



ANNUAL SUSTAINABILITY REPORT 2019

CARBON FOOTPRINT & OFFSETTING



Campbell River Whale Watching &
Adventure Tours Says "Thank You" to
Nature



Completed in cooperation with
Wilderness International

Annual Sustainability Report 2019

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Campbell River Whale Watching & Adventure Tours Says “Thank You” to Nature

Summary

Campbell River Whale Watching & Adventure Tours is a carbon neutral whale watching and Grizzly bear tour company based on Vancouver Island, BC. The company has one small office/reception space at The Discovery Harbour Marina on Dock E in Campbell River, one company vehicle, and eight boats.

2019 marks the second year that Campbell River Whale Watching & Adventure Tours has measured, reported, and offset their carbon footprint. In 2018, the company already protected 6 848 m² of forest. The trees in this area have sequestered 717.6 t CO₂ in their biomass, which is 1.5 times the amount that would have been necessary to offset Campbell River Whale Watching's 2018 carbon footprint entirely.

Total emissions in 2019 came to 456.27 t CO₂e. As passenger numbers continue to grow, Campbell River Whale Watching's fuel usage also grows, which is by far the greatest contributor to the overall carbon footprint. In 2019, Campbell River Whale Watching & Adventure Tours together with its guests, has protected 10481 m² of pristine old-growth forest in British Columbia. The trees in this area have sequestered 1098.3 t CO₂ in their biomass, which is 2.4 times the amount that would have been necessary to offset Campbell River Whale Watching's carbon footprint entirely. This marks a generous assumption of responsibility for habitat and biodiversity protection, and therefore sustainability in general.

In total, since 2018, the company together with its guests has protected 17329 m² of forest.

Company Information

Company Name Campbell River Whale Watching & Adventure Tours

Contact Tyler Bruce: tyler@crww.ca, 250-792-0185 | Stephen Gabrysh: stephen@crww.ca, 778-874-3353

Description one office/reception building, eight boats, one company vehicle

Reporting Period January 1st, 2019 – December 31st, 2019

Primary Measurement Carbon Dioxide Equivalent (CO₂e)

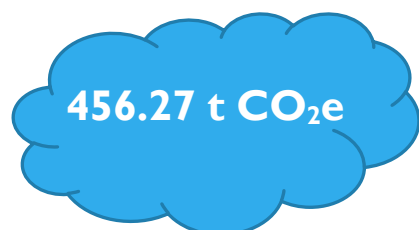
Reporting/Calculation Guidelines Basis: data of 2019

Offsetting Approach Protection of pristine primary forests and wildlife habitat in the Toba Valley, BC with Wilderness International

Total Emissions all Scopes:

Emissions per Passenger:

Total Offset:

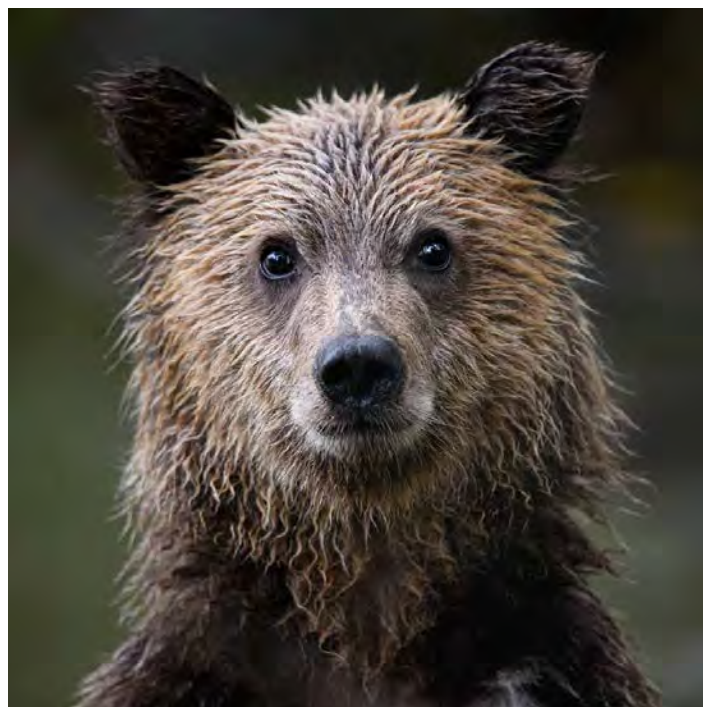


62.2kg CO₂e



10481 m² of ancient forest protected

→ 2.4x the area needed to offset emissions



About Wilderness International

Wilderness International is a Canadian-German non-profit organization. Our passion is protecting unique and pristine wilderness areas all over the world. Right now, our focus is on the last old-growth forests of the West Coast of British Columbia. The protected areas are located in the Toba Valley, 160 km north of Vancouver City and 100 km east of Campbell River.

There, we have the chance to protect primary forests and wildlife habitat legally secure through purchase as property. The entry in the land registry marks Wilderness International as legal owner of the forest areas. We leave the areas as they are, as undisturbed unique ecosystems. The purchases are refinanced by donations.

Thereby, together with over 20000 students in Germany and various partners like Air Canada, DIAMIR, Herolé and many more, we have been able to protect more than 4.5 million m² of temperate rainforest. Every donor receives a personalized certificate with the exact geo-coordinates of the area of forest protected. We strive to engage all kinds of different people in our projects to protect as much forest as possible.

Numerous scientific institutions support our research projects on CO₂-absorption and biodiversity in the coastal rainforests.

