

F.1. Atmosphere and climate change

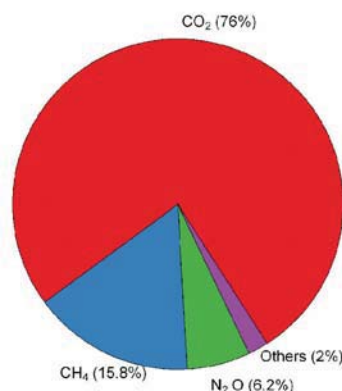
Greenhouse gas (GHG) emissions are continuing to rise globally and in the region. GHGs come in a number of different forms and from multiple sources. Fossil fuel use is responsible for most global carbon dioxide (CO₂) emissions, and a large part of global anthropogenic GHG emissions overall. Other GHGs – such as methane (CH₄) – that also have significant potential to contribute to the overall challenges associated with climate change are mainly associated with agricultural activities and related land use changes. With average global CO₂ concentrations in the atmosphere nearing 400 parts per million (ppm) and increasing by 2 ppm per year, urgent action is required to reverse the dangerous trend of rising GHG emissions of all types and sources.

Emissions of different types of GHGs can be combined into a single measure using measures of their global warming potential (GWP). GWP is calculated for the non-CO₂ GHGs as the ratio of radiative forcing (or warming potential) relative to the same mass of CO₂. In line with the United Nations Framework Convention on Climate Change, the combined GHG emission figures are estimated using the CO₂ equivalent GWP for a 100-year time period.¹ Compared with GHGs such as CH₄ and nitrous oxide (N₂O), CO₂ has a relatively low radiative forcing potential. However, CO₂ remains a major concern in relation to climate change due to the rapid growth in CO₂ emissions during recent decades.

It is generally estimated that, to avoid the most serious consequences of global warming, the global surface temperature cannot be allowed to increase more than 2°C over the pre-industrial average, and to have a 50 per cent chance of reaching this goal, the long-term concentration of GHGs in the atmosphere needs to be limited to 450 ppm of CO₂ equivalent.²

In 2011, global average CO₂ concentrations amounted to 390 ppm, which is 110 ppm higher

Figure F.1-1
Global greenhouse gas composition, 2010



Others: HFCs = 1.5%; PFCs = 0.2%; SF₆ = 0.3%

Source: International Energy Agency, *CO₂ Emissions from Fuel Combustion* (Organisation for Economic Co-operation and Development/International Energy Agency, Paris, 2012).

than the pre-industrial average of 280 ppm.³ During 2012-2013, individual measurements of 400 ppm were recorded at sites in the Arctic and in Hawaii, United States of America.⁴

In 1990-2010, the Asian and Pacific region was responsible for more than half of total global GHG emissions.

In 2010, China became the country with the largest share of global GHG emissions, accounting for about 23 per cent of the global total, which is approximately the same share as Latin America and the Caribbean and North America combined. For the highest shares of emissions in the region, China is followed by India with 5.5 per cent, the Russian Federation with 5.1 per cent, Indonesia with 4.0 per cent and Japan with 2.8 per cent of total global emissions. Emissions from Europe account for 12 per cent of the global total, which is slightly lower than those from North America, with 15.2 per cent.

In 2010, GHG emissions in the Asian and Pacific region increased by 1.5 per cent from the previous year, which is similar to the global increase. The most dramatic year-to-year increases were in countries with very low absolute

¹ See http://unfccc.int/ghg_data/items/3825.php.

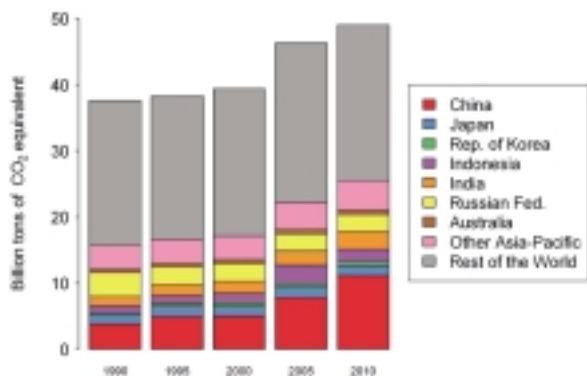
² See <http://www.worldenergyoutlook.org/publications/weo-2009/>.

³ See www.globalcarbonproject.org/carbonbudget/12/hl-full.htm.

⁴ See www.bbc.co.uk/news/science-environment-22486153.

levels of emissions, including Bhutan, Cambodia and the Lao People's Democratic Republic. At the same time, of the countries with larger emission levels, China, India, Japan and the Republic of Korea continued to increase emissions by between 4 per cent and 7 per cent, while those of the Russian Federation increased by a more moderate 1.2 per cent. The largest proportional reductions in year-to-year emission levels were recorded in Indonesia (26 per cent), the Cook Islands (20 per cent), Hong Kong, China (7.9 per cent), Malaysia (7.3 per cent) and Australia (5.8 per cent).

Figure F.1-2
Greenhouse gas emissions, Asia and the Pacific and rest of the world, 1990-2010 (global warming potential carbon dioxide equivalent)

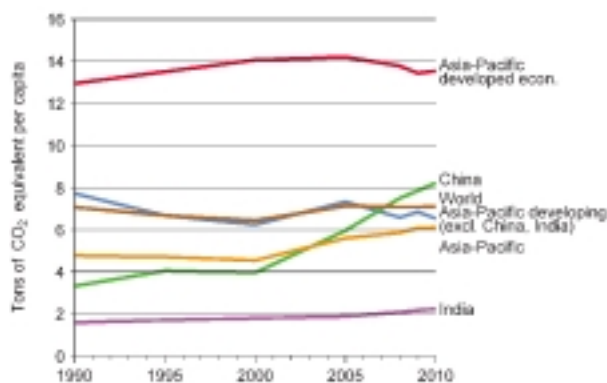


Although the region still records a higher level of GHG intensity (GHG emissions in tons of CO₂ equivalent per 1,000\$ GDP) than the global average, the level has been falling continuously since 1990, which implies that each unit of value of economic production in the region's economies is being achieved in correlation with reduced amounts of GHG emissions.

GHG intensity in the Asian and Pacific region in 2010 was 1.2 compared with the world average of 0.8 (expressed as GHG emissions in tons of CO₂ equivalent per 1,000\$ GDP). The rate of reduction in GHG intensity since 1990 has been the same as the global average and also that of the United States of America, but slower than that of Europe.

On a per capita basis, in 2010, the Asian and Pacific region's average of 6.1 tons of GHG (CO₂ equivalent) emissions remained slightly below the global average of 7.1. Developed countries in the region average 13.5 tons per capita, while developing countries in the region average 5.8 tons per capita (6.5 if China and India are excluded). The largest emitters in the region on a per capita basis are Brunei Darussalam at 50 tons, Australia and Mongolia at 28 and 26 tons, respectively, and Kazakhstan, the Lao People's Democratic Republic, New Zealand, the Russian Federation and Turkmenistan at between 16 and 20 tons. China emits 8.2 tons per capita, compared with 21.5 tons in North America and 9.9 tons in Europe.

Figure F.1-3
Greenhouse gas emissions per capita (carbon dioxide equivalent), 1990-2010



CO₂ emissions from the Asian and Pacific region have been rising at a more rapid rate than overall GHG emissions from the region.

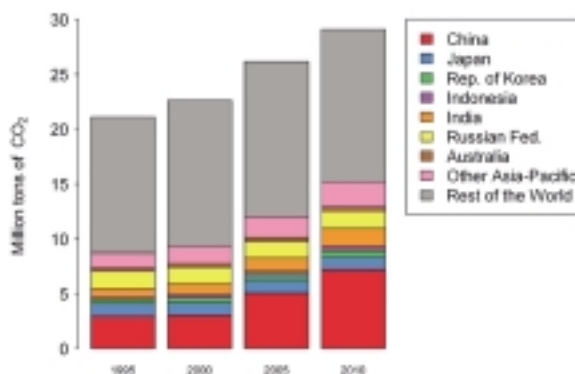
Between 2005 and 2010, CO₂ emissions increased in the region by 26.2 per cent while GHG emissions increased by 14.7 per cent. In the same period, while increasing by only 2.7 per cent in the Pacific and 7.2 per cent in North and Central Asia, CO₂ emissions have increased much more significantly in South and South-West Asia (32 per cent), East and North-East Asia (31.5 per cent) and South-East Asia (22.8 per cent). The region now contributes more than half of all global CO₂ emissions, with China accounting for 24.8 per cent of global CO₂

emissions, or 47.5 per cent of those from the region.

