Indicator Information Sheet

Subject:	Air Transport Development
Kind of indicator:	Sustainable Development Indicator
Spatial objective:	Worldwide
Object:	Effects of Air Transport on the Ecological Development
Theme:	**Air Transport related CO_2 Emissions Development**

1. Purpose of the indicator category

Compared to preindustrial times, global atmospheric carbon dioxide (CO_2) levels have risen about 40% from 280 ppm to above 390 ppm in 2010, despite the presence of various natural sinks and feedback mechanisms which buffer variations of this biogeochemical cycle. Together with other trace gasses, such as water vapor, methane, nitrous oxide and ozone, CO_2 affects the natural heat balance of the planet, resulting in long term average warming of the atmosphere. Among the several greenhouse gases that are released by human activity, CO_2 is of particular concern because of the total volume (annual emissions of 32 billion metric tonnes in 2010, more than 4.7 tonnes per capita on average) and its longevity in the atmosphere. It is estimated that anthropogenically released CO_2 contributed to a radiative forcing of 1.46 W/m², or 72% of the anthropogenic greenhouse effect in 2000.

Such as other origins, aviation as well has its impact on climate by long-term impacts from CO_2 emissions and shorter-term impacts from non-CO_2 emissions such as water vapour, particles and NO_x[1]. Civil aviation currently contributes only between two and three percent of anthropogenic CO_2 emissions. While there is considerable year to year variation, air transport is in the long run clearly one of the fastest growing sectors of anthropogenic CO_2 emissions, rising faster than total emissions. Emissions as well from supersonic and subsonic aircraft result in a positive radiative forcing, which means that the overall radiative forcing effect of aviation emissions (gasses and aerosols) had been established at about 0.055 W/m² for 2005[1]. As to the current state of knowledge, the formation of persistent linear contrails and contrail-cirrus clouds as well as soot particles are considered to have a positive radiative forcing as well.

The European Union released a directive in 2008[2] to include CO_2 emissions from aviation into the European Union Emissions Trading Scheme (EU ETS) to come into effect on January 1st, 2012. Air transport emissions (possibly together with international sea freight) are likely to be a test case for international negotiations and binding regulations of global GHG emissions. This indicator is therefore likely to be of increasing political and economic relevance.

[1] Lee ,D.S. et al: Transport impacts on atmosphere and climate: Aviation; Elsevier Atmospheric Environment 44 (2010).
[2] http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32008L0101:EN:NOT

2. Description of the indicator development

About 78% of the global primary energy supply is currently derived from fossil fuels which release CO_2 as result of the combustion process. Energy consumption is closely related to economic activity. The relation is bi-directional: provisions of energy are necessary for economic activity (although other drivers such as human and social capital and technology are additionally relevant), but the growth of an economy also results in additional demand for energy services. Variations in global GDP are consequently closely reflected in overall emission dynamics.

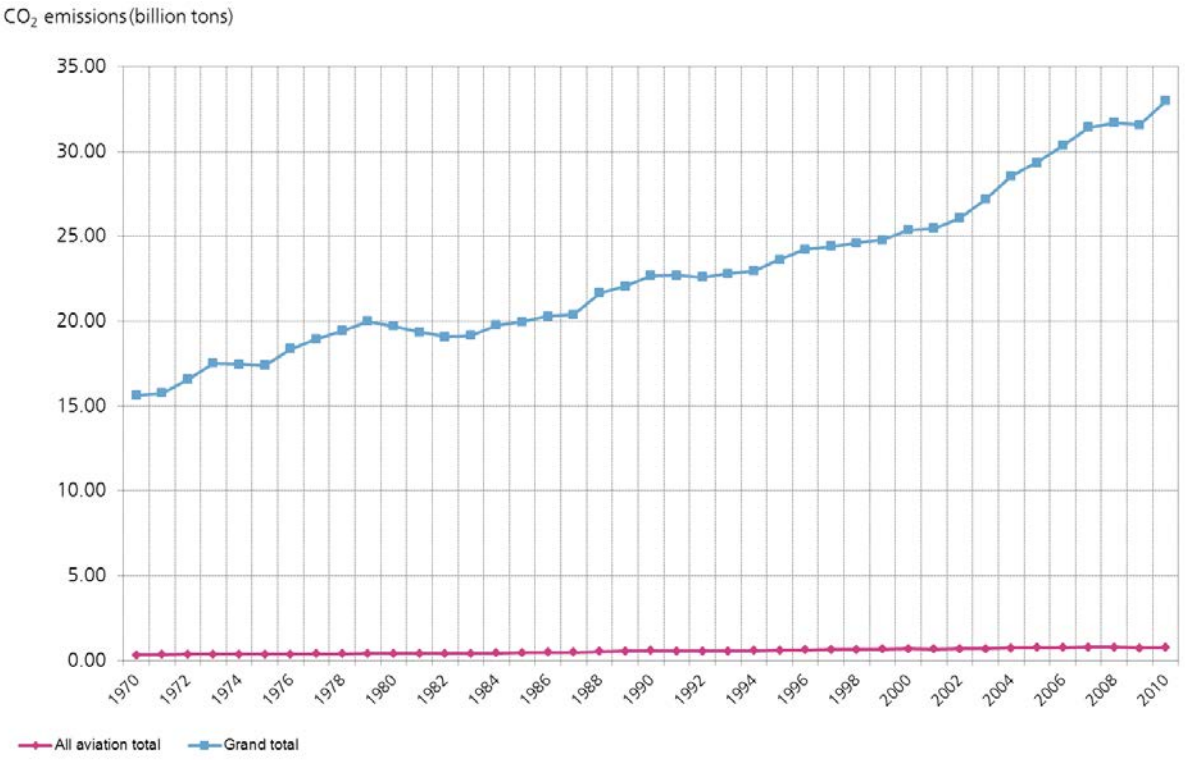
In the long run, there is a general trend of decarbonisation of the global energy system observable: between 1850 and 2000 the carbon intensity of the global primary energy supply decreased from above 110 kg CO_2/GJ to below 70 kg CO_2/GJ. This long term trend is however dependent on regional dynamics and the rapid growth since 2000 particularly of China as a largely coal based energy system resulted in a slight recarbonisation of the global energy system in the most recent years. Since renewable energies are currently also increasing their contribution to the global energy system at high growth rates, the long term outlook of carbon intensity remains an open question. Overall economic growth at present, nevertheless, by far outpaces decarbonisation rates and in result atmospheric carbon pools currently grow at a rate of about 2 ppm per year.