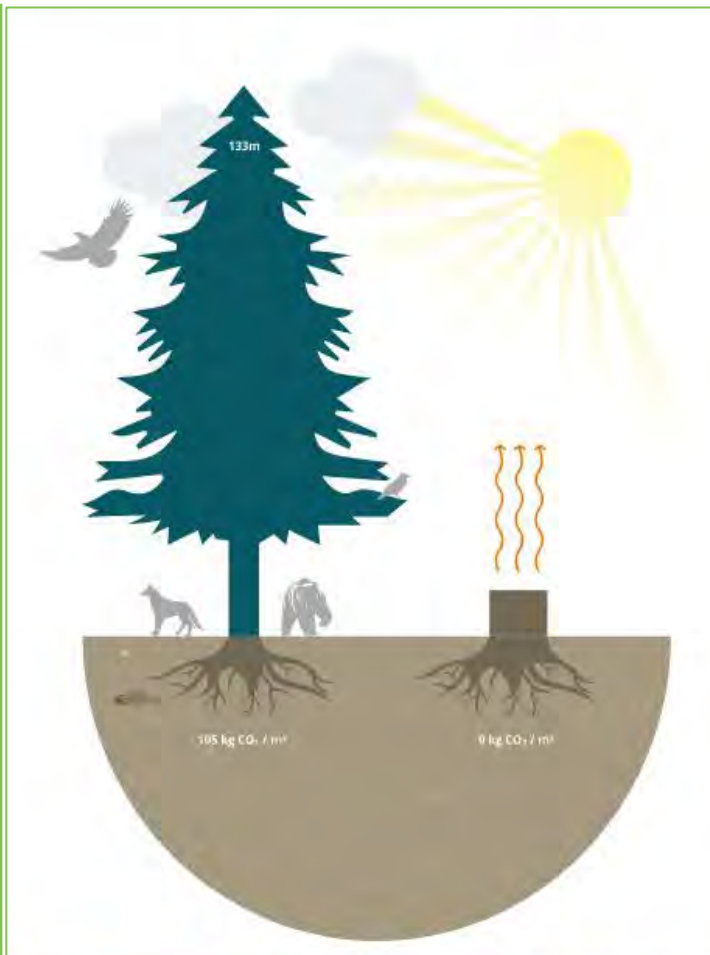
This rainforest is home to ancient tree giants, wild Grizzlies and crystal-clear rivers full of lively salmon. And yet, only 25% of this valuable ecosystem remain. The protection of the remaining ancient forests is essential, as we profit from their benefits all over the world.

Wilderness areas are expressions of nature in its most original form. They are our inspiration, and our ancient home. Only in these ecologically most diverse areas is everything connected in a natural balance. If this harmony is destroyed, the network of life is also torn.

Wilderness International's CO₂ Research & Offsetting

Led by our Forestry scientist Kai Andersch and our Geography scientist Hannes Holtermann in cooperation with Professor Andreas Huth, the leading German forest carbon data scientist from the Helmholtz-Centre of Environmental Research in Leipzig, we have established 24 permanent sample plots in the forest which we use for regular remeasurements of the biomass of trees. The trees in the Toba Valley sequesterate 28.55 kilograms of carbon per square meter each, equaling 104.79 kilograms of CO₂ per square meter of rainforest.

Over the centuries of its growth, a square meter in the temperate rainforest sequesters 104.79kg of CO₂ in their biomass. Even more carbon dioxide is sequestered while the trees continue to grow. Should the forest be logged, the sequestered CO₂-storage is released when processing the wood. Biodiversity is lost, and without the natural cooling functions of the vegetation it gets drier and hotter.



By protecting forest, CO₂ remains sequestered in living biomass, and biodiversity and habitats are preserved for all times. This is the perfect way to say “Thank you” to nature. This balances out unavoidable emissions.

The advantage of our unique approach lies in the combination of the protection of forest and river habitat with CO₂ offsetting projects. And Wilderness International guarantees the location and unique preservation of every square meter of land by certificate with geo-coordinates.

Cooperation: Wilderness Protection and Carbon Neutrality

Campbell River Whale Watching & Adventure Tours needs intact nature to operate the business. Protecting nature means protecting the very base of their business and saying “Thank you” to nature for the great experiences it provides us with during Whale Watching.

While offsetting carbon emissions, Campbell River Whale Watching & Adventure Tours also protects prime salmon habitat, the very base of life of the whales, grizzlies and other animals that guests come to see. They take action locally and directly connected to their guests’ experience. The tangible conservation of rainforest in BC makes the engagement directly traceable for the guests and the public.

After their tour, every guest receives a postcard with a code on it. With this code, they are able to go online to create and receive their personalized certificate for the area of forest they helped to protect. That way, guests take a tangible souvenir home with them, a little piece of Canada, a fond memory materialized. Additionally, every guest is able to voluntarily donate more money if they chose to.

Every year, Campbell River Whale Watching & Adventure Tours gets a certificate showcasing the amount of forest that was protected.

In 2019, Campbell River Whale Watching & Adventure Tours together with its guests has protected 1m² of forest for every person going on a Whale Watching or Adventure tour or Grizzly bear trip. This equals the size of the fin of an Orca whale for every guest. Additionally, guests were incentivized to protect an extra 1 CAD.

In 2020, guests will be incentivized to donate up to 2 CAD, and to offset the emissions of their entire trip in BC.



Campbell River Whale Watching & Adventure Tours is saying “*Thank you*” to nature for the great experiences it provides us with during every whale watching and Grizzly bear tour!

Wilderness

ADOPTION CERTIFICATE



With this certificate

Campbell River Whale Watching

15. January 2020

has adopted **10481 m²** of Western Canadian Rainforest. The title to this land is held by Wilderness International and sponsored by Campbell River Whale Watching together with their guests going on a tour in 2019.

The coordinates of the top left corner of your sponsorship area:
W124°11'45.508" N50°30'26.320"

More information and impressions at: www.facebook.com/wildernessinternational



In adopting this precious piece of Canadian Coastal Rainforest you have helped to protect a threatened natural environment we call – »Land of the Grizzly«. For this we thank you! With your help we can further extend the conservation area, ultimately protecting vast areas of forest from deforestation. With your assigned sponsorship number you can locate your protected piece of land at our homepage.