In its publication *World Energy Outlook*, the International Energy Agency (IEA) presents the “450 Scenario,” which “sets out an energy pathway consistent with the goal of limiting the global increase in temperature to 2°C by limiting the concentration of GHGs in the atmosphere to around 450 ppm of CO₂.”⁵ Projections by IEA have indicated that, to reach the target of 450 ppm, emission levels would need to start declining by 2020 at the latest.⁶ As CO₂ emissions form the majority of global GHG emissions, and fossil fuel combustion is the primary source of CO₂ emissions, contributing 65 per cent of all GHG emissions,⁷ reducing the consumption of fossil fuels is critical.

The generation of electricity and heat currently account for 41 per cent of CO₂ emissions, followed by transport at 22 per cent, industry at 20 per cent, and residential and others each at about 10 per cent.⁸

Figure F.1-4
Carbon dioxide emissions, Asian and Pacific region and rest of the world, 1995-2010



Since energy infrastructure has a long lifetime, investments made today will impact emission levels for decades to come. According to the *World Energy Outlook 2012*, unless global coordinated action to reduce CO₂ emissions from energy is taken urgently, reducing CO₂ emissions in line with the 450 Scenario will become more costly.⁹

Box F.1-1

Setting targets to reduce carbon dioxide emissions in the region

Several countries in the Asian and Pacific region, including Cambodia, China, India, Indonesia, Japan, Maldives, the Marshall Islands, Mongolia, Papua New Guinea, the Republic of Korea, Singapore, Thailand and Tuvalu, have introduced voluntary targets to reduce CO₂ emissions in absolute amounts or to reduce the consumption of fossil fuels. China has set a goal to reduce by 2020 CO₂ emissions per unit of GDP by 40 per cent to 45 per cent below 2005 levels, as well as to increase forest cover by 40 million hectares. China has also recently instituted a natural resources tax, and is planning to put in place a domestic carbon trading

system. As a first step, a pilot carbon trading scheme was launched in Shenzhen in June 2013, to be followed by carbon trading schemes in six other locations before 2014.^a

Growing wealth and consumption across the world has contributed to global CO₂ concentrations increasing by an average of 2 ppm during the past decade.^b As concentrations depend on emissions accumulated over time, ambitious targets and urgent action are needed to reverse the rise of concentrations in the atmosphere.

^a See www.guardian.co.uk/environment/2013/may/22/china-carbon-trading-shenzhen.

^b See www.globalcarbonproject.org/carbonbudget/12/hl-full.htm.

⁵ See www.iea.org/publications/scenariosandprojections/.

⁶ International Energy Agency, *World Energy Outlook 2009* (Organisation for Economic Co-operation and Development/International Energy Agency, Paris, 2009). Available from www.worldenergyoutlook.org/publications/weo-2009/.

⁷ International Energy Agency, *CO₂ Emissions from Fuel Combustion: Highlights* (Organisation for Economic Co-operation and Development/International Energy Agency, Paris, 2012). Available from www.iea.org/publications/freepublications/publication/name,32870,en.html.

⁸ Ibid.

⁹ International Energy Agency, *World Energy Outlook 2012* (Organisation for Economic Co-operation and Development / International Energy Agency, Paris, 2012). Available from www.worldenergyoutlook.org/publications/weo-2012/.

Both CH₄ and N₂O emissions have continued to rise in the Asian and Pacific region, particularly in East and North-East Asia. In the 1990s, the region contributed less than half of all global sulphur dioxide (SO₂). Since then, emissions from the rest of the world have been reducing, while, since 2000, those from the Asian and Pacific region have been increasing.

CH₄ and N₂O emissions are important in particular because they are potent GHGs. SO₂ emissions can lead to acid rain and harm human health. China contributed about 40 per cent of N₂O emissions and 36 per cent of CH₄ emissions from the region in 2008. While CO₂ emissions are primarily related to energy, the main source of CH₄ and N₂O is agriculture (see key message on emissions from agriculture).

Figure F.1-5
Methane emissions, Asian and Pacific subregions, 1970-2008

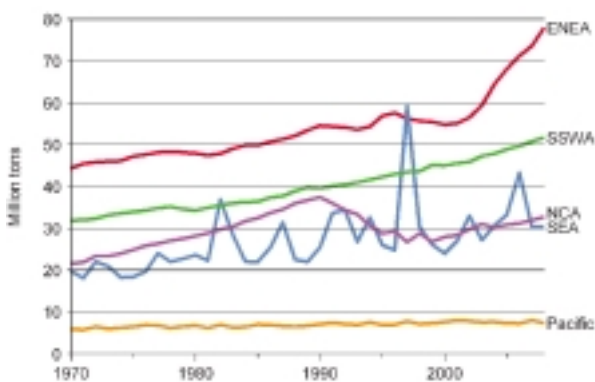
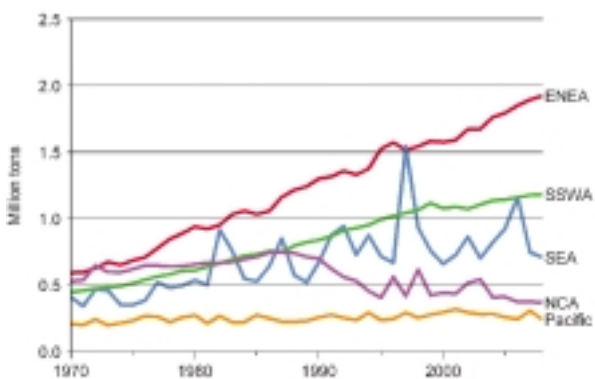
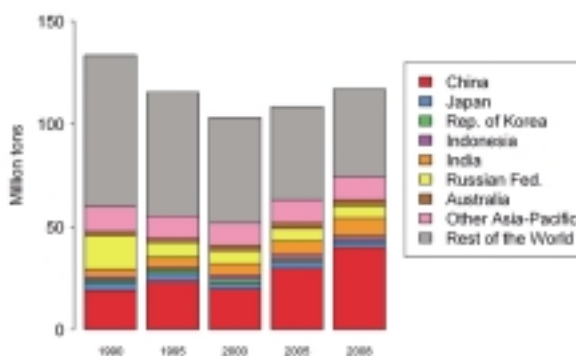


Figure F.1-6
Nitrous oxide emissions, Asian and Pacific subregions, 1970-2008



SO₂ emissions, like CO₂ emissions, come mainly from the combustion of coal and petroleum. As a result of a continuous increase in the rate, SO₂ emissions from the Asian and Pacific region contributed nearly two thirds (63.5 per cent) of global SO₂ emissions in 2008, with the majority originating from a handful of countries, in particular China (34.1 per cent of global SO₂ emissions, or 54 per cent of those from the region), followed by India (7.3 per cent of global, 11.6 per cent of regional SO₂ emissions) and the Russian Federation (5 per cent of global, 7.8 per cent of regional SO₂ emissions).

Figure F.1-7
Sulphur dioxide emissions, Asia and the Pacific and rest of the world, 1990-2008



The region accounts for about half of global emissions from agriculture.

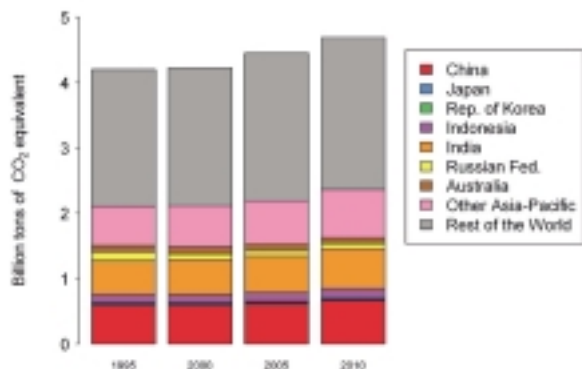
Agriculture accounted for about 10 per cent to 12 per cent of total global anthropogenic GHG emissions in 2005.¹⁰ The main sources of emissions are crop and livestock production and management, and forestry and associated land use changes.