The effect of global economy on the global carbon dioxide (CO_2) emissions can be seen in the following indicators. Increasing numbers can be recognised after the markets have been recovered from oil, economic or stock market crises like 1976 or 2008. Furthermore, CO_2 emissions went up in most of the major economies, led by China and India so that decreases in industrialised or developed countries due to energy-use efficiency and renewable energies cannot compensate the (global) increasing demand of energy for power and transport, especially in developing countries[3].

[3] PBL Netherlands Environmental Assessment Agency, Long-term trend in global CO_2 emissions. 2011 report, 2011.

Indicator 1: Development of absolute CO_2 emissions (all air transport emissions compared to total emissions)

Source: DLR, own calculations based on EDGAR v.4.2

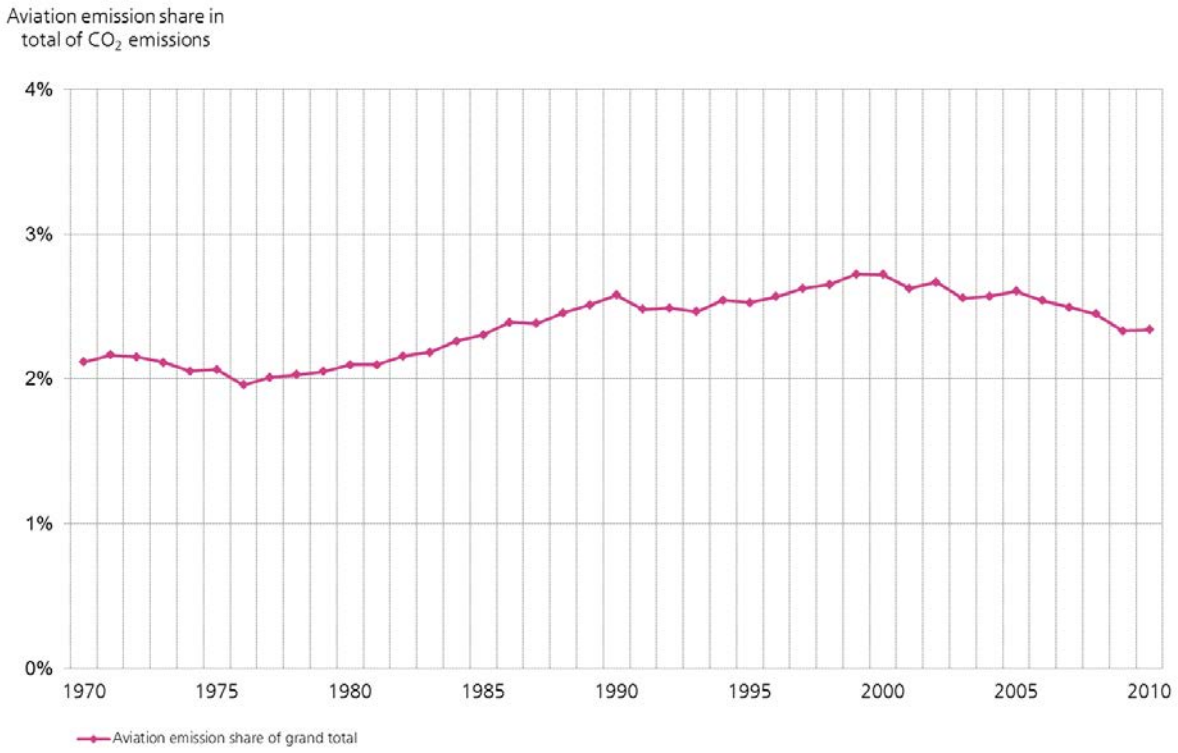


Indicator 1 presents the total emissions trends and air transport emissions in absolute numbers (the underlying data of Indicator 2 and 3). Global CO_2 emissions rose between 1970 and 2010 from 15.61 billion tonnes per year to 32.99 billion tonnes by a factor of 2.11. In a global average per capita representation, this results in a change from 4,229 kg to about 4,784 kg CO_2 per capita annually.

Aviation related emissions in the same period more than doubled, growing by a factor of 2.34. In absolute numbers, emissions grew from 330,410 thousand tons (0.33 billion t) in 1970 to 771,670 Thousand tons (0.77 billion t) in 2010. In a global average per capita representation, this equals a growth from 90 kg CO_2 to 115 kg CO_2 per year and person. The indicator 1 shows that the growth trend of CO_2 emissions in total developed stronger (about 1.3%) in the recent years from 2000 to 2010 than aviation emissions, that grew by an average of 1.1% per year in this period.