www.wilderness-international.org/land-of-the-grizzly

Kai Andersch
CEO
Wilderness International

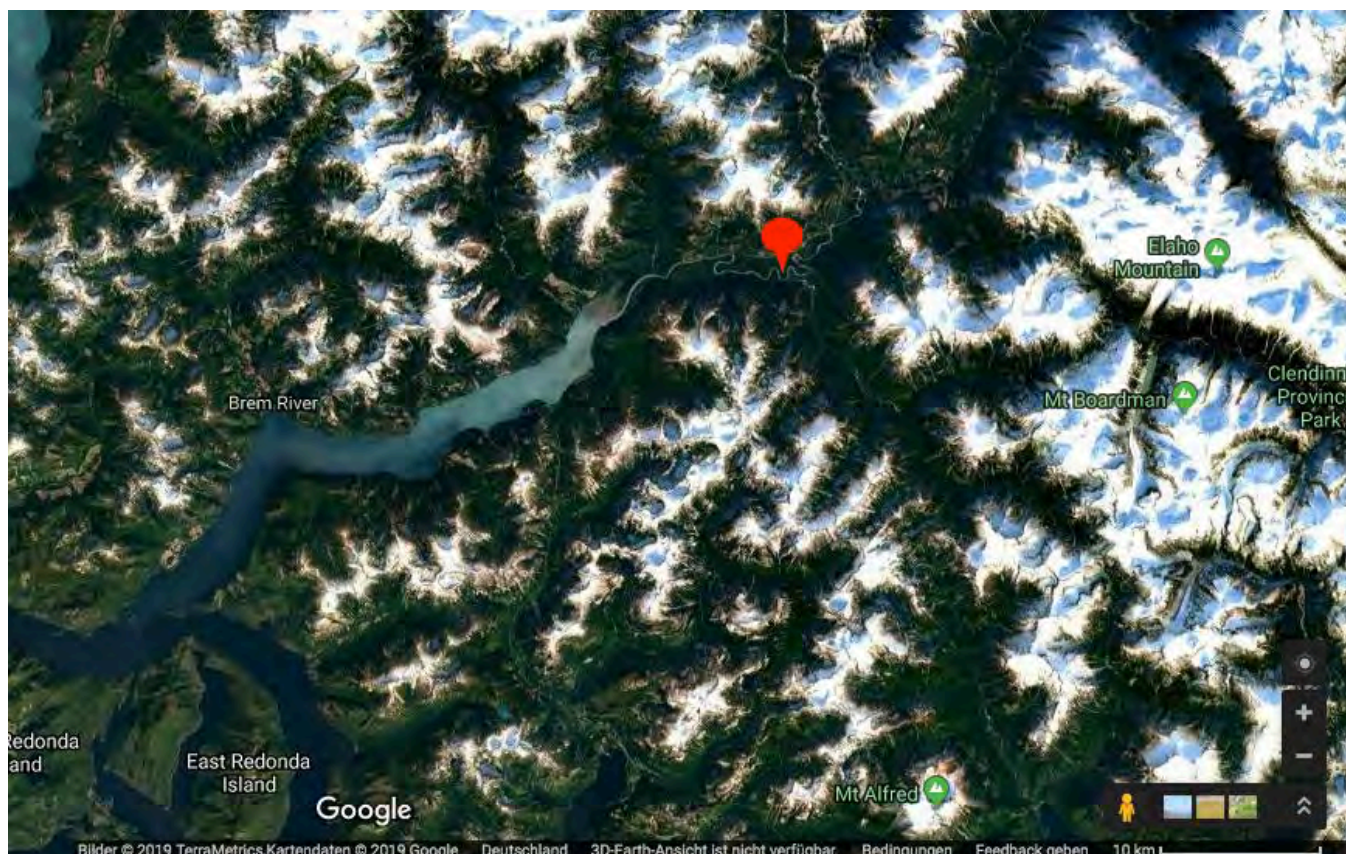
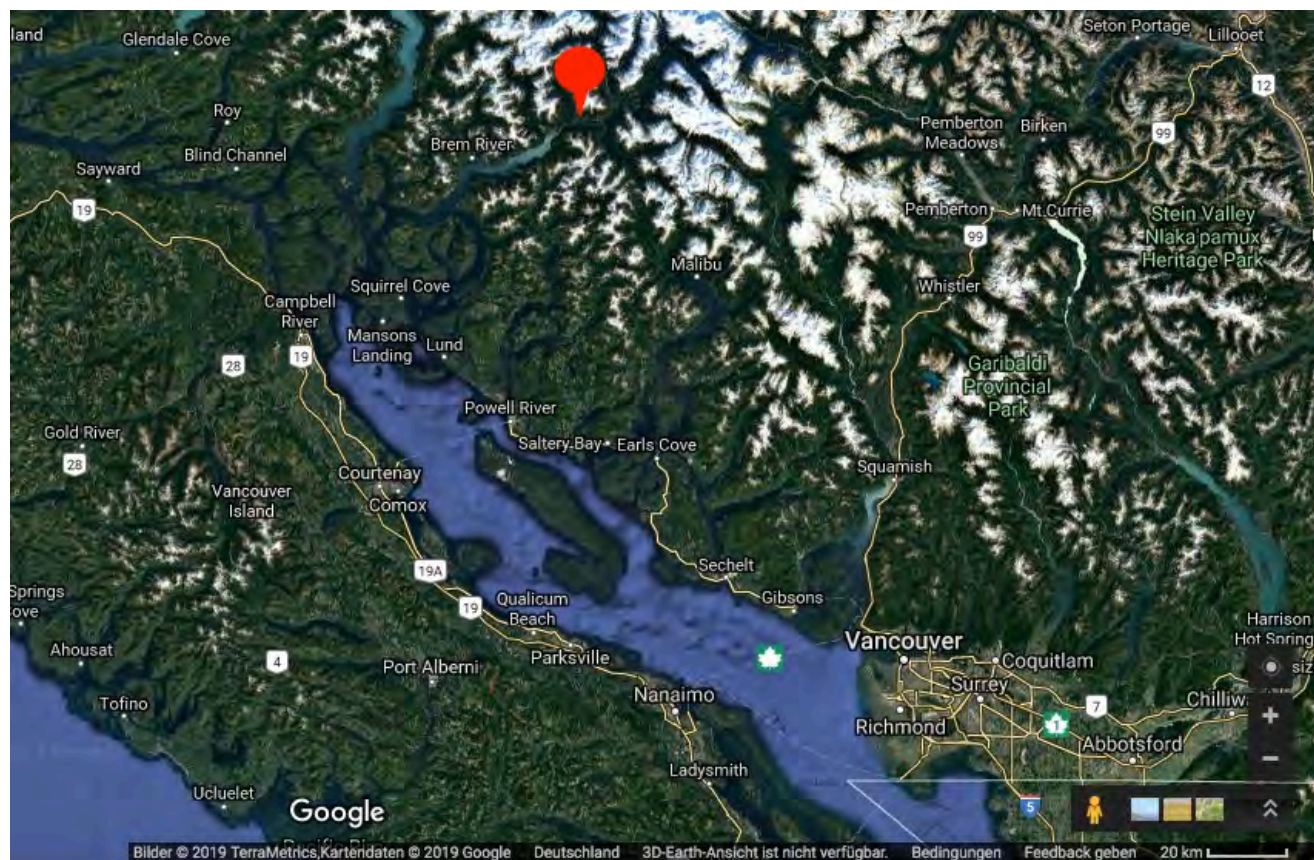
Ronny Scholz
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*The coordinates can vary slightly from the exact geographic position.