Globally, as well as in the Asian and Pacific region, GHG emissions from agriculture are dominated by non-CO₂ gases such as CH₄ and N₂O, arising from crop and livestock production and management.

China and India have the highest emissions from agriculture in the region. Together they account for 54 per cent of the emissions in the region, or 27 per cent of total global emissions from agriculture.

¹⁰ See www.ipcc.ch/publications_and_data/ar4/wg3/en/ch8s8-es.html.

Figure F.1-8
Emissions from agriculture, Asia and the Pacific and rest of the world, 1990-2010

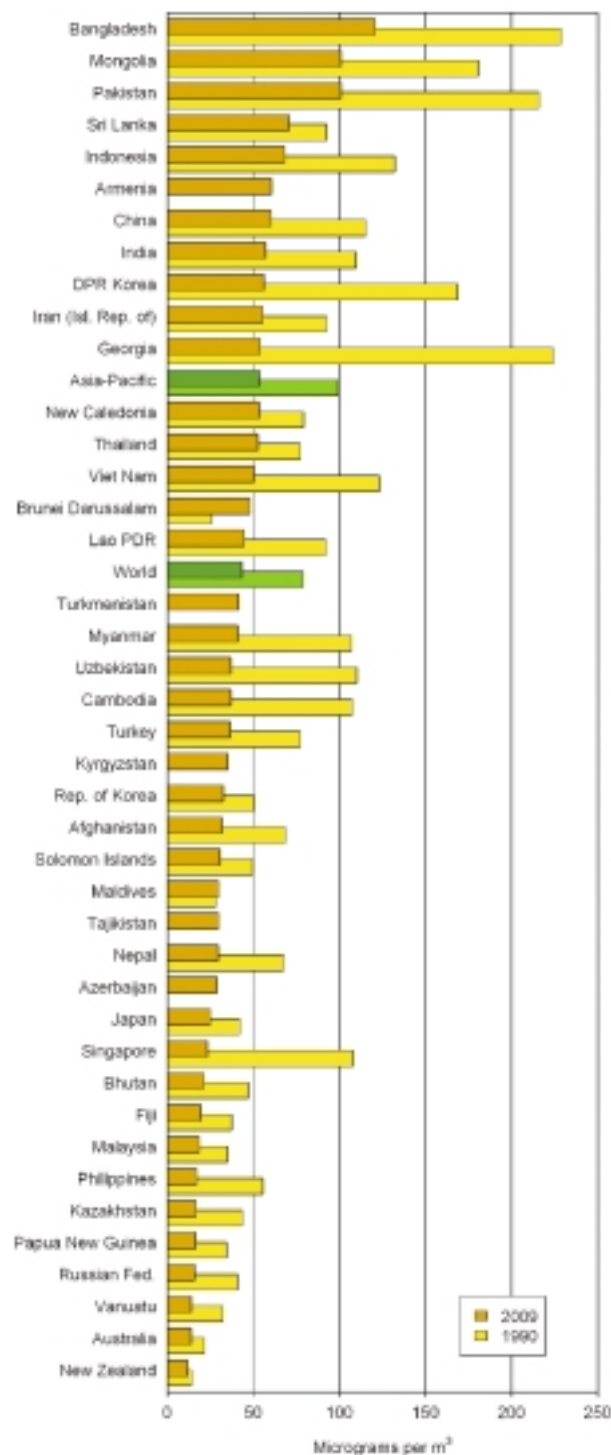


Concentrations of particulate matter in the local atmospheres above cities in Asia and the Pacific exceed the maximum safety standard set by the World Health Organization

One of the most problematic issues regarding local air pollution is the concentration of particulate matter (PM), as it tends to affect more people than other pollutants such as SO₂. The particles are identified according to their aerodynamic diameter, as either PM₁₀ (particles with a diameter smaller than 10 microns) or PM_{2.5} (particles with a diameter smaller than 2.5 microns). Although average concentrations of PM₁₀ declined by 45 per cent between 1990 and 2009, concentrations are generally still much higher than the recommended World Health Organization standard (20 micrograms per m³, annual mean).¹¹

The effects of particulate matter on health occur at levels of exposure currently being experienced by most urban and rural populations in both developed and developing countries in the region. Chronic exposure to particles contributes to the risk of developing cardiovascular and respiratory diseases, as well as lung cancer.¹² Urban air pollution generated by vehicles, industries and energy production causes an estimated 800,000 premature deaths every year.¹³

Figure F.1-9
Concentration of particulate matter in urban areas, Asia and the Pacific, 1990 and 2009



¹¹ World Health Organization, *Air Quality Guidelines: Global Update 2005 – Particulate Matter, Ozone, Nitrogen Dioxide and Sulphur Dioxide* (2006). Available from www.who.int/phe/health_topics/outdoorair/outdoorair_aqg/en/index.html.

¹² World Health Organization, "Air quality and health", Fact Sheet No. 313 (September 2011). Available from www.who.int/mediacentre/factsheets/fs313/en/.

¹³ Jeff Kenworthy and Felix Laube, "Urban transport patterns in a global sample of cities and their linkages to transport infrastructure, land use, economics and environment", *World Transport Policy and Practice*, vol. 8, No. 3 (2002), pp. 5-20.

Some 1.7 billion people in the Asian and Pacific region rely on dung, wood, crop waste or coal to meet their most basic energy needs.¹⁴ Cooking and heating with such solid fuels on open fires or stoves without chimneys leads to indoor air pollution. Globally, indoor air pollution is

estimated to cause 36 per cent of all lower respiratory infections and 22 per cent of chronic obstructive pulmonary disease. Exposure is particularly high among women and children, who spend the most time near the domestic hearth.¹⁵

Further reading

Intergovernmental Panel on Climate Change. *Climate Change 2007: Synthesis Report, Contribution of Working Groups I, II and III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*. Geneva, 2008. Available from www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr.pdf.

International Energy Agency. *CO₂ Emissions from Fuel Combustion*. Various years.

International Energy Agency. *World Energy Outlook*. Various years.

United Nations Environment Programme. *Bridging the Emissions Gap: A UNEP Synthesis Report*. 2011. Available from www.unep.org/pdf/UNEP_bridging_gap.pdf.

Technical notes

GHG emissions: total (million tons of CO₂ equivalent, percentage change per annum, tons of CO₂ equivalent per capita)

Total GHG emissions, expressed in million tons of CO₂ equivalent, is calculated using the GWP100 established by the United Nations Framework Convention on Climate Change under the Tier 1 Sectoral Approach of the Intergovernmental Panel on Climate Change. GHG emissions are composed of CO₂ totals excluding short-cycle biomass burning (such as agricultural waste burning and Savannah burning but including other biomass burning such as forest fires, post-burn decay, peat fires and decay of drained peatlands), all anthropogenic CH₄ sources, N₂O sources and F-gases (HFCs, PFCs and SF₆). CO₂ equivalent is a measure used to compare different GHGs based on their contribution to radiative forcing. The United Nations Framework Convention on Climate Change currently (2005) uses GWPs as factors

to calculate CO₂ equivalent. **Indicator calculations:** Percentage change in GHG emissions per annum and in a 10-year period. Per capita figures are based on population figures (WPP2012). **Aggregate calculations:** Sum of individual country values (million tons of CO₂ equivalent); average annual growth of all country level values of total GHG emissions in million tons of CO₂ equivalent of individual countries (percentage change per annum); weighted averages using total population (WPP2012) as weight (tons of CO₂ equivalent per capita). Missing data are not imputed.

GHG intensity (GHG emissions in tons of CO₂ equivalent per 1,000\$ GDP)

GHG intensity of economy (or GHG per GDP) is a measure of GHG emissions per unit of economic output. The economic output is expressed as GDP in current United States dollars. **Aggregate calculations:** Weighted averages using current GDP in United States dollars. Missing data are not imputed.

¹⁴ World Health Organization, Air Pollution, proportion of population using solid fuels, Millennium Indicators Database. Available from <http://mdgs.un.org/unsd/mdg/SeriesDetail.aspx?srid=712>.