Indicator 2: Air transport emissions share in total CO_2 emissions

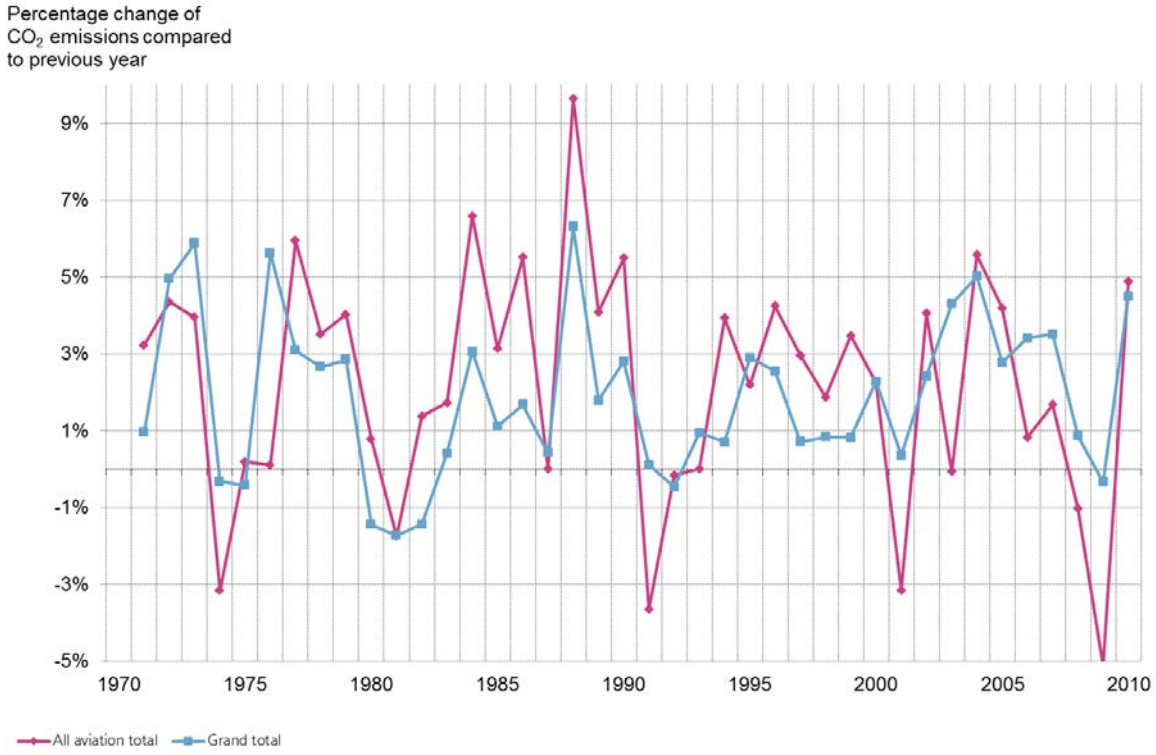
Source: DLR, own calculations based on EDGAR v.4.2



The share of air transport emission has been increasing from 2.12 percent in 1970 to 2.34 percent in 2010. Three notable periods of relative decline can be described in this graph: the periods between 1971 and 1976, between 1990 and 1993 and between 2005 and 2009. The years 1999 and 2000 had the all time high levels of air transport emissions shares. From 2005 to 2009 percentage was declining again with its highest descent in 2009, so that the actual air transport emission share of CO_2 is now as high about as in 1987 with slight increases in 2010. Again this numbers show the direct effects of global economy on the air transport system and accordingly its emissions

Indicator 3: Percentage change of overall and air transport CO_2 emissions

Source: DLR, own calculations based on EDGAR v.4.2

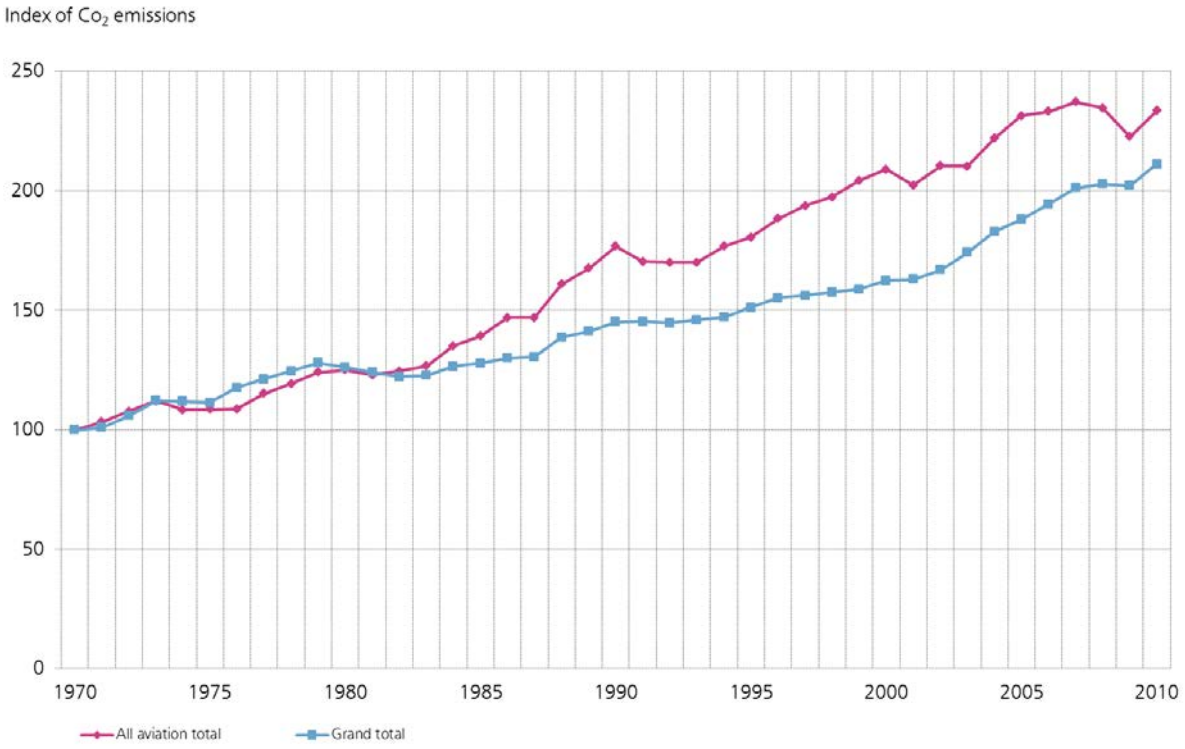


Indicator 3 illustrates the year-over-year percentage growth of overall anthropogenic CO_2 emissions and those from aviation. Overall, there is a quite close correlation notable between trends of the global emissions and those of aviation. In many years, however, the volatility of aviation emissions is higher than that of aggregate emissions – changes in growth rates, no matter if positive or negative, are higher for aviation than for the overall emission trends.