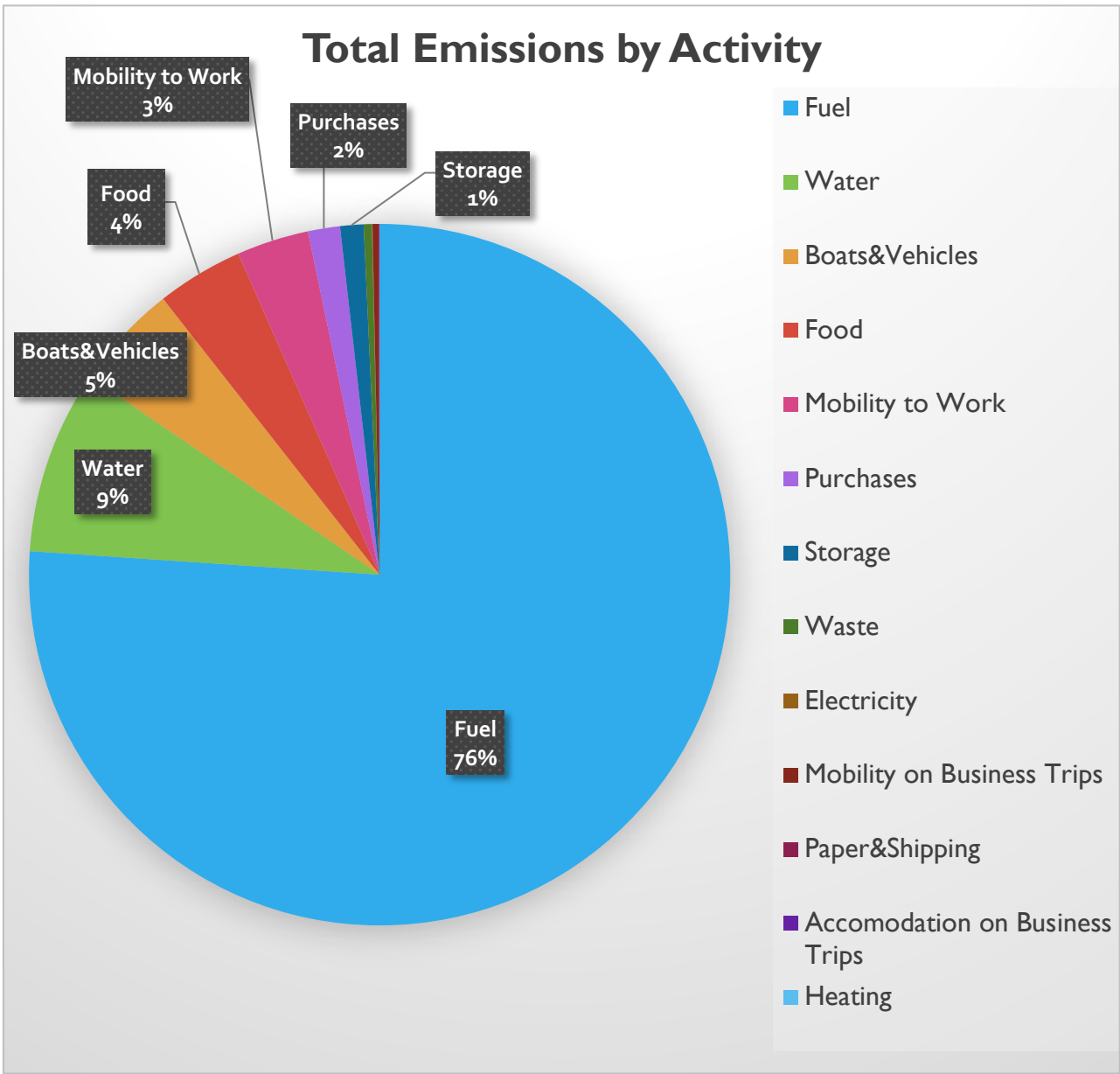


Carbon Footprint

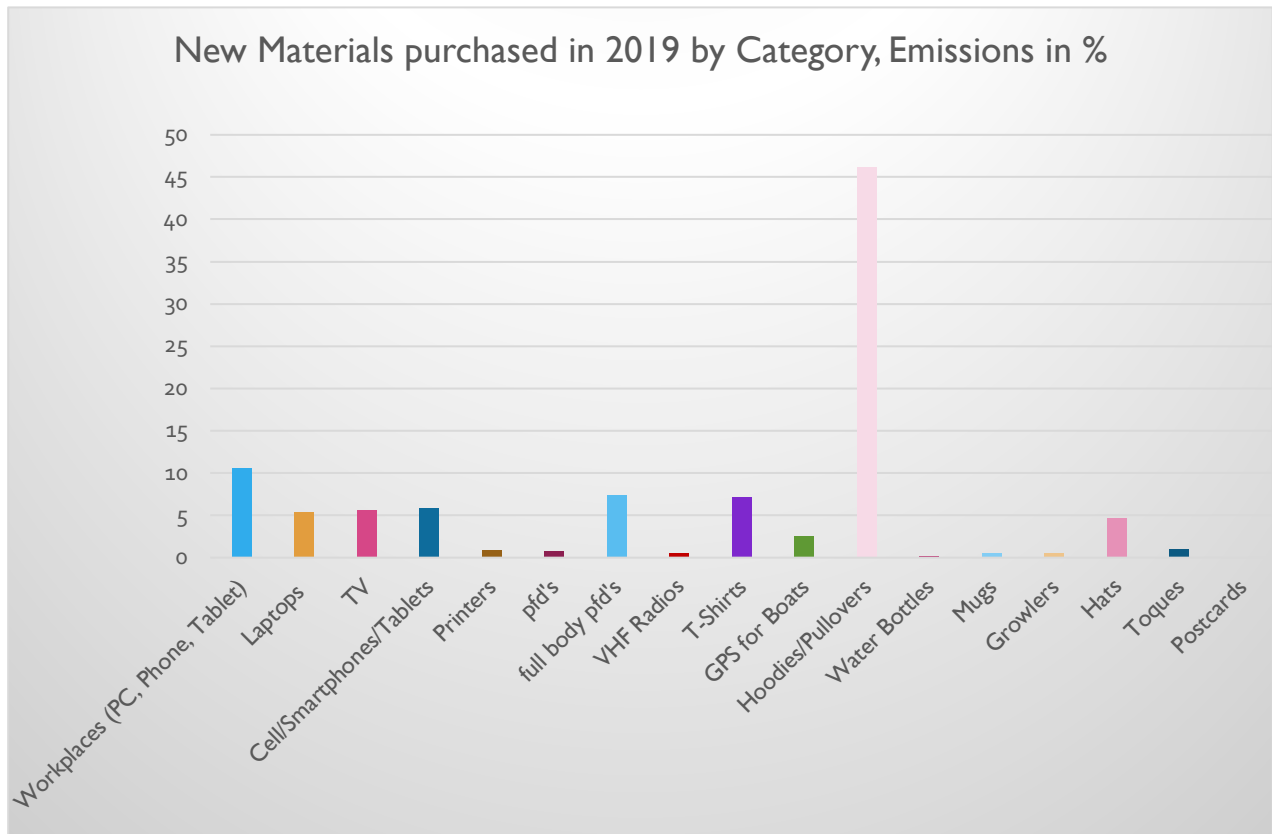
Summary

Total Emissions	Offset Cost*
456.27 t CO ₂ e	4354.11 CAD

- 1m² of forest in the Toba Valley offsets 0.10479t of CO₂, 1m² of forest is protected with 1 CAD



New Materials



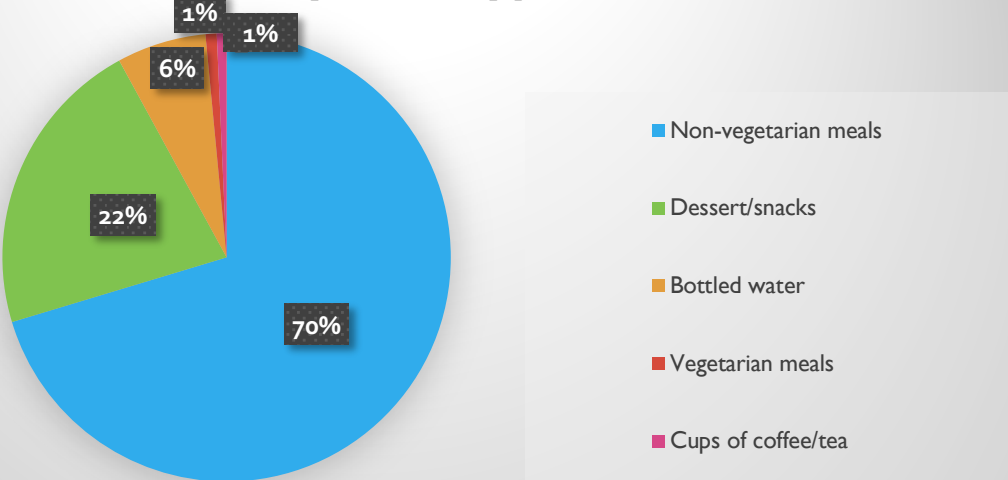
Analysis

Fabric merchandise accounts for most emissions in this category, as well as the purchase of new technology. While these emissions might be hard to