

Stansted Airport - Estimation of CO₂ emissions

We estimate that Stansted's carbon dioxide emissions in 2017 will be equivalent to about **3.57 million tonnes of CO₂**, assuming an RFI factor of 2.7¹. This will be about 6 per cent more than in 2016 but 30 per cent less than in 2006 when the airport's own estimate (again using an RFI of 2.7) was that Stansted was responsible for the equivalent of 5.07m tonnes of CO₂ emissions.

Part of the reason for the reduction in Stansted Airport's CO₂ emissions since 2006 is the decline in the number of air transport movement ('ATMs') from 190,245 ten years ago to an estimated 177,200 this year. There is also a carbon efficiency gain as new, more fuel efficient, aircraft gradually replace older aircraft. In line with national projections by the Department for Transport, (DfT) we assume that this delivers an annual carbon efficiency gain of about 1 per cent.²

Summary data

	Million tonnes of CO ₂		ATMs ('000)
	Without RFI	With RFI	
Stansted Airport's own assessment for 2006 ³	2.04	5.07	190,245
Actual 2016	1.35	3.36	165,600
SSE estimate for 2017	1.43	3.57	177,200

CO₂ is the main contributor to anthropogenic climate change and, whilst it is to be welcomed that Stansted's CO₂ emissions have significantly declined over the past ten years, the airport is still responsible for the equivalent of more than 400 tonnes of CO₂ emissions per hour. On an annual basis this is the same amount of CO₂ produced by about 1.2 million average family cars.

Stop Stansted Expansion **Updated January 2017**

¹ The UN Intergovernmental Panel on Climate Change (IPCC) recommends that aircraft CO₂ emissions should be multiplied by a factor of between 2.0 and 4.0 – with a suggested midpoint of 2.7 – to reflect the greater climate change impact of CO₂ emissions at high altitude and the impact of non-CO₂ emissions from aircraft engines. This multiplier is known as the radiative forcing index (RFI). It applies only to aircraft CO₂ emissions and not to emissions from surface access travel or emissions from airport buildings. CO₂ emissions from aircraft account for about 89% of Stansted's total CO₂ emissions. The weighted average multiplier is therefore about 2.5.

² The assumed annual 1% fuel efficiency gain (i.e. reduction in CO₂ emissions) is in line with estimates by the DfT as well as independent projections. It stems from improved technology and operating procedures.

³ Stansted G2 Planning Application, Volume 1 of Environmental Statement, Appendix 15, Table 2.