In several shorter time segments, the growth trends of both variables developed in different directions. For example, in the period 2001-20010 overall global emissions grew on average by 2.70% p.a., while aviation related emissions only increased by 1.20% per year. Special effects can be seen as well as in 2009, when CO_2 emissions from air transport decreased by 5.1% while total emissions only went down by 0.3% follwowd by an increase in 2010 with both going up to 4.9 % (aviation emiissions) respectively 4.5% (grand total) .

Indicator 4: Index development of overall and air transport related CO_2 emissions

Source: DLR, own calculations based on EDGAR v.4.2

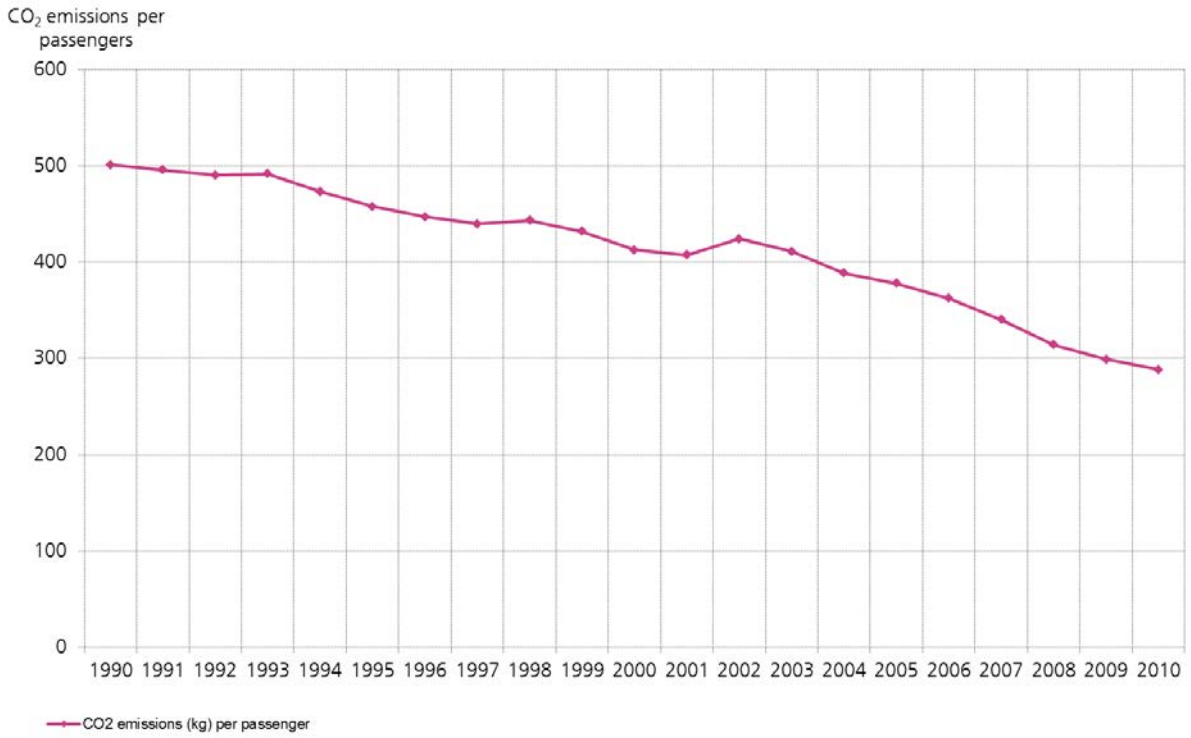


By Indicator 4, the overall emission trends are compared with trends of aviation related CO_2 emissions only. It is noticeable how aviation emissions are growing faster than total emissions. Between 1970 and 2010, they rose by a factor of 2.34 compared to 2.11 in the case of total CO_2 emissions.

In the most recent history although a noticeable dip of aviation emissions is visible after 2000, which might be attributed to at least two events: the rapid downturn of several IT related stock exchanges (such as NASDAQ “dot com bubble”) in March 2001, but certainly also reluctant passenger behaviour in reaction to the attacks on the world trade centre in New York in September 2001. In 2004, global trends reversed and by 2005 emissions from aviation had almost caught up with previous trends. In 2008 and 2009 a strong decline in aviation emissions is noticeable due to the global economic crisis, whose effects are much more visible within the air transport sector. In 2010 the global trend was increasing after economical recovery.

Indicator 5: CO_2 emissions from air transport per 1 million passengers

Source: DLR, own calculations based on EDGAR v.4.2, ICAO



In the period 1995-2010, global passenger numbers increased from 1,304 million to 2,675 million, a factor of 2.05 or an average compound annual growth rate of 5.14%.

