CUBANIA

Carbon Emissions Framework Methodology

This is how we calculate the carbon footprint of your trip.

Approach

The framework used to calculate the carbon emissions of hotels and group tours has been designed by ecollective. The aim of the framework is to individually measure the footprint of every group tour to a high degree of accuracy taking into account every element of the trip, the quantity and geographic location.

Ecollective has worked with many businesses in the travel industry to help them measure their carbon footprint as well as get the process peer-reviewed by prominent members and experts in this space.

The aim is to calculate a highly accurate carbon footprint per customer for the business that can be tracked year on year as improvements are made.

As with any carbon calculation, it's not perfect, but we believe that this framework is currently the most thorough and therefore the most accurate method in use in the tourism industry.

We are always open to questions and feedback. If you would like to get in touch, please contact info@ecollectivetravel.com

Scope

This study measures the greenhouse gas emissions of the group tours. Any additional activity or services undertaken by a customer outside of the package is out of scope. This includes flights to and from the start of a tour, additional meals or optional activities. The areas in scope for this study include:

- Accommodation
- All activities included in the group tour.
- All modes of transport included in the tour.
- All meals included in the tour.
- Guides needed on the tour.
- Guide travel requirements
- UK office emissions.
- UK business travel.
- The website.

Data

This study analyses primary data provided directly from suppliers, providers and operators through specific surveys relating to their business model. Where surveys are not fully completed by a supplier, relevant industry averages provided by DEFRA (and other sources to cover business situated outside of the UK) are used to provide an accurate value. Any assumptions that are required to fill data gaps, will be detailed against the specific category to which it relates.

The data is updated yearly as conversion factors improve with accuracy.

How we measured.

Nearly everything has a carbon footprint, so measuring the exact carbon footprint of a holiday could be a lifetime's work. With the climate crisis, we simply do not have the time. So we have made assumptions in order to measure the carbon footprint of everything that goes into a holiday.

This is normal practice in the carbon-calculating world, but at ecollective we go a step further than most. Many companies make too-simple assumptions or use unreliable data, resulting in scores that are not as accurate as they could be. We do not do that.

The devil is in the detail.

The below section is long and detailed, because of our level of accuracy. However, for us, this is so important as the devil is almost always in the detail.

Accommodation

- The study provides carbon emissions for 1 night's stay in accommodation based on an average occupancy rate determined by the tour operator. All accommodation carbon scores are based on kilograms of CO2e emitted per room per night.
- We have emailed all accommodation providers we have details for in order to ask them to complete our accommodation carbon footprint survey. This helps us to know their carbon footprint per room per night.
- To calculate the carbon footprint per room per night we have included the following:
    - Hotel occupancy rates, meaning that hotels with relatively low or high occupancy rates during the time of the study will have a score that reflects an accurate per room carbon emission score. We know that a hotel with a 20% occupancy will have a lower energy requirement than the same hotel with 100% occupancy and have factored this into the calculation.
    - We have assumed that energy requirements remain the same throughout the year and that the carbon emission per room in the summer is the same as in the winter. We have asked for annual energy usage when possible in order to average this out.
    - To calculate the emissions, we have asked for all fuel and energy usage at the property. This includes electricity, gas, oil, petrol, diesel and a few more. These quantities are then converted into their estimated carbon emissions based on conversion factors provided by DEFRA, with the exception of electricity.
    - The carbon footprint of the electricity used at the accommodation is determined by the number of kWh used and the fuel mix of the energy provider. When the fuel mix of the energy provider is unknown, the national average fuel mix for that country is used.
    - If exact quantities of the electricity or fuel amounts are unknown we have applied average fuel and electricity rates for hotels within that country to calculate the total emissions per room.
    - We have factored water use and outsourced laundry facilities.
    - A food calculation has been included in the total footprint based on the typical board basis multiplied by the average carbon footprint of a meal. When food is known to be locally sourced this is reflected in the calculation with the carbon footprint reduced depending on the quantity of locally sourced food. This reduction will never be more than 50% of the total carbon footprint of a typical meal.
    - When primary data is half completed we have used a mixture of primary data and secondary data to calculate the total score. For example, if a supplier has provided us with electricity data but not gas data as it is unknown. We have calculated the emissions from their electricity and applied the industry average emissions from gas use based on their property type.
- For hotels that have not completed the survey, we applied a national average emission factor for this hotel until they complete the survey.

Activities

- Any activities not booked and offered directly by the travel company are not included. Only activities that consume any fuel are in scope. Any activities such as walks that are considered carbon-neutral are not measured.
- Activities are measured on a per-person basis unless it's a private group experience in which case we measure the total emissions of the experience.
- We have included all associated emissions created by completing the experience, including transport to and from the starting point.
- Most carbon emissions relating to activities come from fuel such as petrol or diesel. We calculate the fuel needed to complete the activity and convert this into kg of CO2e using DEFRA conversion factors.
- Some activities such as visiting a museum will have a small carbon footprint from the heating and electricity of the building itself. The framework has been designed to take these small footprints into account but they will be given a global average footprint due to the lack of available information and projected size of the activity per person per visit.
- Any transport or meals included in the activity will have been calculated using the same method as other transport and meals.

