tCO_2e$ | 0.4 |
| % of Total | 0.0% |
| 0.1 Cars / Year | |

# Paper

## Paper (kg)




### Analysis

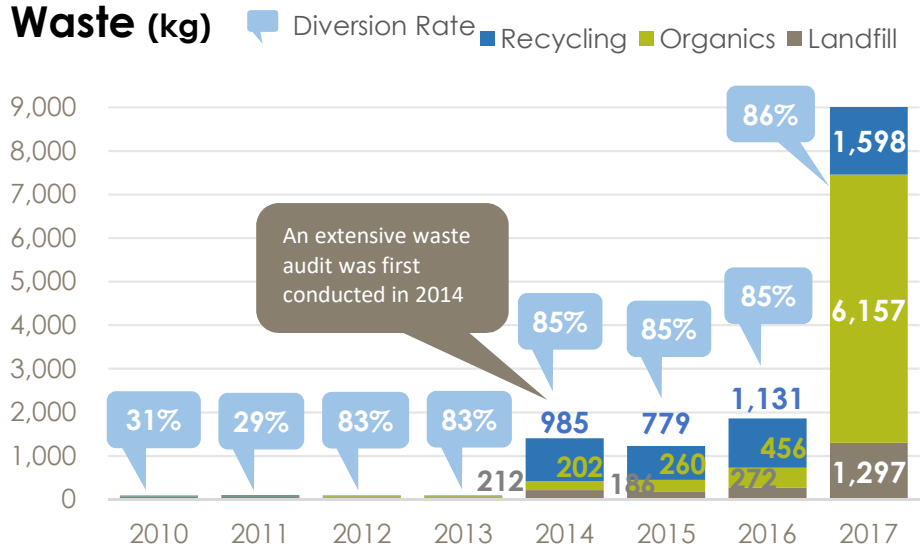
Stationary ordering at Eagle Wings is not done on an annual basis. This leads to years with very high purchasing (2016) and years with much lower purchasing (2017). For example, in 2017 there were no brochures or posters printed.

PCR content increased due to better purchasing practices, with most products containing at least 30% PCR.

*Note: Stationary includes brochures, waivers, office paper, business cards, flyers, and posters; and paper products includes toilet paper, paper towels, and facial tissue.*

| Treeless Content | 46% |
|---|---|
| $tCO_2e$ | 0.2 |
| % of Total | 0.0% |
| 3.7 Trees / Year | |

# Waste




## Analysis

Total waste in 2017 increased a significant 387%, particularly within organics. This was a result of increases in: increased number of guests and improved waste diversion. It was also noted there was a large over-ordering of food for familiarization tours, a practice that will not be continued moving forward.