reduce or eliminate, an important focus should be placed on the sustainable and fair production, high quality and long-term use of those products.

Food

(Guests&Staff)

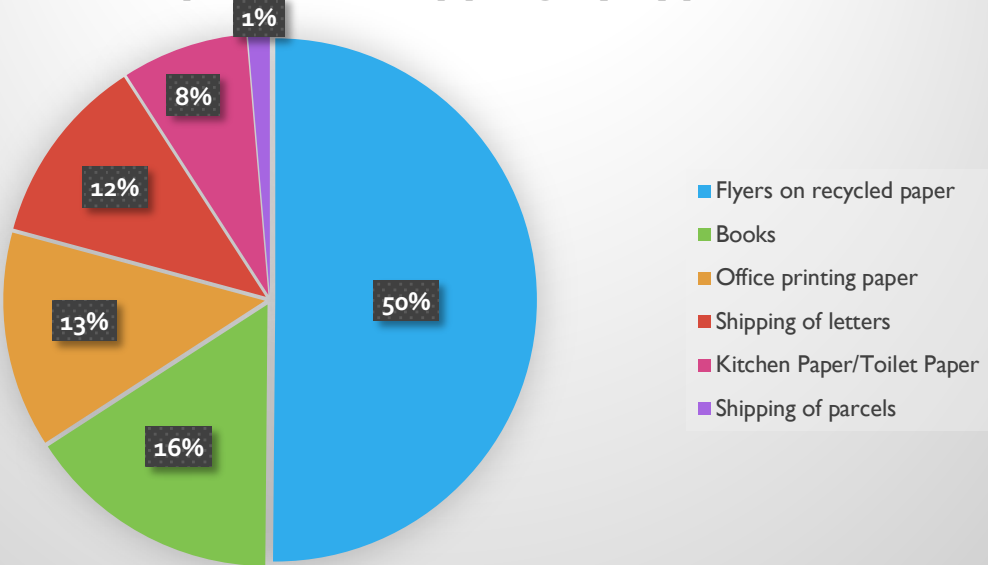
Food by Meal Type



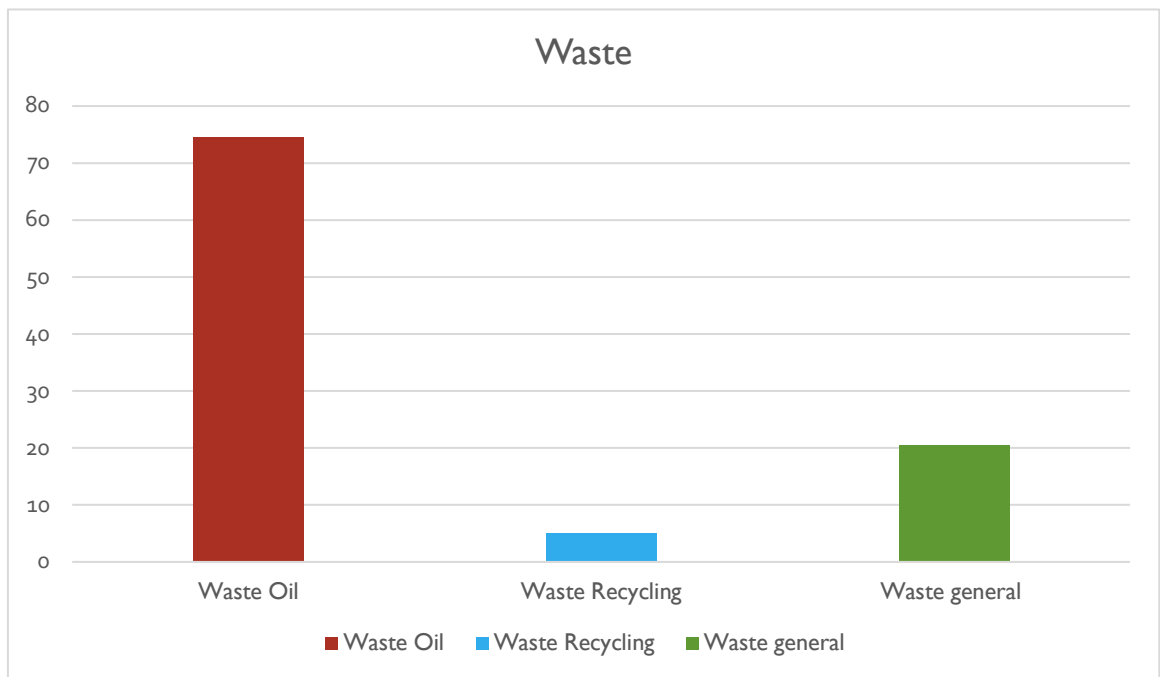
Disclaimer: For the purpose of this report, the carbon figures for all meals/food calculations were done assuming standard farming practices. Sustainable and organic farming methods were not incorporated at this time.