Transport

- Transfers will be calculated per vehicle unless the vehicle is used on a shared basis in which case the CO2e emissions will be calculated per seat.
- Some journeys will be one way for the customer but in reality, the vehicle will return to the point of origin after drop off. In these instances, we have included the total mileage of the vehicle and not the customer.
- Emissions will be calculated on distances travelled (km). These will be based on the 'fastest route' available as provided on googlemaps.com unless stated otherwise.
- Emissions from car journeys will be calculated using the distance travelled and fuel type.
- It's assumed cars will be petrol powered medium-sized (Audi A4, Volkswagen Passat, etc) cars (roughly 2.0 ltr engine) unless otherwise specified. Many of the group journeys will have been completed in a minibus for which we have used a diesel-powered Ford Transit as the assumed method of transport, unless otherwise specified.
- Calculations can be updated as transport methods change towards greater use of low carbon vehicles.
- For train transfers, we have calculated emissions per seat based on the kilometers travelled for that route. All train journeys have been assigned the same emissions factor provided by DEFRA.
- For flights, we have assumed all flights are taken in economy unless otherwise stated.
- All flights have been assumed to be direct unless otherwise stated.
- All flight emissions include radiative forcing and the emission factors are based on those released by DEFRA.

Food

- A 2.57kg CO2e average will be used for the CO2e factor for each meal provided per person. This is taken from the 'Carbon Footprint of Food' 2011 published by the Journal for cleaner production which calculates an average footprint of 7.7kg CO2e for all meals consumed in a day by one person.
- When food provided is known to have been grown and purchased locally, we have reduced this score by a maximum of 50% depending on the percentage of the meal being sourced locally.
- We have built-in processes to allow updates relating to vegetarian or vegan diets which can have a lower carbon footprint on average.
- The lifecycle of producing a meal involves a complex supply chain with various different and disparate processes, manufacturers and suppliers and involves a number of major steps before the food enters the premises where the meal is made. These steps include land use, farming, animal feed, processing, waste disposal, transport, packaging and retail. There is also a high level of variability in dietary choices of consumers and the data available is not yet sophisticated enough to go to this level of granularity.
- Where the food section of the survey is left blank, we have applied the highest-scoring emissions factor for food.

- We have assumed every meal included in the itinerary is eaten by the customer and have also included food for the guides unless stated otherwise.

Trip Leaders and local guides.

- All trip leader emissions are taken into account including any international flights needed.
- We have included 1 private room per trip leader and all meals throughout the trip in the same location as the customer.
- Local guides are all also included as specified by the tour operator and would also be included in all activities, meals, transport and accommodation (1 local guide per room).

Office

- We have included an option to calculate all emissions from the office and any working from home related emissions.
- Working from home emissions are based on estimated hours of work, estimated additional heating requirements due to working from home and the energy provider used.
- Office emissions related to water consumption, gas, waste and food have all been taken into account.
- Other scope 3 emissions such as transmission and distribution of electricity are assumed to be minimal and excluded from scope.

Business Travel

- Business Travel has been taken into account and included. This covers all trips taken for work purposes.
- We have included the following transport types: plane, car, bus, train and ferry taken by employees.
- We have used emission factors provided by DEFRA to calculate the total emissions related to business travel on these transport types.
- Business travel does not include employee daily commuting.

Reporting Period

The study was conducted in 2020 but has been designed to improve year on year with an improvement in the quality and quantity of data. Both primary and secondary data will be collected on an ongoing basis to improve the quality of the results.

The carbon calculating tool is easy to update with trip changes resulting in the document not going out of date as trips evolve. This results in the accurate tracking of improvements year on year based on the same metrics.

The conversion factors and other industry data are updated annually by ecollective to improve the accuracy of the calculations.

Recommendations and Limitations

The aim of this work is to give an accurate picture of the carbon emissions per customer. However, it is agreed and understood that emissions will not be 100% accurate due to time constraints and the lack of data on individual customers and fuel use through the supply chain. What is exciting about this approach is that it is well-received by suppliers and gives us the opportunity to increase the accuracy of the carbon footprint.

The aim of any business should be to reduce its carbon footprint per customer as well as increase the quality of their data used to calculate their carbon footprint.

Some areas for improvement are:

- Get a clearer understanding of the carbon footprint of the food included on the tours. This could be the average carbon footprint of food in each geographic region as well as the eating preferences of customers.
- Collect exact vehicle types for all transfers.
- Collect more information on the entire vehicle journey needed to get customers from A to B.
- Collect the exact fuel type used for each transfer.
- Collect the exact number of single supplements used per departure or average per trip.
- Get accurate emission factors for each individual vehicle based on the exact model.
- Collect exact information on where local guides stay and in-destination travel they need to make in order to be on the tour.

Feedback

A review process has been put in place to make sure that improvements can be made to the framework based on new research and user feedback. If improvements can be made to increase the accuracy as well as the user process, these changes will be actioned. For feedback on the framework or to share ideas, please contact info@ecollectivetravel.com