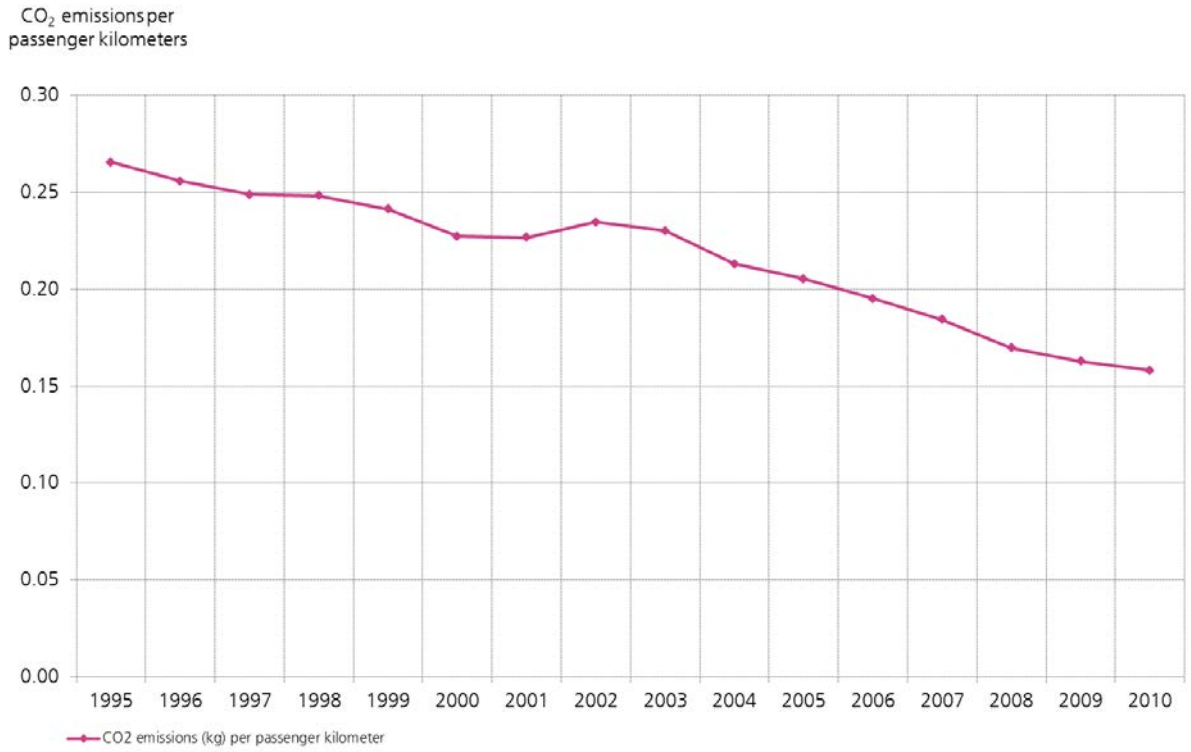
Aviation related emissions on the other side grew slower in the same time period from 596 million tonnes of CO_2 to only about 771 million tonnes, which represents a change of factor 1.29 or a compound annual growth rate of 2.34%.

Consequently, CO_2 emissions per million passengers declined between 1995 to 2010 from 457.7 kg/passenger to 288.5 kg/passenger which results in an annual compound growth rate of -2.99%.

Conclusions of this indicator have to be limited by the fact that all aviation emissions are attributed to the passenger aviation. It has to be mentioned that also emissions from cargo flights as well as freight carried by passenger flights are included in this category.

Indicator 6: CO_2 emissions from air transport per 1 million passenger-kilometres

Source: DLR, own calculations based on EDGAR v.4.2, ICAO



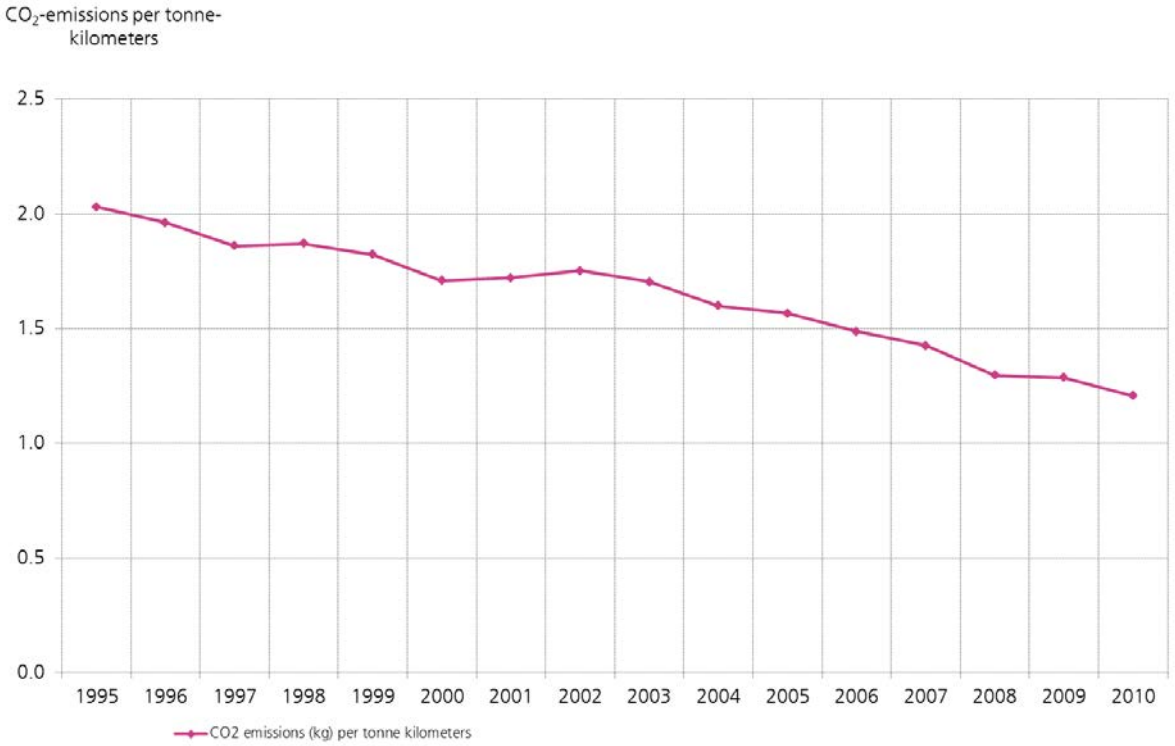
In a similar manner, like with regard to Indicator 5, also for the CO_2 emissions per passenger-kilometres (pkm) a notable decline in emission intensity could be observed.