¹⁵ World Health Organization, *World Health Report 2002: Reducing Risks, Promoting Healthy Life* (Geneva, 2002). Available from www.who.int/whr/2002/en/.

CO₂ emissions from fuel combustion (million tons of CO₂, percentage change per annum, tons of CO₂ equivalent per capita, grams per 1 dollar GDP in 2005 PPP)

Refers to emissions of CO₂ from burning oil, coal and natural gas for energy use. Total CO₂ emissions from fuel combustion as calculated using the Tier 1 Sectoral Approach of the Intergovernmental Panel on Climate Change. **Indicator calculations:** Per capita figures are based on population figures (WPP2012). Per GDP figures are based on GDP in 2005 PPP (WDI). **Aggregate calculations:** Sum of individual country values (million tons of CO₂); average annual growth of aggregate million ton values (percentage change per annum); weighted averages using total population or GDP in 2005 PPP as weight (tons of CO₂ equivalent per capita, grams per 1 dollar GDP in 2005 PPP). Missing data are not imputed.

Greenhouse gas (GHG) emissions from agriculture (thousand tons of CO₂ equivalent)

Total greenhouse gas emissions from agriculture contain all the emissions produced in the different agricultural emissions sub-domains, providing a picture of the contribution to the total amount of GHG emissions from agriculture. GHG emissions from agriculture consist of non-CO₂ gases, namely methane (CH₄) and nitrous oxide (N₂O), produced by crop and livestock production and management activities. **Aggregate calculations:** Sum of individual country values. Missing data are not imputed.

Methane (CH₄) emissions from agriculture (Thousand tons of CO₂ equivalent)

The release of methane (CH₄) produced by crop and livestock production and management activities to the atmosphere over a specified area and period of time. **Aggregate calculations:** Sum of individual country values. Missing data are not imputed.

Nitrous oxide (N₂O) emissions from agriculture (Thousand tons of CO₂ equivalent)

The release of nitrous oxide (N₂O) produced by crop and livestock production and management activities to the atmosphere over a specified area

and period of time. **Aggregate calculations:** Sum of individual country values. Missing data are not imputed.

Consumption of ozone-depleting substances (grams per capita, grams per 1,000 GDP in 2005 PPP)

Annual consumption in weighted tons of the individual substances in the group of ozone-depleting substances multiplied by their ozone-depleting potential. Ozone-depleting substances are those containing chlorine or bromine that destroy the stratospheric ozone layer. **Indicator calculations:** Per capita figures are based on population figures (WPP2012). Per 1,000 GDP in 2005 PPP are based on WDI figures. **Aggregate calculations:** Weighted averages using total population (grams per capita) and GDP in 2005 PPP (grams per 1,000 GDP in 2005 PPP) as weights. Missing data are not imputed.

CH₄ emissions (thousand tons)

CH₄ emissions are estimated using a model from the Netherlands National Institute for Public Health and the Environment by the following Emission Database for Global Atmospheric Research (EDGAR) divisions: energy, agriculture, waste and others. "Others" includes industrial process emissions, N₂O usage, and tropical and temperate forest fires. **Aggregate calculations:** Sum of individual country values. Missing data are not imputed.

SO₂ emissions (thousand tons)

SO₂ emissions are estimated using a model from the Netherlands National Institute for Public Health and the Environment by the following EDGAR subdivisions: fuel combustion, biofuel combustion, fugitive, industry, solvent use, agriculture, waste and others. "Others" comprises tropical and temperate forest fires. **Aggregate calculations:** Sum of individual country values. Missing data are not imputed.

N₂O emissions (thousand tons)

N₂O emissions are estimated using a model from the Netherlands National Institute for Public Health and the Environment by the following EDGAR divisions: energy, agriculture, waste and others. "Others" includes industrial process

emissions, N₂O usage, and tropical and temperate forest fires. **Aggregate calculations:** Sum of individual country values. Missing data are not imputed.

Concentration of PM10 in urban areas (micrograms per m³)

Particulate matter concentrations refer to fine suspended particles with a diameter smaller than 10 microns (PM10) that can penetrate deeply into the respiratory tract and cause significant health damage. The estimates represent the average annual exposure level of the average urban resident to outdoor particulate matter. A country's state of technology and pollution control is an important determinant of particulate matter concentrations. **Aggregate calculations:** Weighted averages using urban population (WPP2012) as weight. Missing data are not imputed.

Biochemical oxygen demand (tons per day)

Biochemical oxygen demand is a measure of the amount of oxygen consumed by bacteria in breaking down waste. Biochemical oxygen demand is a proxy measure for all types of industrial organic water pollutants.

Sources

Source of CO₂ from fuel data: IEA, CO₂ emissions by product and flow, IEA CO₂ Emissions from Fuel Combustion Statistics database. Countries report to IEA through the Organisation for Economic Co-operation and Development (OECD) member site and non-OECD government site. The IEA secretariat does not adjust the data. **Data obtained:** 7 June 2013.

Source of total GHGs emissions, SO₂, N₂O data: Emission Database for Global Atmospheric Research (EDGAR), a joint project of European Commission Joint Research Centre and

Netherlands Environmental Assessment Agency. Emissions data are compiled and published in EDGAR version 4.2 and are calculated by individual countries using country-specific information. **Data obtained:** 25 March 2013, except SO₂ emissions: 30 August 2012.

Source of emissions from agriculture: FAOSTAT Emissions Agriculture database, Food and Agriculture Organization of the United Nations. The FAOSTAT emissions data are estimates by FAO. Member countries report their emissions and are computed at Tier 1 following IPCC Guidelines for National Greenhouse Gas Inventories. **Data obtained:** 26 March 2013.

Source of ozone data: Millennium Indicators Database. Countries that are party to the Montreal Protocol on Substances that Deplete the Ozone Layer report data annually to the secretariat using data reporting formats agreed by the parties. Data are usually reported by the ministry of environment or by designated authorities such as an environmental protection agency, an environmental management authority or a national ozone unit. Country data are not adjusted. WDI is the source for GDP in 2005 PPP. National accounts data are compiled by the World Bank using OECD national accounts. The World Bank makes some adjustments to the data. **Data obtained:** 12 March 2013.

Source of PM10 and biochemical oxygen demand data: World Bank, WDI. Estimates from Kiran Dev Pandey and others, "Ambient particulate matter concentrations in residential and pollution hotspot areas of world cities: new estimates based on the Global Model of Ambient Particulates (GMAPS)", World Bank Development Economics Research Group and Environment Department Working Paper (Washington, DC, World Bank, 2006). Data are provided by countries. **Data obtained:** 13 March 2013.

