Atmosfair – Teutonically thorough

http://www.atmosfair.de/index.php?id=9&L=3

Tells you off if you're taking a flight under 500km – get the train! Also offers alternative no-flight holiday information.

Uses:

- an uplift factor of 3 (CO_2 multiplier effect) on flights over 500km and none on shorter flights (simulating effects above 9km altitude).

- the average figures for German airlines and aircraft manufacturers' standard configurations with regard to seating. As far as the seat occupancy rate is concerned, a distinction is drawn between the scheduled and charter market segments which have different average seat occupancy rates. In the case of scheduled flights these figures are also differentiated by flight region**.**

- 20 types of aircraft

- assumes an average number of seats on board a particular aircraft configuration

- deducts 2% at the end from the consumption results without cargo to correct the systemic error for the additional cargo

- wind ignored – cancels on return flight

- The Lufthansa Environmental Report shows that almost 1 kilogram fuel is consumed per passenger on average (Lufthansa 2002). Since further details were not available, the Emissions Calculator uses this factor here as a fixed surcharge for all flights

- A study of the fuel consumption for taxi-ing at domestic German airports concludes that approx. 2.5 kilograms kerosene were consumed per passenger for the two taxi-ing processes, landing and take off together (Brockhagen 1995). This quantity is also assumed by the Emissions Calculator as a fixed surcharge for all other flights

(These are the only 2 places where industry data is used)

At the heart of the data sources used is the database containing the fuel consumption profiles of individual aircraft over different basic distances. This data is provided by the German Aerospace Center (DLR 2000). The quality of this data is high, and it was used as the starting point for emissions registers in the IPCC report commissioned by the United Nations.

All offset projects are compliant with CDM Gold Standard:
http://www.panda.org/about_wwf/what_we_do/climate_change/our_solutions/business_industry/finance_investment/gold_standard.cfm

Myclimate – Amateurs by comparison

http://www.myclimate.org/EN/index.php

Myclimate has calculated the average amount of greenhouse gases that are emitted per person: for each 100 km travelled, on average 30kg CO_2 equivalents are emitted on short haul and 19 kg on long haul flights per person (CO_2 equivalent: In addition to CO_2, CO_2 equivalents include other climate relevant emissions. Myclimate uses an RFI factor of 2).
Myclimate has also calculated the average costs of compensating a ton of CO_2 in a climate protection project. These two factors – the emissions of a flight as well as the costs for reducing these emissions – result in the price of a Myclimate ticket:

Short haul flight: ca. EUR 7 per 1000 km
Long haul flight: ca. EUR 4.5 per 1000 km

Destinations up to a distance of 2000 km are regarded as short hauls, destinations over 6000 km as long hauls. In between, the price per kilometre decreases linearly.

The projects are either registered under the Clean Development Mechanism (CDM) or certified by a body of experts from the Swiss Federal Institute of Technology in Zurich, as well as from other universities.

CarbonNeutral company

http://www.carbonneutral.com/

They say:

"Our science partners - the Edinburgh Centre for Carbon Management (ECCM) - ensure that these projects are valid and check the carbon-science principles behind them. ECCM is one of Europe's top climate science companies (three of their directors are on the Intergovernmental Panel on Climate Change). We are proud of our long-lasting partnership with them."

Flight calculator: Short haul flight (0-3000 Km) 0.18 kg CO_2 per passenger Km Long haul flight (>3000 Km) 0.11 kg CO_2 per passenger Km source: DEFRA 2001 – carbon (CO_2) only

Climate Care

http://www.co2.org/airtravelcalc/airtravelcalc.cfm

We take the emissions from an average long, medium and short haul aircraft and divide them by the seat capacity to give emissions per seat.

We have drawn data from the European Union, British Airways and the Intergovernmental Panel on Climate Change.

Comparison – kg of CO_2 calculated on flights from LGW:

	Edinburgh	Jo'burg	Perth	Moscow	JFK	HKG
A:	260	6540	9900	1520	3800	6980
MyC:	341	3407	5457	1140	2229	3635
CN:	210	1990	3250	920	1230	2120
CC:	130	2530	4050	630	1570	2700

Price Comparison

	Price of a return flight to JFK (euro)	**approx euros per 000 km:**
A:	67	6 (short), 7 (long)
MyC:	53	4.6

CN: 30 *

CC: 25 1.4

*FF do not use a price per kilometre as the offset price they ask goes up in increments of £10 (=15euro approx). Each £10 buys one energy saving lightbulb or 'mature tree'. For shorter flights CO2 emissions seem to be rounded to the nearest half-tonne, with £10 asked for each half tonne (NB one 20W energy-efficient lightbulb running for its average lifetime of 12,000 hours saves approx half a tonne of CO2 against 100w tungsten bulbs of the same luminescence, so that's about right). On longer flights, without any explanation, they tone down their 'ask' a bit, so a flight to NZ emitting (they say) 4 tonnes only calls for £60 of offsets.

Compare the *climate change-only* external costs of aviation, calculated by INFRAS in 2004 as 46.2 euro / 000 pax km (high) or 6.6 euro / 000 pax km (RFI multiplier = 2.5)

High = 140 euro / tonne CO2 based on transport by itself halving its emissions 1990-2030.

Low = 20 euro / tonne CO2 based on meeting Kyoto targets allowing cross sector trading mechanisms.

ie 'High' is close to true externalities while 'Low' is close to the costs the sectors may actually incur under current mitigation policy.

Even the 'Low' figure is approached only by Atmosfair.

Others:

Friends of Conservation – take average emissions and basic distance calculations and convert them to acres of rainforest.

http://www.friendsofconservation.org.uk/calculate.asp