Between 1995 and 2010, global passenger-kilometres expanded from 2,248 billion to 4,882 billion, a factor change of 2.17 or a compound annual growth rate of 5.39%. CO_2 emissions per 1 million passenger-kilometres accordingly declined from 0.27 kg per pkm to 0.16 kg per passenger kilometre by a factor of 0.60 or a compound annual growth rate of -3.36%. The decline of emissions is significantly notable although the total kilometres have expanded due to the kilometres in mean per flight.

Similar to Indicator 5, conclusions of this indicator have to be limited by the fact that all aviation emissions are attributed to the passenger aviation. It has to be mentioned that also emissions from cargo flights as well as freight carried by passenger flights are included in this category.

Indicator 7: CO_2 emissions from air transport per 1 million tonne-kilometres performed

Source: DLR, own calculations based on EDGAR v.4.2, ICAO



With regard to Indicator 7, CO_2 emissions from air transport per 1 million tonne-kilometres (tkm) performed quite similar like Indicator 6. In the period of 1995 to 2010, global air freight demand grew even slightly faster than passenger transport demand from 294 billion to 639 billion tkm by a factor of 2.18 or a compound annual growth rate of 5.43%. CO_2 emission intensity of air transport declined accordingly from 2.03 kg per tonne kilometre to 1.1.206 kg/tkm. This represents a change of a factor 0.59, or a compound annual growth rate of -3.37 %.

3. Main sources of the discussed indicators

- EDGAR v.4.2

  The Emissions Database for Global Atmospheric Research (EDGAR)[4] provides global past and present day anthropogenic emissions of greenhouse gases and air pollutants by country and on spatial grid. The current development of EDGAR is a joint project of the European Commission JRC Joint Research Centre and the Netherlands Environmental Assessment Agency (PBL). Data used in Indicator sheet 2012 has been completely taken from the actual version – also elder figures differ from recent data sets of EDGAR.

- ICAO

  The International Civil Aviation Organization (ICAO)[5] is the principal source of global data on civil air transport activity (such as passenger numbers, air freight activity, etc.).

4. Alternative sources to build similar indicators in the given indicator field

- Global air transport emissions data can also be derived from the regularly updated statistics published by the International Energy Agency (IEA) in Paris. http://www.iea.org/stats/index.asp
- The US Energy Information Administration (EIA) also publishes annually the International Energy Outlook, containing data on energy use by sector and emission types. http://www.eia.gov/forecasts/ieo/emissions.cfm
- Based on data of the previously mentioned sources, the world resource institute maintains a database titled CAIT (carbon analysis indicator tool) which allows for relatively easy comparison of results. http://cait.wri.org/

This Indicator Information Sheet was prepared by the MONITOR project partners IIASA and DLR – Institute of Air Transport and Airport Research.

Date of release: Jan 29, 2013

[4] http://edgar.jrc.ec.europa.eu/index.php
[5] Icao.int

Indicator 1: Development of absolute CO_2 emissions (all air transport emissions compared to total emissions)

	CO_2 emissions (thousand tonnes)		CO_2 emissions (billion t)	
Year	All aviation total	Grand total	All aviation total	Grand total
1970	330,410	15,612,470	0.33	15.61
1971	341,070	15,761,920	0.34	15.76
1972	355,890	16,543,100	0.36	16.54
1973	369,940	17,514,700	0.37	17.51
1974	358,210	17,457,240	0.36	17.46
1975	358,860	17,384,470	0.36	17.38
1976	359,250	18,362,610	0.36	18.36
1977	380,590	18,929,080	0.38	18.93
1978	393,950	19,431,190	0.39	19.43
1979	409,790	19,984,140	0.41	19.98
1980	413,010	19,696,360	0.41	19.70
1981	405,780	19,355,370	0.41	19.36
1982	411,380	19,078,140	0.41	19.08
1983	418,470	19,156,030	0.42	19.16
1984	446,040	19,742,510	0.45	19.74
1985	459,980	19,960,840	0.46	19.96
1986	485,330	20,294,060	0.49	20.29
1987	485,310	20,378,620	0.49	20.38
1988	532,090	21,663,840	0.53	21.66
1989	553,840	22,051,790	0.55	22.05
1990	584,230	22,668,460	0.58	22.67
1991	562,930	22,691,210	0.56	22.69
1992	561,990	22,585,040	0.56	22.59
1993	561,990	22,797,590	0.56	22.80
1994	584,070	22,956,110	0.58	22.96
1995	596,850	23,620,320	0.60	23.62
1996	622,130	24,220,440	0.62	24.22
1997	640,530	24,391,980	0.64	24.39
1998	652,470	24,595,830	0.65	24.60
1999	675,090	24,798,900	0.68	24.80
2000	690,210	25,362,960	0.69	25.36
2001	668,380	25,450,640	0.67	25.45
2002	695,490	26,067,720	0.70	26.07
2003	695,000	27,189,440	0.70	27.19
2004	733,700	28,554,020	0.73	28.55
2005	764,410	29,345,940	0.76	29.35
2006	770,670	30,345,220	0.77	30.35
2007	783,580	31,409,670	0.78	31.41
2008	775,540	31,679,560	0.78	31.68
2009	735,800	31,573,301	0.74	31.57
2010	**771,670**	**32,991,525**	**0.77**	**32.99**

Source: EDGAR v4.2 for the years 1970-2008, retrieved 10 October, 2012; UN Statistics Department, Statistic Yearbook 2010