F.1.1 Greenhouse gas emissions

	Total greenhouse gas (GHG) emissions										GHG intensity			
	Million tons of CO ₂ equivalent				% change per annum		Tons of CO ₂ equivalent per capita				GHG emissions in tons of CO ₂ equivalent per 1,000\$ GDP			
	1990	2000	2008	2010	90-00	00-10	1990	2000	2008	2010	1990	2000	2008	2010
East and North-East Asia	5 730	7 206	12 268	13 426	2.3	6.4	4.2	4.9	7.9	8.5	1.5	1.1	1.2	1.1
China	3 870	5 073	10 060	11 182	2.7	8.2	3.3	4.0	7.5	8.2	9.6	4.3	2.2	1.9
DPR Korea	162	98	102	96	-4.9	-0.2	8.0	4.3	4.2	3.9	11.0	9.3	7.6	7.9
Hong Kong, China	37	45	52	51	2.0	1.2	6.4	6.6	7.5	7.2	0.5	0.3	0.2	0.2
Japan	1 302	1 412	1 389	1 379	0.8	-0.2	10.7	11.2	10.9	10.8	0.4	0.3	0.3	0.3
Macao, China	1	1	1	1	2.4	0.7	2.8	3.0	2.9	2.6	0.3	0.2	0.1	0.0
Mongolia	58	64	68	70	1.0	0.9	26.6	26.8	26.0	25.8	38.5	56.4	12.2	11.3
Republic of Korea	300	512	595	647	5.5	2.4	7.0	11.1	12.4	13.3	1.1	1.0	0.6	0.6
South-East Asia	2 739	2 953	3 734	3 878	0.8	2.8	6.2	5.6	6.4	6.5	7.5	4.8	2.4	2.0
Brunei Darussalam	18	17	19	20	-0.7	1.7	71.5	51.6	49.6	50.4	5.2	2.9	1.3	1.6
Cambodia	20	22	172	192	1.3	24.0	2.2	1.8	12.3	13.3	11.5	6.1	16.6	17.0
Indonesia	1 161	1 445	2 015	1 946	2.2	3.0	6.5	6.9	8.6	8.1	9.2	8.8	3.9	2.7
Lao PDR	30	24	32	100	-2.1	15.1	7.1	4.5	5.1	15.6	34.8	14.6	6.0	14.8
Malaysia	198	254	334	330	2.5	2.6	10.9	10.9	12.2	11.7	4.2	2.6	1.4	1.3
Myanmar	875	562	340	362	-4.3	-4.3	20.8	11.6	6.7	7.0	169.3	77.3	13.2	8.6
Philippines	96	140	153	159	3.8	1.3	1.6	1.8	1.7	1.7	2.0	1.7	0.9	0.8
Singapore	33	48	50	50	4.0	0.4	10.8	12.3	10.4	9.9	0.8	0.5	0.3	0.2
Thailand	208	283	360	413	3.1	3.8	3.7	4.5	5.4	6.2	2.4	2.2	1.2	1.2
Timor-Leste	0	1	1	1	3.3	4.2	0.6	0.7	0.9	0.9	2.5	1.6	0.2	0.2
Viet Nam	99	156	258	306	4.6	7.0	1.4	1.9	3.0	3.4	15.3	5.0	2.8	2.9
South and South-West Asia	2 238	3 093	3 932	4 254	3.3	3.2	1.8	2.0	2.3	2.4	3.1	3.1	1.5	1.3
Afghanistan	12	13	15	18	0.8	2.7	1.1	0.7	0.6	0.6	3.4	3.8	1.4	1.1
Bangladesh	126	141	170	184	1.2	2.6	1.2	1.1	1.1	1.2	4.5	3.1	2.1	1.8
Bhutan	1	4	3	9	10.9	10.0	2.4	6.4	4.2	13.1	4.6	8.2	2.3	5.9
India	1 376	1 873	2 434	2 692	3.1	3.7	1.6	1.8	2.1	2.2	4.2	4.0	1.9	1.6
Iran (Islamic Rep. of)	283	448	512	528	4.7	1.7	5.0	6.8	7.0	7.1	3.1	4.3	1.4	1.2
Maldives	0	0	1	1	9.1	9.2	0.6	1.1	2.1	2.3	0.5	0.4	0.3	0.4
Nepal	25	29	32	33	1.4	1.2	1.4	1.2	1.2	1.2	6.6	5.0	2.7	2.0
Pakistan	173	245	338	340	3.6	3.3	1.6	1.7	2.0	2.0	3.6	3.4	2.3	2.0
Sri Lanka	18	23	28	30	2.4	2.5	1.1	1.2	1.4	1.4	2.2	1.4	0.7	0.6
Turkey	223	316	399	420	3.6	2.9	4.1	5.0	5.7	5.8	1.1	1.2	0.5	0.6
North and Central Asia	4 399	3 151	3 294	3 191	-3.3	0.1	20.5	14.5	15.0	14.4	6.9	10.2	1.7	1.8
Armenia	25	7	13	11	-11.9	5.1	7.0	2.3	4.2	3.8	11.5	3.6	1.1	1.2
Azerbaijan	78	42	54	50	-5.9	1.7	10.8	5.2	6.1	5.5	12.0	8.0	1.1	0.9
Georgia	38	11	12	13	-11.4	1.5	7.0	2.4	2.8	3.0	4.5	3.7	1.0	1.1
Kazakhstan	372	194	308	318	-6.3	5.1	23.0	13.3	19.8	20.0	12.6	10.6	2.3	2.1
Kyrgyzstan	33	10	12	13	-11.1	2.6	7.6	2.1	2.3	2.5	12.8	7.5	2.4	2.8
Russian Federation	3 582	2 647	2 605	2 510	-3.0	-0.5	24.2	18.0	18.1	17.5	6.3	10.2	1.6	1.7
Tajikistan	22	10	14	15	-7.3	3.9	4.1	1.6	2.0	1.9	7.6	11.7	2.8	2.6
Turkmenistan	81	63	92	87	-2.5	3.3	22.2	14.1	18.6	17.3	26.5	12.8	4.2	4.4
Uzbekistan	167	166	185	174	-0.1	0.4	8.1	6.7	6.8	6.3	11.4	12.1	6.4	4.4
Pacific	589	734	773	762	2.2	0.4	21.9	23.6	21.9	20.8	1.5	1.5	0.6	0.5
American Samoa	0	0	0	0	9.6	1.8	0.4	0.9	0.9	1.1				
Australia	482	605	638	629	2.3	0.4	28.2	31.4	29.5	28.1	1.5	1.5	0.6	0.5
Cook Islands	0	0	0	0	18.6	-9.6	1.1	6.2	3.0	2.0	0.3	1.2	0.3	0.2
Fiji	2	2	2	2	-3.4	3.4	3.2	2.0	2.6	2.7	1.7	1.0	0.6	0.7
French Polynesia	1	1	1	1	-4.9	2.1	5.1	2.6	2.7	2.8	0.3	0.2	0.1	0.1
Guam	0	0	0	0	1.6	2.5	0.5	0.5	0.5	0.6				
Kiribati	0	0	0	0	2.3	1.8	0.6	0.6	0.6	0.6	1.0	0.7	0.4	0.4
Marshall Islands	0	0	0	0		0.0		0.2	0.2	0.2		0.1	0.1	0.1
Micronesia (F.S.)	0	0	0	0	1.8	0.0	0.5	0.6	0.6	0.6	0.3	0.3	0.2	0.2
Nauru														
New Caledonia	2	2	2	1	0.2	-1.2	9.7	7.9	6.3	6.0	0.6	0.5	0.2	0.2
New Zealand	66	78	85	80	1.7	0.3	19.3	20.2	20.0	18.3	1.5	1.4	0.7	0.6
Niue														
Northern Mariana Islands	0	0	0	0	0.0	0.0	0.2	0.1	0.2	0.2				
Palau														
Papua New Guinea	30	42	40	43	3.7	0.1	7.1	7.9	6.1	6.2	9.0	12.1	5.0	4.4
Samoa	0	0	0	0	1.0	0.9	1.8	1.8	1.8	1.9	2.6	1.4	0.6	0.6
Solomon Islands	6	4	4	5	-3.6	1.1	18.9	9.9	8.8	8.7	28.3	12.1	7.3	6.7
Tonga	0	0	0	0	4.1	-1.8	1.3	1.8	1.5	1.4	0.7	1.0	0.4	0.4
Tuvalu			0	0					1.0	1.0			0.3	0.3
Vanuatu	0	0	0	0	0.7	-0.4	2.9	2.5	2.0	1.9	2.5	1.7	0.8	0.6
Asia and the Pacific	15 694	17 137	24 001	25 511	0.9	4.1	4.8	4.5	5.9	6.1	2.3	1.9	1.3	1.2
Developed countries	1 850	2 094	2 112	2 087	1.2	0.0	13.0	14.1	13.8	13.5	0.5	0.4	0.4	0.3
Developing countries	13 844	15 043	21 889	23 423	0.8	4.5	4.4	4.2	5.5	5.8	5.5	3.9	1.8	1.7
LLDC	905	628	827	897	-3.6	3.6	9.3	5.3	6.1	6.5	12.6	10.7	2.9	2.7
LDC	1 097	802	770	902	-3.1	1.2	5.6	3.3	2.8	3.2	24.8	11.6	5.1	4.5
ASEAN	2 739	2 952	3 733	3 877	0.8	2.8	6.2	5.6	6.4	6.5	7.5	4.8	2.4	2.0
ECO	1 445	1 509	1 930	1 962	0.4	2.7	5.0	4.2	4.8	4.7	3.6	3.1	1.3	1.2
SAARC	1 732	2 329	3 021	3 306	3.0	3.6	1.5	1.7	1.9	2.1	4.1	3.8	1.9	1.6
Central Asia	817	504	690	681	-4.7	3.1	12.3	7.1	9.0	8.7	11.7	10.2	2.6	2.3
Pacific island dev. econ.	41	52	50	53	2.2	0.3	6.5	6.4	5.3	5.4	3.6	3.8	1.6	1.7
Low income econ.	1 275	887	857	911	-3.6	0.3	5.8	3.3	2.8	2.9	20.4	11.3	5.3	4.4
Lower middle income econ.	3 282	4 209	5 588	5 901	2.5	3.4	2.4	2.6	3.1	3.1	5.5	4.9	2.4	2.0
Upper middle income econ.	8 896	9 321	14 724	15 839	0.5	5.4	5.8	5.6	8.4	8.9	6.2	4.5	1.8	1.7
High income econ.	2 241	2 720	2 833	2 860	2.0	0.5	11.5	13.1	13.2	13.2	0.6	0.5	0.4	0.3
Africa	3 866	3 656	4 679	4 571	-0.6	2.3	6.2	4.6	4.8	4.5	7.6	6.1	2.9	2.5
Europe	7 190	6 118	6 076	5 869	-1.6	-0.4	12.6	10.6	10.3	9.9	0.9	0.7	0.3	0.3
Latin America and Carib.	3 384	3 592	3 714	3 888	0.6	0.8	7.6	6.8	6.4	6.5	3.0	1.6	0.8	0.8
North America	6 720	7 719	7 663	7 444	1.4	-0.4	23.8	24.5	22.5	21.5	1.1	0.7	0.5	0.5
World	37 595	39 397	47 696											