*Note: In 2017 an emissions factor for organic waste was introduced*

| kg/ Day | 25 |
|---|---|

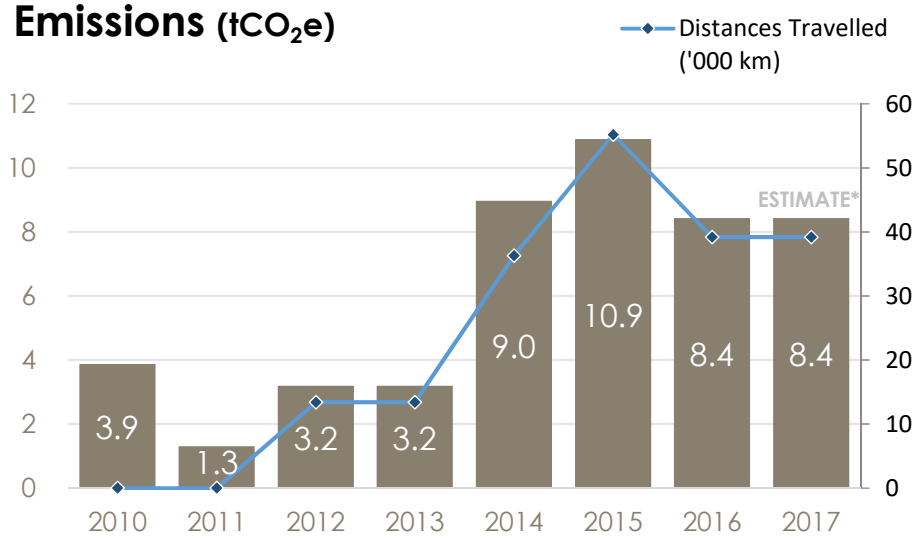
| $tCO_2e$ | 0.80 |
|---|---|

| % of Total | 0.1% |
|---|---|

85.7%
Diversion Rate

# Commuting

## Emissions ($tCO_2e$)



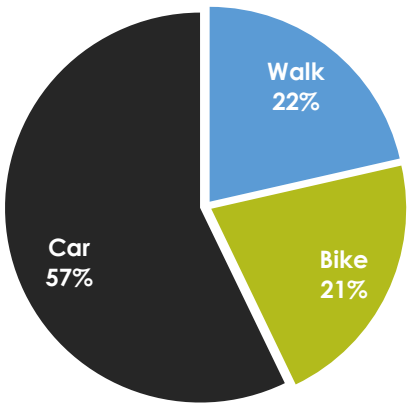

### Analysis

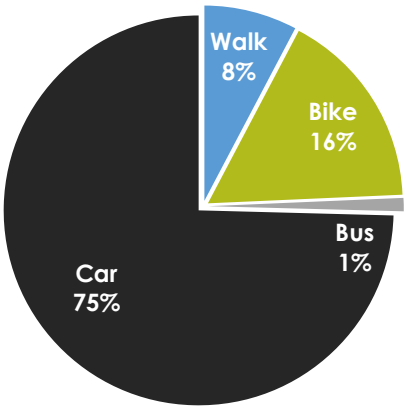
A staff commuting survey was not conducted during the summer of 2017. The data from 2016 was carried forward as an estimate to avoid underreporting emissions.

These emissions equate to 8.4 $tCO_2e$, equivalent to just over two cars per year. Commuting is also the second largest contributor to overall emissions at 0.9%.

**Note: Data for Staff Commuting was unavailable for 2017, and was estimated to be the same as 2016.*

## Commuting Percentages by Method per Day




| Baseline (2012) | |
|---|---|
| Average $kgCO_2e/km$ | 0.238 |
| Low-Emission Commuting % | 43% |

| Current (2017) | |
|---|---|
| Average $kgCO_2e/km$ | 0.215 |
| Low-Emission Commuting % | 25% |

### Analysis (Breakdown)

Using 2016 data, low-emission commuting was 25%. This is a reduction from the 2012 base year at 43%, due to significantly more staff commuting by car.

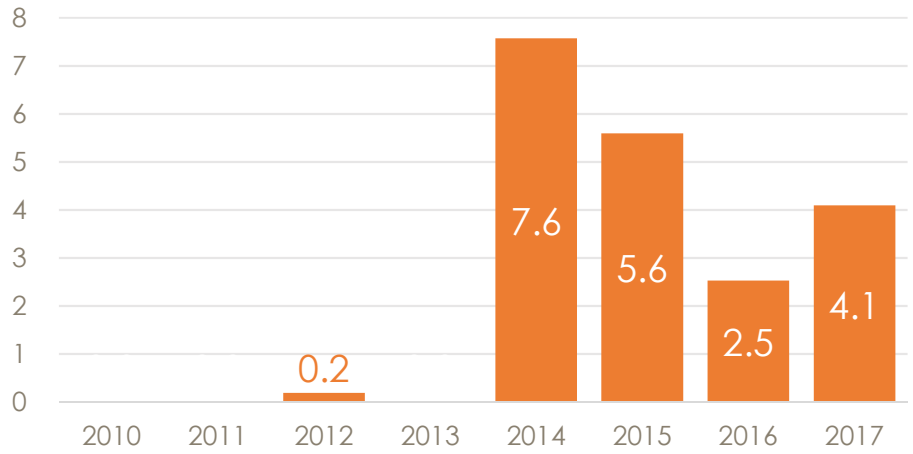
As indicated by staff in 2016, the most common reason for the use of personal vehicles were excessive distance, and a lack of transit infrastructure to Fisherman's Wharf.