Paper and Shipping

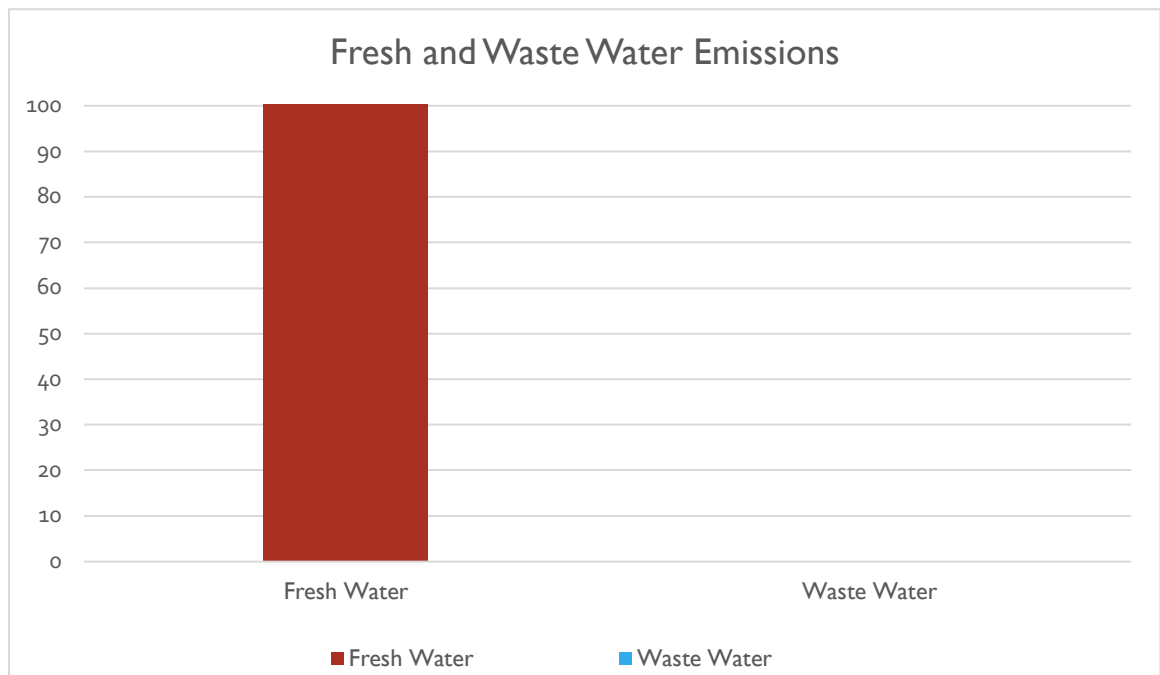
Paper and Shipping by Type



Waste, Emissions in %

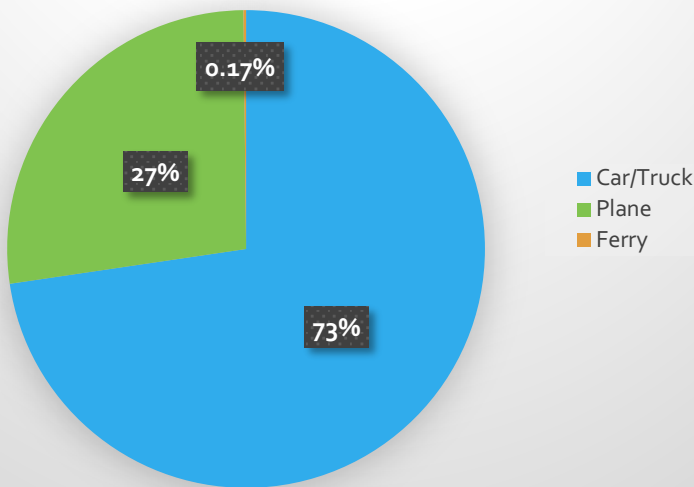


Water, Emissions in %



Mobility

Business Trips by Mean of Transport



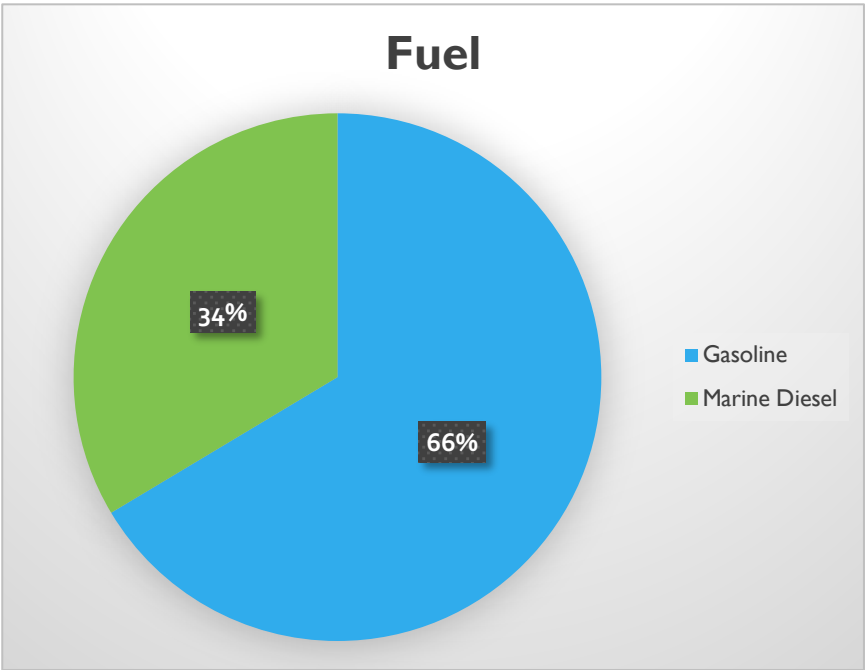
Analysis

Emissions of work-related mobility majorly stem from car and truck emissions, and only one short-distance flight, making up a total of 1.3% of the entire carbon footprint.