F.1.2 Carbon dioxide intensities

	Carbon dioxide (CO ₂) emissions from fuel combustion													
	Million tons of CO ₂				% change per annum		Tons of CO ₂ equivalent per capita				Grams per 1 dollar GDP in 2005 PPP			
	1990	2000	2005	2010	90-00	00-10	1990	2000	2005	2010	1990	2000	2005	2010
East and North-East Asia	3 664	4 776	6 876	9 040	2.7	6.6	2.7	3.2	4.5	5.8	710	587	647	614
China	2 211	3 037	5 062	7 217	3.2	9.0	1.9	2.4	3.8	5.3	1 770	902	944	791
DPR Korea	114	69	74	63	-5.0	-0.8	5.6	3.0	3.1	2.6				
Hong Kong, China	33	40	41	41	2.0	0.4	5.7	5.8	5.9	5.9	240	197	164	138
Japan	1 064	1 184	1 221	1 143	1.1	-0.4	8.7	9.4	9.6	9.0	325	323	314	290
Macao, China														
Mongolia	13	9	9	12	-3.6	3.0	5.8	3.7	3.8	4.4	2 371	1 654	1 300	1 190
Republic of Korea	229	438	469	563	6.7	2.6	5.3	9.5	10.0	11.6	470	497	428	426
South-East Asia	368	719	924	1 134	6.9	4.7	0.8	1.4	1.7	1.9	358	428	431	411
Brunei Darussalam	3	5	5	8	3.3	5.8	13.1	14.0	13.8	20.5	264	293	290	452
Cambodia	0	2	3	4		6.7	0.0	0.2	0.2	0.3		152	131	135
Indonesia	146	273	336	411	6.5	4.2	0.8	1.3	1.5	1.7	394	488	476	441
Lao PDR														
Malaysia	50	113	152	185	8.5	5.1	2.7	4.8	5.9	6.5	397	453	485	475
Myanmar	4	9	11	8	8.7	-1.6	0.1	0.2	0.2	0.2				
Philippines	38	68	71	76	5.9	1.2	0.6	0.9	0.8	0.8	243	324	271	230
Singapore	29	48	51	63	5.0	2.8	9.7	12.2	11.3	12.4	382	311	262	238
Thailand	80	158	217	248	7.0	4.6	1.4	2.5	3.3	3.7	359	456	487	468
Timor-Leste														
Viet Nam	17	44	80	130	9.9	11.5	0.2	0.5	0.9	1.5	288	355	448	522
South and South-West Asia	965	1 624	1 974	2 605	5.3	4.8	0.8	1.1	1.2	1.5	450	477	432	479
Afghanistan														
Bangladesh	14	25	37	53	6.4	7.7	0.1	0.2	0.3	0.4	173	201	223	239
Bhutan														
India	582	972	1 165	1 626	5.3	5.3	0.7	0.9	1.0	1.3	551	536	463	437
Iran (Islamic Rep. of)	179	315	422	509	5.8	4.9	3.2	4.8	6.0	6.8	525	643	655	
Maldives														
Nepal	1	3	3	4	13.3	1.8	0.0	0.1	0.1	0.1	65	138	117	112
Pakistan	59	97	118	135	5.2	3.3	0.5	0.7	0.7	0.8	323	365	346	324
Sri Lanka	4	11	13	13	11.0	2.3	0.2	0.6	0.7	0.6	108	185	192	140
Turkey	127	201	216	266	4.7	2.9	2.4	3.2	3.2	3.7	290	321	277	291
North and Central Asia	2 733	1 816	1 875	2 010	-4.0	1.0	12.7	8.3	8.6	9.1	1 270	1 252	943	820
Armenia	20	3	4	4	-16.4	1.7	5.8	1.1	1.4	1.4	1 965	482	328	267
Azerbaijan	65	30	33	25	-7.5	-1.9	9.0	3.7	3.8	2.7	1 909	1 485	870	306
Georgia	33	5	4	5	-17.9	0.7	6.1	1.0	1.0	1.1	1 128	417	275	244
Kazakhstan	236	113	157	232	-7.1	7.5	14.6	7.8	10.4	14.6	2 040	1 404	1 192	1 303
Kyrgyzstan	22	4	5	7	-14.9	4.6	5.1	0.9	1.0	1.3	2 026	603	567	632
Russian Federation	2 179	1 506	1 516	1 581	-3.6	0.5	14.7	10.3	10.5	11.0	1 164	1 195	894	784
Tajikistan	11	2	2	3	-14.9	2.3	2.1	0.4	0.3	0.4	694	363	242	205
Turkmenistan	46	35	45	53	-2.5	4.1	12.5	7.9	9.5	10.4	2 041	2 008	1 994	1 423
Uzbekistan	120	118	108	100	-0.2	-1.6	5.8	4.7	4.1	3.6	2 918	2 922	2 058	1 274
Pacific	283	370	403	414	2.7	1.1	13.8	16.0	16.4	15.5	586	553	513	464
American Samoa														
Australia	260	339	369	383	2.7	1.2	15.2	17.6	18.0	17.1	639	599	557	502
Cook Islands														
Fiji														
French Polynesia														
Guam														
Kiribati														
Marshall Islands														
Micronesia (F.S.)														
Nauru														
New Caledonia														
New Zealand	23	31	34	31	2.8	0.0	6.9	8.0	8.2	7.1	363	359	324	290
Niue														
Northern Mariana Islands														
Palau														
Papua New Guinea														
Samoa														
Solomon Islands														
Tonga														
Tuvalu														
Vanuatu														
Asia and the Pacific	8 014	9 305	12 051	15 203	1.5	5.0	2.5	2.5	3.1	3.7	730	607	599	579
Developed countries	1 348	1 554	1 624	1 557	1.4	0.0	9.4	10.4	10.7	10.1	360	360	349	323
Developing countries	6 666	7 751	10 428	13 646	1.5	5.8	2.1	2.2	2.8	3.4	922	704	675	636
LLDC	534	318	367	439	-5.1	3.3	6.6	3.5	3.8	4.2	1 947	1 477	1 074	864
LDC	19	40	53	68	7.9	5.6	0.1	0.2	0.2	0.3	187	230	214	202
ASEAN	368	719	924	1 134	6.9	4.7	0.8	1.4	1.7	1.9	358	429	431	411
ECO	865	915	1 106	1 329	0.6	3.8	3.1	2.7	3.1	3.4	721	589	540	754
SAARC	659	1 109	1 336	1 830	5.3	5.1	0.6	0.8	0.9	1.2	483	484	425	404
Central Asia	554	310	359	428	-5.6	3.3	8.4	4.4	4.9	5.5	1 978	1 635	1 231	986
Pacific island dev. econ.														
Low income econ.	166	115	134	141	-3.6	2.1	0.8	0.5	0.5	0.5	660	538	416	
Lower middle income econ.	1 032	1 599	1 908	2 513	4.5	4.6	0.8	1.0	1.1	1.4	526	512	455	425
Upper middle income econ.	5 173	5 507	7 820	10 316	0.6	6.5	3.4	3.3	4.5	5.8	1 170	853	829	777
High income econ.	1 643	2 084	2 189	2 233	2.4	0.7	8.4	10.1	10.4	10.4	367	374	351	331
Africa	530	660	803	902	2.2	3.2	1.0	1.0	1.1	1.1	423	389	376	341
Europe	5 086	4 356	4 542	4 191	-1.5	-0.4	8.8	7.5	7.7	7.0	476	340	318	278
Latin America and Carib.	862	1 202	1 327	1 534	3.4	2.5	2.0	2.3	2.4	2.6	285	288	278	266
North America	5 302	6 231	6 331	5 905	1.6	-0.5	18.8	19.8	19.2	17.0	609	513	462	415
World	20 319	22 625	26 152	29 110	1.1	2.6	3.9	3.8	4.2	4.4	576	477	463	443