*Note: The staff commuting survey was conducted in the summer season of 2016 to get a more accurate representation of staff commuting habits. This survey received a 100% response rate.*

| $tCO_2e$/ FTE | 0.32 |
|---|---|
| $tCO_2e$ | 8.4 |
| % of Total | 0.9% |
| 2.2 Cars / Year | |

# Travel

## Emissions ($tCO_2e$)

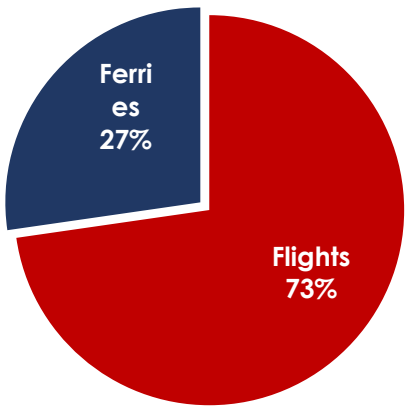


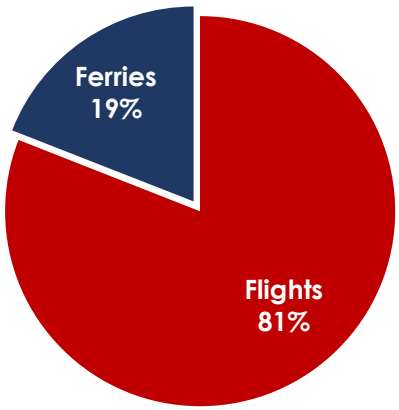

### Analysis

Eagle Wing Tours does not conduct much business travel as part of general operations. Over the past three years, several trips were made to research, view, and purchase new boats.

In 2017, one traveller took return flights to Calgary, one to Montreal, and four trips to Ottawa were made.

## Travel Percentages by Number of Trips




| Previous (2016) | |
|---|---|
| Average $kgCO_2e/km$ | 0.104 |
| Low-Emissions Travel % | 27.3% |

| Current (2017) | |
|---|---|
| Average $kgCO_2e/km$ | 0.106 |
| Low-Emissions Travel % | 19.0% |

### Analysis (Breakdown)

A total of sixteen flights and four ferry trips were taken in 2017, compared to eight flights and three ferry trips in 2016.

AT 4.1 $tCO_2e$ travel is the third largest contributor to Eagle Wing's overall footprint. Continuing to limit travel will keep emissions low.

Distances Travelled (km)

| | Flights | Ferries |
|---|---|---|
| 2014 | 34,894 | 423 |
| 2015 | 80,622 | 0 |
| 2016 | 24,116 | 141 |
| 2017 | 38,315 | 188 |

| $tCO_2e$ / FTE | 0.16 |
|---|---|

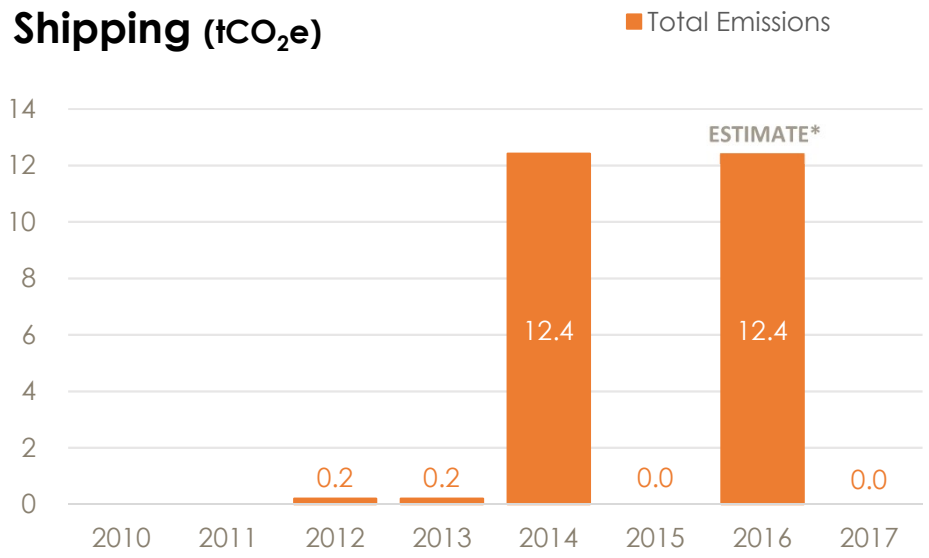
| $tCO_2e$ | 4.1 |
|---|---|

| % of Total | 0.4% |
|---|---|

| 1.1 Cars / Year |
|---|

# Shipping

## Shipping ($tCO_2e$)




### Analysis

Shipping at Eagle Wings has been associated with purchasing new boats. The scope for shipping has been set to include anything over 50lbs.

As no new boats were purchased in 2017 there was also no shipping, and no emissions in this section.