Although walking and biking are already used as another way of getting work, relying more on non-emittent travel and public transport or car pooling as far as feasible will help to reduce emissions further.

Fuel

Fuel



Carbon Reduction Strategy

With the start of the carbon offsetting project, Campbell River Whale Watching & Adventure Tours has made a great effort to offset their environmental impact while continuing to manage a profitable business. Campbell River Whale Watching & Adventure Tours is committed to operating as a carbon neutral business, offsetting 100% of their carbon footprint each year from now on. The overcompensation through the protection of an area 2.4 times as large as needed to balance out emissions further marks a generous assumption of responsibility for habitat and biodiversity protection, and therefore sustainability in general.

As Campbell River Whale Watching & Adventure Tours is moving towards the reduction of their environmental impact in all business activities, a special focus can be put on saving water and reducing waste such as plastic water bottles and single-use plastic and garbage bags.

More importantly, the company is going to ambitiously increase the amount of forest protected to a total of 23040 m² of protected forest in 2020. As part of this challenge, guests will be incentivized to donate an additional 2 CAD. Moreover, the company will give guests the opportunity to offset the carbon footprint of their entire trip in Canada with Wilderness International.

New Achievements in 2019

- Guests voluntarily donated an extra 3232.60 CAD and thereby protected more than 3200 m² of forest.
- Replaced old motors with more fuel efficient, quieter ones. New motors have Yamaha Shift Dampener System in the hub of the propeller for smoother, quieter, no clunk shifting. In addition, the outboard employs counterbalance shafts for vibration-free, quieter running engines.
- Added 714 sqft of Insulation to the main office to make heating & cooling more efficient.
- Changed out lighting to more efficient LED lights, from 512 watts down to 90 watts.
- Put into effect Code of Conduct for Sustainable Whale Watching, which goes above and beyond federal regulations.
- Composting coffee grounds and food waste.
- Some of staff started biking to work in 2019.

Moving Forward

- Use of hybrid motors on boats.
- Saving water.
- Relying more on non-emitting means of transportation or carpooling to get to work.
- Switching to reusable water bottles and eliminating plastic water bottles.
- Switching to compostable garbage bags.
- Eliminating signal use plastic bags.
- Switching to a local coffee company to purchase coffee for guests on tours.
- Incentivizing guests to voluntarily donate 2 CAD and to offset emissions of their entire vacation by protecting more forest.

Offsetting: Wilderness Protection

„When you listen to the silence in the rainforest, you learn to distinguish the important from the unimportant. It is important to me now that the children of our children will be able to experience this someday.”

- Astrid, Environmental Ambassador



Since 2012, Wilderness International has been buying parcels of land in the Toba Valley, in the middle of the Coastal Mountains of western Canada, 160 kilometers north of the city of Vancouver. Thus, they are protected forever! Our vision in the Toba Valley is the creation of a great protected Grizzly bear corridor. It all began with the purchase of the "Land of the Grizzlies", more than 60 hectares in size. Until today, it has been followed by the "Land of the Ghost Flowers", the "Land of the Wapitis", and the "Land of the Hummingbirds", now totaling more than 292 ha of pristine wildlife habitat and biodiversity forever protected.



Getting to Know the Conservation Area – September 2019



“It is absolutely amazing to be here on this land in the Toba River Valley that we are helping to protect. To see the bears, the eagles, to see all the wildlife around here in this amazing old-growth forest that we’re proud to be able to protect for eternity.”

Steve Gabrysh, owner

Our goal: A sand bank in the Land of the Grizzlies. On the way, we stop at a magical tree, a maple which is about 700 years old, and which is covered in moss. “That is tremendous, I didn’t think I would ever see anything this impressive,” owner Tyler Bruce says, as he cranes his neck to try to find the crown of the tree – which is impossible to see. Under the huge maple tree, we see two entrances to a wolf’s den. Then we continue to walk to the sand bank, on a path that is usually only used by animals. We make our way through the thicket of the rainforest, pass scratch marks and resting areas of bears. Once more it becomes clear to us that we are walking through the bears’ home, their living room.