F.1.3 Greenhouse gases emissions from agriculture

	Total greenhouse gas (GHG)			Methane (CH ₄)			Nitrous oxide (N ₂ O)		
	Thousand tons of CO ₂ equivalent								
	1990	2000	2010	1990	2000	2010	1990	2000	2010
East and North-East Asia	578 616	647 680	715 130	319 427	345 450	329 278	259 190	302 230	385 852
China	518 240	592 124	664 303	285 034	311 899	298 271	233 206	280 225	366 032
DPR Korea	9 523	5 288	4 595	3 814	3 117	3 327	5 710	2 172	1 268
Hong Kong, China									
Japan	25 975	22 883	21 481	15 780	14 013	13 026	10 195	8 871	8 455
Macao, China									
Mongolia	11 340	14 617	11 895	6 664	8 799	6 555	4 677	5 818	5 340
Republic of Korea	13 537	12 767	12 856	8 135	7 623	8 099	5 402	5 144	4 758
South-East Asia	318 756	366 529	430 920	215 137	243 668	279 946	103 619	122 861	150 974
Brunei Darussalam	74	108	149	11	15	18	63	94	130
Cambodia	11 453	12 961	17 126	9 541	10 550	14 007	1 912	2 411	3 119
Indonesia	120 482	130 061	152 708	65 109	70 468	80 710	55 373	59 593	71 998
Lao PDR	4 973	5 604	7 113	3 706	4 120	5 163	1 267	1 484	1 950
Malaysia	10 554	11 550	16 709	4 027	3 995	4 153	6 527	7 555	12 556
Myanmar	38 185	48 332	60 669	28 926	36 598	46 913	9 259	11 734	13 756
Philippines	37 696	46 156	50 162	30 334	37 084	39 887	7 363	9 071	10 275
Singapore	101	51	86	52	18	47	49	33	39
Thailand	54 599	54 687	65 982	42 375	41 445	47 200	12 225	13 242	18 782
Timor-Leste	357	531	721	258	378	526	99	154	195
Viet Nam	40 281	56 488	59 495	30 799	38 997	41 321	9 483	17 491	18 175
South and South-West Asia	727 296	810 155	934 795	519 615	554 199	612 407	207 681	255 956	322 388
Afghanistan	6 792	9 047	10 699	4 458	6 228	7 523	2 334	2 819	3 177
Bangladesh	56 512	63 048	73 870	41 430	43 428	50 241	15 082	19 620	23 628
Bhutan	518	501	490	429	417	398	88	84	92
India	482 130	530 953	609 102	357 006	376 449	403 654	125 124	154 504	205 448
Iran (Islamic Rep. of)	36 306	42 421	42 501	20 862	23 445	24 389	15 444	18 976	18 112
Maldives									
Nepal	15 260	17 233	19 615	11 828	13 368	15 290	3 432	3 865	4 325
Pakistan	73 902	96 128	130 935	50 247	63 160	85 125	23 655	32 968	45 809
Sri Lanka	6 050	4 993	5 865	4 423	3 160	3 857	1 627	1 833	2 009
Turkey	49 827	45 832	41 717	28 933	24 545	21 930	20 894	21 287	19 787
North and Central Asia		140 677	147 577		84 577	86 501		56 100	61 077
Armenia		1 334	1 560		935	1 082		399	478
Azerbaijan		5 584	7 695		3 960	5 403		1 624	2 292
Georgia		3 324	2 772		2 252	1 999		1 071	773
Kazakhstan		11 237	16 792		7 186	10 923		4 051	5 869
Kyrgyzstan		2 902	3 702		1 845	2 404		1 057	1 298
Russian Federation		92 665	78 633		55 047	43 199		37 618	35 434
Tajikistan		2 527	4 745		1 742	3 090		785	1 655
Turkmenistan		5 153	8 246		3 127	5 591		2 026	2 655
Uzbekistan		15 951	23 432		8 483	12 809		7 468	10 622
Pacific	154 669	151 538	135 554	88 846	85 787	75 657	65 822	65 750	59 897
American Samoa	7	7	7	6	6	6	1	1	1
Australia	109 424	107 026	90 467	63 541	60 951	49 780	45 883	46 076	40 687
Cook Islands	12	25	20	10	22	17	2	3	2
Fiji	845	934	890	509	593	567	336	341	323
French Polynesia	41	54	43	29	36	29	12	18	14
Guam	4	5	5	2	3	3	2	2	2
Kiribati	7	9	11	5	6	7	2	3	4
Marshall Islands									
Micronesia (F.S.)		49	50		35	36		14	14
Nauru	2	2	2	1	1	2			
New Caledonia	280	248	216	180	161	140	99	87	76
New Zealand	38 256	37 047	37 345	23 446	22 572	23 439	14 810	14 475	13 906
Niue	1	1	2	1	1	1			
Northern Mariana Islands									
Palau									
Papua New Guinea	5 171	5 474	5 711	656	930	1 072	4 515	4 543	4 639
Samoa	163	183	187	132	129	149	31	54	38
Solomon Islands	62	65	71	48	51	55	14	14	16
Tonga	83	80	101	66	63	63	17	17	38
Tuvalu	7	8	8	6	7	7	1	1	1
Vanuatu	304	321	419	207	220	284	97	102	136
Asia and the Pacific	2 175 729	2 116 579	2 363 977	1 365 217	1 313 682	1 383 788	810 512	802 897	980 188
Developed countries	173 656	166 957	149 294	102 768	97 535	86 246	70 888	69 422	63 048
Developing countries	1 605 682	1 949 622	2 214 683	1 040 258	1 216 147	1 297 543	565 424	733 475	917 140
LLDC		91 691	115 985		60 210	76 232		31 481	39 753
LDC	134 592	157 844	191 000	100 975	115 499	140 563	33 618	42 344	50 438
ASEAN	318 400	365 998	430 199	214 880	243 290	279 420	103 520	122 708	150 779
ECO	166 827	236 781	290 465	104 500	143 720	179 188	62 327	93 061	111 277
SAARC	641 163	721 902	850 577	469 821	506 209	566 088	171 342	215 693	284 489
Central Asia		48 012	68 944		29 530	43 301		18 482	25 643
Pacific island dev. econ.	6 989	7 464	7 742	1 859	2 264	2 438	5 129	5 199	5 303
Low income econ.	137 725	161 338	195 021	99 997	116 876	142 794	37 728	44 462	52 227
Lower middle income econ.	784 364	913 755	1 063 689	550 597	616 729	685 318	233 767	297 026	378 371
Upper middle income econ.		861 268	942 594		474 662	461 073		386 606	481 521
High income econ.	187 694	180 189	162 649	111 178	105 390	94 583	76 515	74 799	68 066
Africa	381 905	462 604	580 813	218 466	263 883	330 615	163 439	198 721	250 198
Europe	518 198	501 154	456 765	285 248	269 219	236 048	232 950	231 934	220 717
Latin America and Carib.	672 875	726 137	853 151	451 319	479 334	551 364	221 555	246 803	301 787
North America	375 309	392 773	403 642	192 118	197 926	197 814	183 191	194 847	205 828
World	4 149 586	4 227 725	4 689 940	2 523 533	2 536 290	2 714 324	1 626 053	1 691 435	1 975 616