Indicator 2: Air transport emissions share in total CO_2 emissions

Year	Aviation emission share of grand total
1970	2.116%
1971	2.164%
1972	2.151%
1973	2.112%
1974	2.052%
1975	2.064%
1976	1.956%
1977	2.011%
1978	2.027%
1979	2.051%
1980	2.097%
1981	2.096%
1982	2.156%
1983	2.185%
1984	2.259%
1985	2.304%
1986	2.391%
1987	2.381%
1988	2.456%
1989	2.512%
1990	2.577%
1991	2.481%
1992	2.488%
1993	2.465%
1994	2.544%
1995	2.527%
1996	2.569%
1997	2.626%
1998	2.653%
1999	2.722%
2000	2.721%
2001	2.626%
2002	2.668%
2003	2.556%
2004	2.570%
2005	2.605%
2006	2.540%
2007	2.495%
2008	2.448%
2009	2.330%
2010	**2.339%**

Source: EDGAR v4.2 for the years 1970-2010, retrieved July 2015;
UN Statistics Department, Statistic Yearbook 2010; own calculations

Indicator 3: Year-over-year percentage change of overall CO_2 emissions and CO_2 emissions in air transport

	%-change of CO_2-emissions compared to previous year	
Year	All aviation total	Grand total
1970		
1971	3.2%	1.0%
1972	4.3%	5.0%
1973	3.9%	5.9%
1974	-3.2%	-0.3%
1975	0.2%	-0.4%
1976	0.1%	5.6%
1977	5.9%	3.1%
1978	3.5%	2.7%
1979	4.0%	2.8%
1980	0.8%	-1.4%
1981	-1.8%	-1.7%
1982	1.4%	-1.4%
1983	1.7%	0.4%
1984	6.6%	3.1%
1985	3.1%	1.1%
1986	5.5%	1.7%
1987	0.0%	0.4%
1988	9.6%	6.3%
1989	4.1%	1.8%
1990	5.5%	2.8%
1991	-3.6%	0.1%
1992	-0.2%	-0.5%
1993	0.0%	0.9%
1994	3.9%	0.7%
1995	2.2%	2.9%
1996	4.2%	2.5%
1997	3.0%	0.7%
1998	1.9%	0.8%
1999	3.5%	0.8%
2000	2.2%	2.3%
2001	-3.2%	0.3%
2002	4.1%	2.4%
2003	-0.1%	4.3%
2004	5.6%	5.0%
2005	4.2%	2.8%
2006	0.8%	3.4%
2007	1.7%	3.5%
2008	-1.0%	0.9%
2009	-5.1%	-0.3%
2010	**4.9%**	**4.5%**

Source: EDGAR v4.2 for the years 1970-2010, retrieved July 2015;
UN Statistics Department, Statistic Yearbook 2010; own calculations

Indicator 4: Index development of overall and air transport related CO_2 emissions

	Index	
Year	All aviation total	Grand total
1970	100.00	100.00
1971	103.23	100.96
1972	107.71	105.96
1973	111.96	112.18
1974	108.41	111.82
1975	108.61	111.35
1976	108.73	117.62
1977	115.19	121.24
1978	119.23	124.46
1979	124.02	128.00
1980	125.00	126.16
1981	122.81	123.97
1982	124.51	122.20
1983	126.65	122.70
1984	135.00	126.45
1985	139.21	127.85
1986	146.89	129.99
1987	146.88	130.53
1988	161.04	138.76
1989	167.62	141.24
1990	176.82	145.19
1991	170.37	145.34
1992	170.09	144.66
1993	170.09	146.02
1994	176.77	147.04
1995	180.64	151.29
1996	188.29	155.14
1997	193.86	156.23
1998	197.47	157.54
1999	204.32	158.84
2000	208.90	162.45
2001	202.29	163.01
2002	210.49	166.97
2003	210.34	174.15
2004	222.06	182.89
2005	231.35	187.96
2006	233.25	194.37
2007	237.15	201.18
2008	234.72	202.91
2009	232.29	204.64
2010	**229.85**	**206.37**

Source: EDGAR v4.2 for the years 1970-2010, retrieved July 2015;
UN Statistics Department, Statistic Yearbook 2010; own calculations

Indicator 5: CO_2 emissions from air transport per passenger

Year	CO_2 emissions (thousand tons) All aviation total	Passengers (thousands) extracted from ICAO	CO_2 emissions (t) per passenger	CO_2 emissions (t) per 1,000 passenger	CO_2 emissions (kg) per passenger	growth rate passengers	growth rate co2 per pax	growth rate co2 emissions
1990	584,230	1,165,156	0.50	501.4	501.4			
1991	562,930	1,135,185	0.50	495.9	495.9	-2.57%	-1.10%	-3.65%
1992	561,990	1,145,553	0.49	490.6	490.6	0.91%	-1.07%	-0.17%
1993	561,990	1,142,382	0.49	491.9	491.9	-0.28%	0.28%	0.00%
1994	584,070	1,233,341	0.47	473.6	473.6	7.96%	-3.74%	3.93%
1995	596,850	1,304,000	0.46	457.7	457.7	5.73%	-3.35%	2.19%
1996	622,130	1,391,000	0.45	447.3	447.3	6.67%	-2.28%	4.24%
1997	640,530	1,457,000	0.44	439.6	439.6	4.74%	-1.71%	2.96%
1998	652,470	1,471,000	0.44	443.6	443.6	0.96%	0.89%	1.86%
1999	675,090	1,562,000	0.43	432.2	432.2	6.19%	-2.56%	3.47%
2000	690,210	1,672,000	0.41	412.8	412.8	7.04%	-4.49%	2.24%
2001	668,380	1,640,000	0.41	407.5	407.5	-1.91%	-1.27%	-3.16%
2002	695,490	1,639,000	0.42	424.3	424.3	-0.06%	4.12%	4.06%
2003	695,000	1,691,000	0.41	411.0	411.0	3.17%	-3.14%	-0.07%
2004	733,700	1,888,000	0.39	388.6	388.6	11.65%	-5.45%	5.57%
2005	764,410	2,022,000	0.38	378.0	378.0	7.10%	-2.72%	4.19%
2006	770,670	2,127,000	0.36	362.3	362.3	5.19%	-4.16%	0.82%
2007	783,580	2,303,000	0.34	340.2	340.2	8.27%	-6.10%	1.68%
2008	775,540	2,470,000	0.31	314.0	314.0	7.25%	-7.72%	-1.03%
2009	735,800	2,461,000	0.30	299.0	299.0	-0.36%	-4.78%	-5.12%
2010	**771,670**	**2,675,000**	**0.29**	**288.5**	**288.5**	**8.70%**	**-3.52%**	**4.87%**

