

### Appendix 3 Base Case Spreadsheets

The Base case Spreadsheet is summarised in Table A3.1. This data has been based upon the energy increases detailed in the G1 Environmental Statement on Energy updated with more recent information. It includes confirmed energy reduction measures identified in the Stansted Airport Climate Change Action Plan. The numbers in red are historic data.

**Table A3.1 Base Case Calculation for Operational Energy**

		Single Runway	Energy Management – 1 Full Time Employee	Stansted Climate Change Action Plan Confirmed Projects	Bio-mass boiler saving in CO <sub>2</sub> emissions	G1 Construction Energy	G1 Diesel/Petrol for site fuelled vehicles	Additional operational emissions from G1 facilities for 35mppa	G1 (35mppa)	G1 (35mppa)
	Single Runway	with trend line increase see Note 1	Note 2	Note 3	Note 5		for 35mppa in 2014	Note 4	Buildings and Infrastructure	Buildings and Infrastructure with vehicles
Year	No of passengers		Reduction	Reduction	Reduction			Addition	<b>No vehicles</b>	<b>With vehicles</b>
	35mppa by 2014	tonnes of CO <sub>2</sub>	tonnes of CO <sub>2</sub>	tonnes of CO <sub>2</sub>	tonnes of CO <sub>2</sub>	tonnes of CO <sub>2</sub>	tonnes of CO <sub>2</sub>	tonnes of CO <sub>2</sub>	tonnes of CO <sub>2</sub>	tonnes of CO <sub>2</sub>
1991	1,918,000	48,807					267		48,807	49,074
1992	2,357,500	41,760					328		41,760	42,088
1993	2,796,300	35,188					389		35,188	35,578
1994	3,360,600	35,392					468		35,392	35,860
1995	4,129,100	36,055					575		36,055	36,630
1996	4,922,800	36,392					685		36,392	37,077
1997	5,470,500	32,598					762		32,598	33,360
1998	7,406,811	34,652					1031		34,652	35,683
1999	9,901,630	32,877					1379		32,877	34,256
2000	12,259,755	36,355					1707		36,355	38,062
2001	14,083,812	40,219					1961		40,219	42,180
2002	16,745,727	40,840					2332		40,840	43,172
2003							2702		40,505	43,207

		Single Runway	Energy Management – 1 Full Time Employee	Stansted Climate Change Action Plan Confirmed Projects	Bio-mass boiler saving in CO <sub>2</sub> emissions	G1 Construction Energy	G1 Diesel/Petrol for site fuelled vehicles	Additional operational emissions from G1 facilities for 35mppa	G1 (35mppa)	G1 (35mppa)
	Single Runway	with trend line increase see Note 1	Note 2	Note 3	Note 5		for 35mppa in 2014	Note 4	Buildings and Infrastructure	Buildings and Infrastructure with vehicles
Year	No of passengers		Reduction	Reduction	Reduction			Addition	<b>No vehicles</b>	<b>With vehicles</b>
	35mppa by 2014	tonnes of CO <sub>2</sub>	tonnes of CO <sub>2</sub>	tonnes of CO <sub>2</sub>	tonnes of CO <sub>2</sub>	tonnes of CO <sub>2</sub>	tonnes of CO <sub>2</sub>	tonnes of CO <sub>2</sub>	tonnes of CO <sub>2</sub>	tonnes of CO <sub>2</sub>
	19,408,959	40,505								
2004	21,168,636	40,762					2947		40,762	43,709
2005	22,237,307	42,430					3096		42,430	45,526
2006	23,400,000	43,573					3258		43,573	46,831
2007	23,516,000	44,536	-1300	-135			3274		43,101	46,374
2008	23,980,000	45,623	-2600	-325	-2857	1000	3336	956	41,797	45,132
2009	26,880,000	46,710	-3900	-1195	-2857	3500	3724	1911	44,170	47,894
2010	29,200,000	47,797	-5200	-1195	-2857	6000	4035	4778	49,324	53,359
2011	31,520,000	48,885	-6500	-1195	-2857	6000	4346	9557	53,890	58,235
2012	33,260,000	49,972	-6500	-1195	-2857	6000	4579	14335	59,755	64,334
2013	34,420,000	51,059	-6500	-1195	-2857	6000	4734	18158	64,665	69,400
2014	35,000,000	52,147	-6500	-1195	-2857	4200	4812	19114	64,908	69,720
2015	35,000,000	52,147	-6500	-1195	-2857		4814	19114	60,709	65,523
2030	35,000,000	52,147	-6500	-1195	-2857		4814	19114	60,709	65,523

Note 1	Trend line extrapolated post 2006 from metered data recorded between 2001 to 2006
Note 2	See Appendix 1 for Stansted Climate Change Action Plan emissions savings from improved energy management - growing to 15% savings by 2011 see CIBSE Guide F 18-1, 2004 Staff member already in place.
Note 3	See Appendix 1 for Stansted Climate Change Action Plan emissions savings from upgrading of plant and equipment
Note 4	G1 developments for 35mppa from ref SG1- Environmental Statement April 2006
Note 5	2MW Bio-mass boiler to reduce emissions from extended G1 Terminal building

	Existing Terminal = 21,703 tonnes of CO <sub>2</sub>
	Proposed extended Terminal = 23,563 tonnes of CO <sub>2</sub>
	Proposed extended Terminal with 2MW of bio-mass= 20,708 tonnes of CO <sub>2</sub>
	Bio-mass emissions savings =2857 tonnes of CO <sub>2</sub>

**Table A3.2 Base Case Calculation for Construction Energy for new G1 facilities**

<b>Year</b>	<b>Base case Construction Energy for new buildings and infrastructure in G1</b> (see table A5.9 in Appendix 5) Tonnes of CO <sub>2</sub>
2008	1000
2009	3500
2010	6000
2011	6000
2012	6000
2013	6000
2014	4200