

The Carbon Consultancy – Webservice 2.0 Quick Guide

A short summary of functionality and data capability of the travel components of carbon webservice 2.0 is as follows:-

Rail

- A. International - GHG or DEFRA values for rail against distance input
- B. UK Domestic – Full distance mapping and delivery of GHG and DEFRA values.

Car

- A. International – GHG and DEFRA emissions values by fuel type, unknown vehicle, engine size/fuel type.
- B. Domestic – Car values for all UK models using Department of Transport VED data.

Air

Distance:

- A. Great Circle Distances between most major and regional airports worldwide. All airports are IATA coded.
- B. Full multi sector distance values enabled, not total distance flown irrespective of intermediate stops.

Conversion/Data Available

- A. GHG – Short, Medium and Long Haul averages for flight.
- B. DEFRA – Short Haul Domestic, Short Haul International, Long Haul International.
- C. Advanced – Based upon UK research and air industry data, the following are available outputs.

Airlines/Aircraft

The databases include base data for over 200 airlines with over 60 airline fleet specific performance data sets. Over 80 commonly used commercial aircraft types are loaded in the system. All airlines and aircraft types are IATA coded.

Output Options

General

Single or multi sector flight values

Output Options

Advanced Only

1. Single/multi sector flights based upon airline selection only.
2. Single/multi sector flights based upon aircraft selection only.
3. Single/multi sector flights based upon aircraft and airline selection.
4. Single/multi sector flights without airline and aircraft selection.
5. All of the above differentiated by class of travel and return or single journey.

The above aircraft output utilises the following primary inputs:

Load Factors
Route Distance
Aircraft/Fleet Data
Aircraft Range
Seating Configuration
Class of Travel
Return vs Single Journey

- Specific aircraft and/or airline data uses relevant data held for each data conversion request.
- Unknown airline and/or aircraft data conversion requests use aircraft selection by aircraft range and default seating/load factors.

Underlying carbon emissions conversion data addresses a range of fuel consumption methodology, engine usage, climb, take off, taxi, descent, and fuel usage, which are attached to each aircraft either as a direct match or as a subcategory of a representative aircraft. Aviation CO₂ is usually modelled by representative aircraft types and is not specific to every aircraft type and sub type in use. Aircraft specific data on private jets is available but not loaded currently.

Exclusions

Routes

The conversion data does not currently enable flight number/route specific analysis, except to the extent that an airline may use multiple aircraft on a specific route and this will be reflected in any data input that includes route, aircraft and airline. It will not include route specific load factors.

Variable Flight Emissions by Distance

The output distinguishes between short haul and long haul based upon distance and aircraft type. It does not fully reflect variable emissions values according to specific distance. This is available as modelled performance and partially reflected in output data, but currently unsupported by aviation industry data on fuel consumption, fuel load, load factor by route distance and mission distance flown.

