

Stansted Airport - Estimation of CO₂ emissions

We estimate that Stansted's carbon dioxide emissions in 2018 will be equivalent to about **3.9 million tonnes of CO₂**, assuming an RFI factor of 2.7¹. This will be about 5 per cent more than in 2017 but 24 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 5.1m tonnes of CO₂ emissions.

Part of the reason for the reduction in Stansted Airport's CO₂ emissions since 2006 is a decline in the number of air transport movements ('ATMs') from 190,245 in 2006 to an estimated 185,000 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 However, anticipated growth in long haul cargo traffic as well as the introduction of a new long passenger route to the Gulf will add disproportionately to Stansted's CO₂ emissions in 2018.

Summary data

	Million tonnes of CO ₂		ATMs ('000)
	Without RFI	With RFI	
Stansted Airport's own assessment for 2006 ³	2.0	5.1	190,245
Actual 2017	1.4	3.7	174,600
SSE estimate for 2018	1.5	3.9	185,000

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 decade or so, the airport is still responsible for the equivalent of more than 10,000 tonnes of CO₂ emissions per day. On an annual basis this is roughly the same amount of CO₂ produced by about 1.3 million average family cars.

Stop Stansted Expansion **Updated January 2018**

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.