The starting point for calculating the emissions from your flight is to establish the distance. We do this by using the Great Circle methodology which measures the shortest flight path. An additional 9% is applied to the distance to take into account indirect routing, circling and other similar real-world factors. The 9% distance inflation is recommended by DECC.

The total distance is then multiplied by a CO2 intensity factor (kg CO2 per mile flown) to arrive at the total amount of CO2 emitted. The calculator uses the latest government approved average emissions factors for domestic, short- haul or long-haul as appropriate. There is no provision for different classes of flight.

The emission factors used above refer to CO2 emissions only. There is still some uncertainty over the non CO2 climate change effects of aviation such as water vapour, contrails, Nox etc. The best scientific evidence currently available recommends applying a radiative forcing multiplier of 1.9 to account for these other emissions. Providers that comply with the UK Government Quality Assurance Scheme for Carbon Offsetting may chose whether or not to apply this factor. The PURE calculator applies this factor to all flight calculations.

Once this final figure has been established we multiply the CO2 figure by the number of people who are travelling and whether it is a single or return journey.