



WORKSHEET 3: CALCULATING YOUR GREENHOUSE GAS EMISSIONS FROM FLIGHTS

This worksheet will assist you in working out your greenhouse gas (GHG) emissions from flights. Below you will find key emission factors and calculation methodologies that will help you calculate emissions for domestic and international flights your company undertakes.

The calculation of emissions from flights is an evolving and complicated area, and different calculators available on the web give you different results. One factor that has a large influence on the calculation is the Radiative Forcing Index (RFI). This incorporates the global warming effects planes have because of the altitude they emit at. EPA uses a RFI multiplier of 2.7, which is one of the most conservative available. It was sourced from the Inter-governmental Panel on Climate Change (IPCC).

KEY DATA NEEDED

→ Numbers and distance of flights taken by staff, split between all destinations.

NB You may need to work with your flight service provider or finance section to get this level of data. If the data is not available at this level a survey of staff may be required.

CALCULATION PROCESS:

1. Allocate all flights into short, medium or long haul flights as per the categories below. Add kilometres travelled for each flight type and enter this into the table in **Section 1**.
2. Multiply the flights in each category by the emission factor provided below.
3. Then multiply by the RFI.

CALCULATION METHOD SUMMARY

$$\text{GHG emissions from air travel (tonnes CO}_2\text{-e)} = (\text{km travelled SHF} \times \text{emissions factor SHF}) + (\text{km travelled MHF} \times \text{emissions factor MHF}) + (\text{km travelled LHF} \times \text{emissions factor LHF}) \times \text{Radiative Forcing Index}$$

KEY EMISSION FACTORS

Types of flights

- Short haul (SHF) – less than 500km 0.00015 tonnes CO₂ per km per person
- Medium haul (MHF) – 500 to 1600 km 0.00012 tonnes CO₂ per km per person
- Long haul (LHF) – more than 1600km 0.00011 tonnes CO₂ per km per person

Source: Greenhouse Gas Protocol, 2006

SECTION 1: CALCULATING AIR TRAVEL GHG EMISSIONS

Flight distance	Kilometres travelled		Emission factor	GHG emissions (t CO ₂ -e)
Short haul		X	0.00015	
Medium haul		X	0.00012	
Long haul		X	0.00011	
Emissions from flights				
Apply RFI				X 2.7
Total GHG emissions				

KEY RESOURCES:

Department of Climate Change, **National Greenhouse Accounts (NGA) Factors**, November 2008
 World Resources Institute and World Business Council for Sustainable Development, **Greenhouse Gas Protocol**, 2007
 EPA Victoria, **Greenhouse Inventory Management Plan 2006/07**