Source EDGAR: v4.2 for the years 1995-2010, retrieved July 2015

Source ICAO: Values after 2007 belong to the latest edition of the Annual Report of the Council. Values from 2000-2007 belong to the Annual Report of the Council (2009). The other results for the years 1995-1999 are an excerpt from the ICAO database. Small deviations between both sources exist for some years but are rather small and do not change the statement of the indicator

Indicator 6: CO_2 emissions from air transport per 1,000 passenger-kilometres

Year	CO_2 emissions (thousand tons) All aviation total	Total passenger-kilometers (thousands) extracted from ICAO	CO_2 emission (t) per 1,000 passenger kilometers	CO2 emissions (kg) per passenger kilometer	growth rate passengers-km	growth rate co2 per pax
1990	584,230	1,894,000,000	0.3085	0.31		
1991	562,930	1,845,000,000	0.3051	0.31	-2.59%	-1.09%
1992	561,990	1,929,000,000	0.2913	0.29	4.55%	-4.51%
1993	561,990	1,949,000,000	0.2883	0.29	1.04%	-1.03%
1994	584,070	2,099,000,000	0.2783	0.28	7.70%	-3.50%
1995	596,850	2,248,210,000	0.2655	0.27	7.11%	-4.59%
1996	622,130	2,431,690,000	0.2558	0.26	8.16%	-3.63%
1997	640,530	2,573,010,000	0.2489	0.25	5.81%	-2.70%
1998	652,470	2,628,120,000	0.2483	0.25	2.14%	-0.27%
1999	675,090	2,797,800,000	0.2413	0.24	6.46%	-2.81%
2000	690,210	3,037,530,000	0.2272	0.23	8.57%	-5.83%
2001	668,380	2,949,550,000	0.2266	0.23	-2.90%	-0.27%
2002	695,490	2,964,530,000	0.2346	0.23	0.51%	3.53%
2003	695,000	3,019,100,000	0.2302	0.23	1.84%	-1.88%
2004	733,700	3,445,300,000	0.2130	0.21	14.12%	-7.49%
2005	764,410	3,721,690,000	0.2054	0.21	8.02%	-3.55%
2006	770,670	3,948,570,000	0.1952	0.20	6.10%	-4.97%
2007	783,580	4,252,520,000	0.1843	0.18	7.70%	-5.59%
2008	775,540	4,570,132,000	0.1697	0.17	7.47%	-7.90%
2009	735,800	4,522,005,000	0.1627	0.16	-1.05%	-4.11%
2010	**771,670**	**4,881,686,000**	**0.1581**	**0.16**	**7.95%**	**-2.85%**

Source EDGAR: v4.2 for the years 1995-2010, retrieved July 2015

Source ICAO: Values after 2007 belong to the latest edition of the Annual Report of the Council. Values from 2000-2007 belong to the Annual Report of the Council (2009). The other results for the years 1995-1999 are an excerpt from the ICAO database. Small deviations between both sources exist for some years but are rather small and do not change the statement of the indicator

Indicator 7: CO_2 emissions from air transport per 1,000 tonne-kilometres performed

Year	CO_2 emissions (thousand tons) All aviation total	Total tonnekilometers performed (thousands) extracted from ICAO	CO_2 emissions (t) per 1,000 tonne kilometers	CO_2 emissions (kg) per tonne kilometers	growth rate passengers-km	growth rate co2 per pax
1995	596,850	293,930,000	2.0306	2.0306		
1996	622,130	317,150,000	1.9616	1.9616	7.90%	-3.40%
1997	640,530	344,190,000	1.8610	1.8610	8.53%	-5.13%
1998	652,470	348,600,000	1.8717	1.8717	1.28%	0.58%
1999	675,090	370,420,000	1.8225	1.8225	6.26%	-2.63%
2000	690,210	403,960,000	1.7086	1.7086	9.05%	-6.25%
2001	668,380	388,150,000	1.7220	1.7220	-3.91%	0.78%
2002	695,490	397,120,000	1.7513	1.7513	2.31%	1.71%
2003	695,000	407,670,000	1.7048	1.7048	2.66%	-2.66%
2004	733,700	458,910,000	1.5988	1.5988	12.57%	-6.22%
2005	764,410	487,860,000	1.5669	1.5669	6.31%	-2.00%
2006	770,670	518,440,000	1.4865	1.4865	6.27%	-5.13%
2007	783,580	550,010,000	1.4247	1.4247	6.09%	-4.16%
2008	775,540	598,137,000	1.2966	1.2966	8.75%	-8.99%
2009	735,800	572,466,000	1.2853	1.2853	-4.29%	-0.87%
2010	**771,670**	**639,694,000**	**1.2063**	**1.2063**	**11.74%**	**-6.15%**
					Average 1995-2010	

Source EDGAR: v4.2 for the years 1995-2010, retrieved July 2015

Source ICAO: Values after 2007 belong to the latest edition of the Annual Report of the Council. Values from 2000-2007 belong to the Annual Report of the Council (2009). The other results for the years 1995-1999 are an excerpt from the ICAO database. Small deviations between both sources exist for some years but are rather small and do not change the statement of the indicator