**Note: 2015 Shipping data was unavailable for the new catamaran. Estimate based on 2014 shipping data when the first catamaran was purchased and retrofitted.*

| $kgCO_2e$/km | $tCO_2e$ | % of Total | Cars / Year |
|---|---|---|---|
| 0.0 | 0.0 | 0.0% | 0.0 |

# Carbon Reduction Strategy

Over the last several years Eagle Wing Tours has made great efforts to mitigate their environmental impact while continuing to grow their business. Since 2011, passenger numbers have increased from 8,886 to 30,707. With two fuel efficient catamarans now part of the fleet, emission per passenger has once again reduced to 31 $kgCO_2e$, a 4% reduction over 2016.

Eagle Wing Tours is committed to operating as a carbon neutral business, offsetting 100% of their carbon footprint each year.

To help increase data accuracy in future reports, Eagle Wing should strive to improve their data recording methods. As waste amounts saw such a large increase over 2016 this area in particular should see improved recording. An example may be an easily accessible spreadsheet that can be filled every time a bin is emptied.

# Achievements

- Carbon Neutral for eight years

- Reduced emissions per passenger by 4% over 2016

- Waste diversion rate of 86%

- Two fuel efficient catamarans in fleet

- Increased PCR content to 46%

# Moving Forward

- Research opportunities to convert motors to biodiesel, hybrid and/or electric

- Measure acoustic footprint. Create baseline for noise levels of all boats

- Return to printing waivers on wheat sheet/ sugar sheet

- Improve data collection for waste to ensure accuracy

- Continue collecting data on number of trips made per year. This will improve emissions reporting and allow a better understanding of environmental performance

# Information on Inventory Uncertainty

* Electricity and Water use are estimates based on billing and square footage, as Eagle Wing is not independantly metered for these utilities.

* Started ordering paper products from Soap Exchange in June. Extrapolated total values based on 2016 data to get reasonable totals.

* No staff survey was sent during summer 2017. 2016 data used.

# Emissions References

1. 2016/17 B.C. Best Practices Methodology for Quantifying Greenhouse Gas Emissions
http://www2.gov.bc.ca/gov/content/environment/climate-change/policy-legislation-programs/carbon-neutral-government/measure

2. Environment Canada's National Inventory Report (1990-2014); Part 2 & 3.
http://unfccc.int/files/national_reports/annex_i_ghg_inventories/national_inventories_submissions/application/zip/can-2016-nir-14apr16.zip

3. Department for Environment, Food & Rural Affairs (UK) Carbon Factors
https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2016

4. Intergovernmental Panel on Climate Change (Global Warming Potentials)
http://www.ipcc.ch/publications_and_data/ar4/wg1/en/ch2s2-10-2.html

All emissions factors are reviewed and approved by Offsetters (www.offsetters.ca) on an annual basis.

**Policy for Base Year Recalculation:**
Base year emissions, and other previous emissions, shall be retroactively recalculated if a change in organisational structure or data quality is expected to exceed a significance threshold of 10% of base year emissions. These changes may arise from structural changes such as mergers, acquisitions, divestments, outsourcing or insourcing, changes in calculation methodology and improvements in accuracy, or discovery of significant errors.

# Glossary of Terms

| Term | Description |
|---|---|
| CFL | **Compact Fluorescent Light** |
| GHG | Greenhouse Gas (emissions): Atmospheric gasses contributing to the greenhouse effect, including Carbon Dioxide ($CO_2$), Methane ($CH_4$), Nitrous Oxide ($N_2O$), etc. |
| GJ | **Gigajoule**: Unit of natural gas equal to 26.137 $m^3$ or 0.947 MMBtu |
| HVAC | **Heating, Ventilation & Air Conditioning** |
| kWh | **Kilowatt-Hour**: Common unit for measuring electrical consumption |
| LED | **Light Emitting Diode**: A form of highly efficient lighting technology |
| $m^3$ | **Cubic Meter**: Unit of measurement equal to 1,000 Litres |
| PCR% | **Post-Consumer Recycled Content** (as a percentage) |
| psg-km | **Passenger-Kilometer**: Unit separating total emissions between passengers per km |
| Ream | Standard unit of paper measurement equal to 500 sheets (with 10 reams in one box) |
| $tCO_2e$ | **Tonnes of Carbon Dioxide Equivalent**: GHGs have different warming potentials, measured collectively as $CO_2$ equivalent (hence "e") |
| t-km | **Tonne-kilometer**: A unit of measurement used in shipping |


| | |
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| Verified By | Kayli Anderson & Eryn Beddoes |
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| Completed | 20/3/2018 |


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