F.1.4 Other pollutants

	Consumption of ozone-depleting substances		Methane (CH ₄)		Sulphur dioxide (SO ₂)		Nitrous oxide (N ₂ O)		Concentration of PM ₁₀ in urban area		Biochemical oxygen demand	
	Grams per capita	Grams per 1,000 dollars GDP in 2005 PPP	Thousand tons		Thousand tons		Thousand tons		Micrograms per m ³		Tons per day	
			2010	2010	2000	2008	2000	2008	2000	2008	2000	2009
East and North-East Asia	15.5	1.7	54 817	77 999	25 652	44 481	1 576	1 925	78	55		
China	15.7	2.3	49 686	73 201	19 837	39 903	1 383	1 764	88	60		9 429 (07)
DPR Korea	3.8		825	891	799	733	11	11	92	56		
Hong Kong, China			128	142	222	366	2	1				
Japan	4.9	0.2	2 262	1 952	3 035	2 324	104	91	33	25	1 455 (94)	1 127 (05)
Macao, China			5	7	18	20	0	0				
Mongolia	0.6	0.2	439	327	75	82	16	13	124	101		9 (07)
Republic of Korea	43.6	1.6	1 472	1 480	1 667	1 052	60	45	45	33	367 (90)	320 (06)
South-East Asia	4.7	1.0	23 972	30 329	4 389	5 357	660	711	83	48		
Brunei Darussalam	17.2	0.4	185	222	7	9	1	1	63	48		
Cambodia	0.9	0.5	714	1 555	19	96	11	49	48	37	4 (93)	
Indonesia	1.8	0.5	8 097	10 283	1 652	2 433	306	329	120	68	722 (98)	883 (06)
Lao PDR	0.4	0.2	344	397	16	16	11	11	55	45	4 (99)	
Malaysia	19.2	1.4	1 396	1 681	295	407	45	47	25	19	184 (00)	208 (06)
Myanmar	0.1		3 188	3 643	124	78	101	77	75	41		
Philippines	2.4	0.7	2 377	2 685	654	702	40	42	42	17	169 (96)	145 (05)
Singapore	40.8	0.8	80	111	381	216	21	6	34	23	33 (91)	38 (07)
Thailand	16.4	2.1	3 979	4 651	921	913	60	69	70	53	369 (96)	581 (06)
Timor-Leste	0.5	0.3	21	33	0	0	1	1				
Viet Nam	3.5	1.2	3 592	5 069	320	487	64	80	67	50	141 (98)	545 (07)
South and South-West Asia	1.9	0.5	45 019	51 758	9 753	12 213	1 078	1 182	101	64		
Afghanistan	0.9	0.7	447	534	24	23	11	12	46	32		236 (02)
Bangladesh	0.8	0.6	4 250	4 659	81	100	72	82	162	121	251 (95)	
Bhutan	0.4	0.1	49	57	4	3	1	1	33	21		
India	1.6	0.5	26 749	28 875	5 836	8 593	696	764	92	57		
Iran (Islamic Rep. of)	5.7		3 799	5 216	1 280	1 024	82	87	93	55	132 (94)	161 (05)
Maldives	12.3	1.7	2	2	1	3	0	0	33	30		
Nepal	0.0	0.0	1 010	1 098	24	21	14	15	50	30	26 (96)	27 (02)
Pakistan	1.5	0.6	5 577	7 174	828	914	90	104	177	101		154 (06)
Sri Lanka	0.7	0.2	457	541	85	101	7	7	97	71		266 (06)
Turkey	8.4	0.7	2 679	3 602	1 592	1 431	107	111	53	37	176 (92)	346 (06)
North and Central Asia	5.3	0.5	27 937	32 735	9 338	9 129	443	369	36	20		
Armenia	2.4	0.5	122	154	3	5	1	2	83	61		
Azerbaijan	0.0	0.0	474	807	312	119	7	8	97	29	41 (95)	20 (07)
Georgia	1.3	0.3	197	224	10	6	8	8	68	54		
Kazakhstan	6.9	0.6	1 847	3 027	2 317	2 891	48	53	27	17	124 (98)	97 (07)
Kyrgyzstan	0.8	0.4	166	174	24	24	5	4	29	35	29 (92)	12 (07)
Russian Federation	7.3	0.5	22 189	24 360	6 437	5 815	328	232	27	16	1 521 (99)	1 382 (07)
Tajikistan	0.4	0.2	157	215	6	14	4	5	49	30	29 (90)	13 (07)
Turkmenistan	1.9	0.3	1 011	1 566	6	5	10	17	80	41		
Uzbekistan	0.0	0.0	1 773	2 209	223	251	33	38	86	37		
Pacific	0.6	0.0	7 604	7 374	2 720	3 110	296	244	19	14		
American Samoa			1	1			0	0				
Australia	-0.3	0.0	6 102	5 821	2 609	2 988	244	186	18	14		
Cook Islands	4.9		0.2	0.2	0.3	0.1	0.0	0.0				
Fiji	10.7	2.6	34	34	2	3	1	1	33	19		6 (04)
French Polynesia			4	4	5	5	0.1	0.1				
Guam			3	3	0	0	0	0				
Kiribati	1.0	0.5	1	1	0.0	0.1	0	0				
Marshall Islands	3.8		0.3	0.3			0	0				
Micronesia (F.S.)	1.9	0.6	1	1			0	0				
Nauru	0.0		0.1	0.1			0	0				
New Caledonia			10	10	20	15	0.3	0.3	90	53		
New Zealand	2.7	0.1	1 266	1 313	49	47	37	43	16	12	47 (90)	62 (07)
Niue	0.0		0	0			0	0				
Northern Mariana Islands			0.4	1			0	0				
Palau	9.8	0.8	0.1	0.1			0	0				
Papua New Guinea	0.5	0.2	95	95	33	47	5	4	31	16		
Samoa	1.6	0.4	6	6	1	1	0.1	0.1				
Solomon Islands	4.4	1.8	66	68	1	2	8	8	32	31		
Tonga	1.0	0.2	3	3	0.1	0.0	0.1	0.1			0.20 (91)	0.37 (04)
Tuvalu	10.2		0.2	0.2			0	0				
Vanuatu	2.1	0.5	13	13	0.5	0.5	0.4	0.4	26	14		
Asia and the Pacific	7.6	1.2	159 348	200 195	51 852	74 290	4 053	4 430	81	53		
Developed countries	4.1	0.1	9 629	9 086	5 693	5 360	385	320	30	22		
Developing countries	7.7	1.4	149 719	191 109	46 159	68 930	3 668	4 110	85	56		
LLDC	1.2	0.3	7 839	10 565	3 034	3 455	159	180	63	34		
LDC	0.6	0.5	10 108	12 065	293	340	228	256	118	83		
ASEAN	4.8	1.0	23 950	30 296	4 389	5 357	659	710	83	48		
ECO	3.4	0.6	17 930	24 524	6 611	6 697	395	440	101	60		
SAARC	1.5	0.5	38 541	42 940	6 882	9 757	889	984	107	68		
Central Asia	1.8	0.3	5 748	8 376	2 901	3 315	115	137	65	33		
Pacific island dev. econ.	1.8	0.7	236	240	61	74	15	14	37	21		
Low income econ.	0.9	0.5	10 756	12 770	1 100	1 090	227	255	111	78		
Lower middle income econ.	1.7	0.5	50 013	58 248	9 742	13 646	1 287	1 412	100	60		
Upper middle income econ.	14.2	1.9	87 062	118 112	32 998	52 511	2 069	2 389	74	52		
High income econ.	14.2	0.5	11 517	11 065	8 012	7 043	470	374	34	25		
Africa	2.5	0.9	36 037	47 516	6 031	7 130	1 340	2 094	81	50		
Europe	35 042	30 972	14 471	10 344	1 379	1 407	27	19				
Latin America and Carib.	8.9	0.9	39 424	44 373	9 178	8 319	1 211	1 349	41	30		
North America	6.9	0.2	31 373	31 224	16 291	10 809	1 243	1 175	24	18		
World	7.2	0.9	308 545	363 886	103 192	116 979	9 338	10 574	64	43		