Where Wild Grizzlies Roam

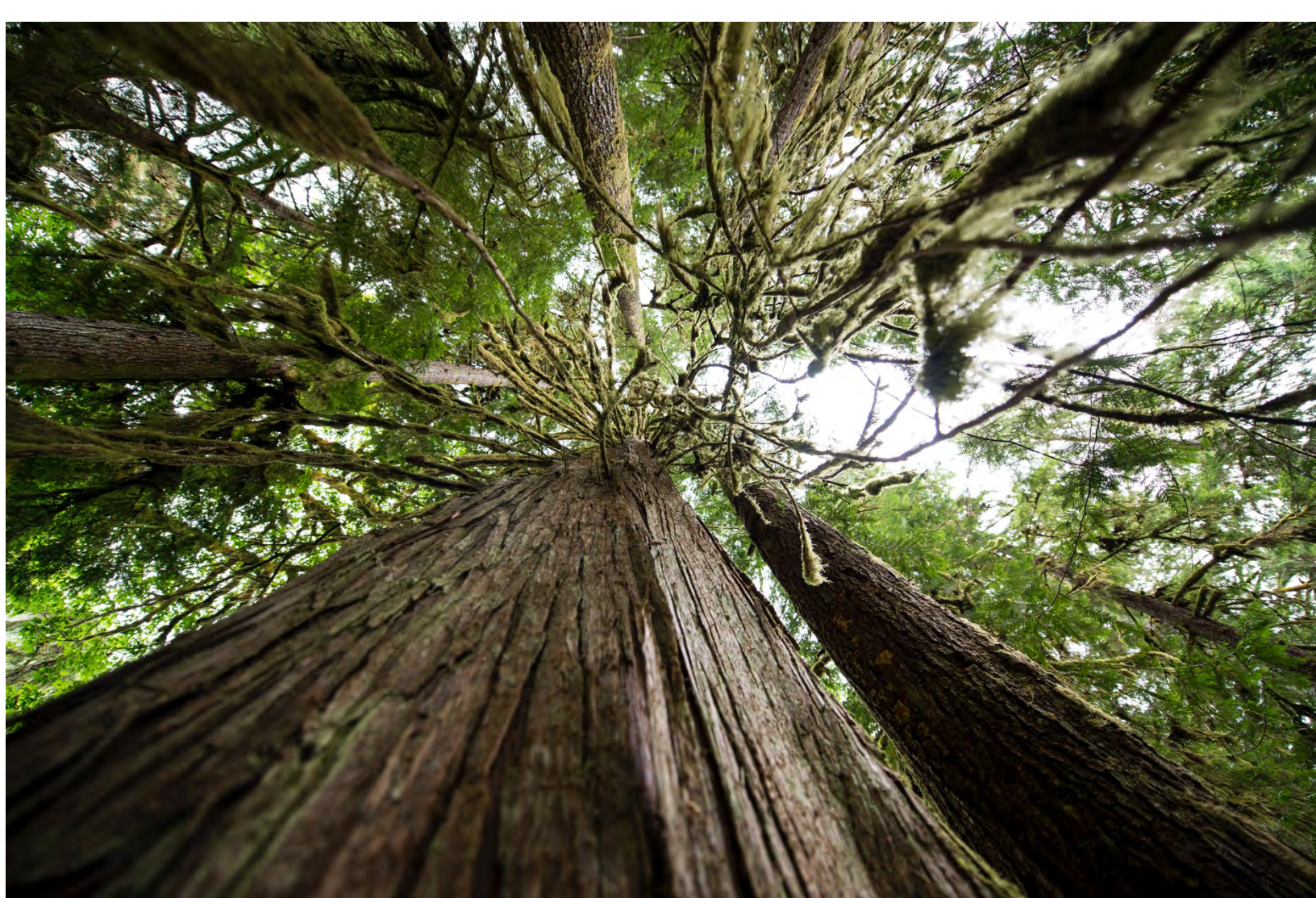


A healthy Grizzly population still roams the vast wilderness of this valley. Since there is more than enough to eat, a mother can birth 3-4 cubs in one year. The diverse vegetation of the river valleys is on the menu, and in the late summer and early fall the bears can feast on thousands of salmon in order to build up the winter fat so essential for survival. For their six-month winter rest, they use the root caves of ancient giant trees, which can only be formed through undisturbed, natural processes.



“Standing at the foot of a tree, whose height is not even fathomable, whose circumference is not even attainable with ten people, and whose age is hundreds of times one’s own – only those who have experienced this can really comprehend what it feels like.”

- Mareike, Environmental Ambassador



End Notes

Glossary

CO ₂ Equivalent (CO ₂ e)	Green House Gasses have different warming potentials, measured collectively as CO ₂ equivalents ("e")
Greenhouse Gas (Emissions)	Atmospheric gasses contributing to the greenhouse effect, including Carbon Dioxide (CO ₂), Methane (CH ₄), Nitrous Oxide (N ₂ O), etc.
m ³	Cubic Meter: Unit of measurement equal to 1,000 Litres
PU	Polyurethane
m ²	Square meters: unit of measurement for areas, 1m ² equals an area of 1m (side 1) x 1m (side 2)
ha	Hectar: unit of measurement for areas, 1 ha equals an area of 10 000 m ²

Calculation Procedure

To calculate the ecological footprint, so-called emission factors are used. They are based on consumption data such as energy consumption or kilometers driven by car, the amount of emitted carbon dioxide can be calculated. Added to that, the emission factor takes into account all other greenhouse gases that are emitted with certain activities.

Methane for example has an effect on our climate that is 25 times stronger than that of CO₂. Therefore, for every kilogram of methane emitted, 25kg of CO₂ equivalents are factored in.

Uncertain Information

To calculate the emission of boat production, roughly 2 times the emission factor of cars was assumed.

To calculate the emission of whole-body PFDs, 5 times the emission factor of regular PFDs was assumed. Regular PFDs were calculated as weighing 650g and consisting of 470g PU soft foam and 180g Nylon.

For Servers, emissions during production are factored in.

For toilet paper, raw material extraction, production, distribution and drive to purchase of consumer as well as disposal were factored in at 10 rolls, 3-layered, fresh fiber, 1.35kg.

Sources

Pendos Encyclopedia for CO₂-Emissions:

Andreas Grabolle and Tanja Loitz. Pendos CO₂-Zähler. Pendo, 2007.

Federal Environment Agency on Energy 2016

<https://www.umweltbundesamt.de/themen/klima-energie/energieversorgung/strom-waermeversorgung-in-zahlen#Strommix>

Society for Environmental Education Bremen

http://www.umweltbildung-bremen.de/uploads/ff_thema4_lf6.pdf

CO₂ List

[Http://www.co2list.org/files/carbon.htm](http://www.co2list.org/files/carbon.htm)

VAUDE Sustainability Report

<http://nachhaltigkeitsbericht.vaude.com/gri-wAssets/pdf/de/Dokumente-2017-fuer-2016/VAUDE-Klimabilanz-2016.pdf>

University of Flensburg Research

<https://www.uni-flensburg.de/fileadmin/content/abteilungen/industrial/dokumente/downloads/veroeffentlichungen/forschungsergebnisse/klimaschutzkonzept-nordkirche.pdf>

Study for the Certification of Companies according to the „Stop Climate Change“ Standard in Göttingen

https://www.stadtwerke-goettingen.de/fileadmin/user_upload/THG-Folgestudie_Stadtwerke_2018.final.pdf

MyClimate Emissions Calculator

https://co2.myclimate.org/de/offset_further_emissions

Apple: Product Environmental Reports

<https://www.apple.com/environment/reports/>

Institute for Applied Ecology: Study on Life Cycle Emissions 2011

http://iinas.org/tl_files/iinas/downloads/GEMIS/2011_GEMIS_Daten-FESt.pdf

Government of the United Kingdom and Northern Ireland Greenhouse Gas Reporting- Conversion Factors 2016

<https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2016>

And others.



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www.wilderness-international.org

<https://www.facebook.com/wildernessinternational>

